FINAL

San Jacinto Wildlife Area Land Management Plan
Programmatic Environmental Impact Report

Prepared for:

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
AFY	acre-feet per year
ANSI	American National Standards Institute
APE	area of project effect
BMP	best management practice
BMP	Biological Monitoring Program
Cal Poly Pomona	California State Polytechnic University, Pomona
California Register	California Register of Historic Resources
CalRecycle	Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CMA	congestion management agency
CMP	Congestion Management Program
CNEL	community noise equivalent level
CSU	California State University
CTC	California Transportation Commission
CWA	Clean Water Act
dB	decibel
dB(A)	A-weighted sound level
District	Three Valleys Municipal Water District
DTSC	Department of Toxic Substances Control
EDAPTS	Efficient Deployment of Advanced Public Transportation Systems
EDR	Environmental Data Resources Inc.
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ERNS	Emergency Response Notification System
ESA	Endangered Species Act
EUI	Energy Use Intensity
FINDS	Facility Index System
GHG	greenhouse gas
FTE	full-time equivalent
HAZNET	Hazardous Waste Information System
HVAC	heating, ventilation, and air conditioning
Hz	hertz

Acronym/Abbreviation	Definition
I-	Interstate
kV	kilovolt
kwh	Kilowatt-hours
LARWQCB	Los Angeles Regional Water Quality Control Board
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent Sound Level
LOS	level of service
MMRP	Mitigation Monitoring and Reporting Program
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MTA	Metropolitan Transit Authority
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NEL	Numeric Effluent Limitation
NGA	Next Generation Attenuation
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PADS	PCB Activity Database System
PCB	polychlorinated biphenyls
PEER NGA	Pacific Earthquake Engineering Research Center's Next Generation Attenuation
PEIR	Program Environmental Impact Report
PGA	peak ground acceleration
PRC	Public Resources Code
RCRA-LQG	Resource Conservation and Recovery Act Large Quantity Generators
REAP	Rain Event Action Plan
RHNA	Regional Housing Needs Assessment
RMS	root mean square
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	*Southern California Association of Governments*
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SKR HCP	Stephen's Kangaroo Rat Habitat Conservation Plan
SR	State Route
STIP	State Transportation Improvement Program
SWMP	Storm Water Management Plan

Acronym/Abbreviation	Definition
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDFM	Travel Demand Forecasting Model
TMDL	total maximum daily load
USGS	U.S. Geological Survey
WIP	Well Investigation Program Case List

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EXECUTIVE SUMMARY

This section provides a summary of the Draft Program Environmental Impact Report (PEIR) for the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Included in this summary are areas of known controversy and issues to be resolved, a summary of project alternatives, a summary of all project impacts and associated mitigation measures, and a statement of the ultimate level of significance after mitigation is applied.

ES.1 DOCUMENT PURPOSE

This PEIR was prepared by the California Department of Fish and Wildlife (CDFW), as lead agency, to inform decision makers and the public of the potential significant environmental effects associated with the proposed project. This PEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.) published by the Public Resources Agency of the State of California.

The purpose of this PEIR is to focus the discussion on those potential effects on the environment resulting from implementation of the proposed SJWA LMP which the lead agency has determined may be significant. LMP activities/programs evaluated include those that are newly proposed and those existing activities/programs that are being expanded into areas not previously disturbed by ongoing activities/programs at the SJWA. In addition, feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

ES.2 PROJECT LOCATION

The SJWA project area is currently composed of approximately 20,126[1] acres of land located in southern California within central Riverside County. The SJWA consists of three noncontiguous land areas: the Davis Unit (two land areas) and the Potrero Unit. The Davis Unit generally consists of approximately 10,996 acres in the San Jacinto River Valley. The larger portion of the Davis Unit is located east of Perris Lake, and a smaller portion of land is located west of the Perris Reservoir (Figure ES-1). The Potrero Unit consists of approximately 9,130 acres in the foothills of the San Jacinto Mountains (also referred to as "the Badlands"; Figure ES-1).

Figure ES-2 depicts the boundaries of the SJWA. The Lake Perris State Recreation Area shares a boundary along the western edge of the Davis Unit. Most of the Davis Unit is located within

[1] The 20,126 that comprise the draft SJWA LMP includes noncontiguous land parcels as well as parcels that are privately-owned and lands within adjacent jurisdictions (see Figure 2-3 in Chapter 2, Project Description).

unincorporated Riverside County, but a small portion of the northern edge of the Davis Unit is located within the incorporated City of Moreno Valley, which lies to the north and east of the Davis Unit. The cities of Hemet and San Jacinto are located to the east, and the unincorporated rural Riverside County communities of Lakeview and Nuevo are located south of the Davis Unit.

The Potrero Unit is located approximately 9 miles east of the Davis Unit. The vast majority of the Potrero Unit is located within the City of Beaumont, with a portion on the western edge located in unincorporated Riverside County. The Potrero Unit is bordered on the east by Bureau of Land Management (BLM) land and to the southeast by the Soboba Indian Reservation. The Potrero Unit is located approximately 3 miles south of Interstate 10 (I-10), and portions of its western boundary are defined by State Highway 79 (SR-79) (also referred to as Lamb Canyon Road).

The Davis Unit is composed of 15 separate management subunits, and the Potrero Unit is composed of 11 separate management subunits (Figure ES-3).

ES.3 PROJECT DESCRIPTION

ES.3.1 LMP Background ~~and Draft LMP~~

The SJWA is one of the largest public land holdings in the Inland Desert region of southern California and is a highly utilized recreational resource. Recognition of these lands as a valuable resource led to their preservation. In 1979, the lands were put aside as mitigation property for the State Water Project's wildlife losses in southern California through execution of a Memorandum of Agreement between CDFW, the Department of Water Resources, and the Metropolitan Water District of Southern California. The mitigation actions were implemented pursuant to the Davis–Dowling Act of 1961, which includes the preservation and enhancement of wildlife and public recreation as purposes of the State Water Project. The agreement designated existing State Water Project lands for wildlife mitigation and provided funding for land acquisition, both of which contributed to the establishment of the SJWA. In 1982, the property was designated as a wildlife area by the California Fish and Game Commission. In the following years, areas within the wildlife area have been improved to enhance and enlarge wetland habitats for the conservation of native animal species.

In addition, the SJWA provides recreational resources including waterfowl and upland game hunting, bird watching, hiking, hunting dog training, fishing, horseback riding, nature study, photography, and mountain biking. Many of the recreational uses are supported by CDFW's active management of SJWA facilities, including its wetland ponds and trails. The SJWA also supports a diverse array of biological resources, including habitats associated with the San Jacinto River floodplain and the San Jacinto foothill region. The SJWA is an important stop for a number of migratory birds along the Pacific flyway. The SJWA also provides significant conservation lands, including areas that are part of the Stephens' Kangaroo Rat Habitat Conservation Plan and the

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). As such, it provides important conservation for a variety of special-status species that require the management of habitat conditions and monitoring. The SJWA has been managed by CDFW since its inception.

The SJWA originally consisted only of the Davis Unit, with the first portion of the Davis Unit being acquired by the Wildlife Conservation Board in 1981 and 1982. Since the inception of the SJWA, the Potrero Unit was added to the SJWA in December 2003; the Western Riverside County MSHCP was created in 2004; and numerous changes have occurred in the environment, therefore prompting the need to formalize the LMP for the SJWA.

CDFW has prepared the LMP to help guide its future planning and management operations for the SJWA. The general purpose of the SJWA is to protect and enhance habitat for wildlife species and to provide the public with compatible, wildlife-related recreational uses. The existing operation of the SJWA includes public uses, which are incorporated into the LMP. Public uses that would continue to be permitted under the LMP include waterfowl and upland small game hunting, bird watching, hiking, hunting dog training, fishing, horseback riding, nature study, photography, and mountain biking.

ES.3.2 Project Objectives

Project objectives allow for the analysis of reasonable alternatives to the proposed project. Reasonable alternatives must be analyzed in accordance with Section 15126.6 of the CEQA Guidelines.

The project objectives are as follows:

- To guide the management of habitat, species, and activities/programs described in the LMP, and achieve CDFW's mission to protect and enhance floral and faunal values;
- To preserve and enhance biological communities in the region including grassland, sage scrub, chaparral, wetlands, and alkali scrub that protect habitat contributing to and sustaining the overall ecosystem health of the region. This habitat is necessary to support special status species, including Stephen's kangaroo rat, least Bell's vireo, tricolored blackbird, burrowing owl, and others covered by the MSHCP;
- To maintain habitat connectivity between the SJWA and MSHCP's core areas and linkages;
- To provide quality recreational opportunities, including hunting, wildlife observation, and hiking, for both existing and expanded activities and facilities, where compatible with biological resource protection objectives;
- To coordinate with state, federal, and local agencies, as appropriate, when implementing LMP management activities;

- To provide interpretive and educational programs for the natural diversity within the SJWA; ~~and~~
- To provide an overview of the SJWA's operation and maintenance, and personnel requirements to implement management goals. The LMP will also serve as a budget planning aid for annual regional budget preparation; and,
- To conserve plants, including rare and alkali-dependent rare plants.

ES.3.3 Required Permits and/or Approval

Implementation of the LMP would require permits or other forms of approval or concurrence from public agencies or other entities prior to any improvements or construction activities. They include, but are not limited to, the following:

California Department of Fish and Wildlife

Certification of this PEIR and other discretionary actions shall be reviewed and/or approved by CDFW. The state does not issue permits for state projects.

U.S. Fish and Wildlife Service

A Section 10 Incidental Take Permits or a Bald and Golden Eagle Protection Act Take Permit may be required for any activities that could result in the loss of these species or disturbance during seasonal nesting.

California Department of Toxic Substance Control

If necessary, a 90-day Treatment, Storage, and Disposal Permit may be required in addition to a Hazardous Material Business Plan.

California Office of Historic Preservation

The LMP has the potential to affect cultural resources; therefore, if any federal permits are required or if federal funding is used for any projects compliance with Section 106 Consultation under the National Historic Preservation Act may be required.

Regional Water Quality Control Board, Santa Ana Region

National Pollutant Discharge Elimination System (NPDES) Construction General Permits will be required for grading activities of 1 acre or larger. For project components disturbing more than 1 acre of soil, the applicant must file a Notice of Intent with the Santa Ana Regional Water Quality Control Board (RWQCB) and obtain a General Construction Activity Stormwater

Permit, pursuant to the NPDES regulations established under the Clean Water Act. This permit requires preparation and implementation of a stormwater pollution prevention plan, which is intended to prevent degradation of surface and groundwater during the grading and construction process. A report of waste discharge shall be submitted to the Santa Ana RWQCB to obtain either a waste discharge requirement or a waiver for any impacts to waters of the state.

a. RWQCB, Santa Ana Region – Stormwater Pollution Prevention Plan (SWPPP)
b. RWQCB, Santa Ana Region – 401 Water Quality Certification – Waste Discharge Requirement

South Coast Air Quality Management District

A fugitive dust control plan would be required to be submitted to the South Coast Air Quality Management District for approval prior to issuance of grading permits (SCAQMD Rule 403) in addition to an open burning/smoke management plan (Rule 444), if necessary.

United States Army Corps of Engineers (Corps)

Clean Water Act Section 404 Nationwide Permit or Individual permit or clearance from the Corps would be required for the discharge of dredged or fill material into waters of the United States associated with any construction activities.

ES.4 SECTION SUMMARIES

The following summary of the findings of each technical issue area evaluated is included in the Executive Summary Chapter as the first paragraph under section ES.4 on page ES-5. This information is included to assist the reader in understanding project impacts and the findings of the Draft PEIR.

The Draft PEIR evaluated potential environmental effects associated with implementation of the LMP in the following issue areas: Air Quality, Greenhouse Gases, Biological Resources, Cultural and Paleontological Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Recreation, Traffic and Circulation, Utilities and Service Systems and Energy. To assist the reader, a brief summary of the findings presented in each of the issue areas evaluated is provided below followed by Table ES-1 which lists each impact and notes the level of significance prior to mitigation, and lists each applicable mitigation measure and notes the level of significance after mitigation is imposed.

5.1 Air Quality

To evaluate potential impacts associated with future LMP projects, the air quality analysis makes some general assumptions regarding future construction and operational activities designed to represent a maximum, or worst-case, scenario. The impact analysis determined that future LMP activities could conflict with the South Coast Air Quality Management District's (SCAQMD's) Air Quality Management Plans contributing to an increase in fugitive dust emissions resulting in a potentially significant impact (Issue AIR-1). Implementation of mitigation measures would reduce the impact to less than significant. Construction and operational activities would result in a temporary addition of pollutants to the local air shed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from construction equipment resulting in PM_{10} emissions that exceed acceptable thresholds. This was also determined to be a potentially significant impact that would be reduced to less than significant with mitigation (Issue AIR-2). Future LMP activities would not expose sensitive receptors to substantial pollutant concentrations or odors. These impacts were determined to be less than significant (Issue AIR-4 and Issue AIR-5). Because implementation of the LMP could exceed the PM_{10} threshold and could conflict with the SCAQMD's Air Quality Management Plan, construction and operational emissions associated with implementation of the LMP could be considered cumulatively considerable (Issue AIR-3). Compliance with mitigation would reduce the LMP's cumulative contribution to less than significant.

5.2 Greenhouse Gases

The GHG analysis evaluated the potential construction and post-construction/ operation/management activities, and cumulative environmental impacts associated with implementation of the LMP. The SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime. Based on this guidance, the total construction GHG emissions were calculated and amortized over 30 years and added to the estimated operational emissions and compared with the GHG significance threshold to determine the significance of GHG emissions. Project generated GHG emissions (combined construction and operational activities) were estimated to result in a combined total of approximately 303 MT CO_2E per year, which would not exceed SCAQMD thresholds. Therefore, impacts related to GHG emissions would be considered less than significant (Issue GHG-1). Implementation of the LMP would also not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs resulting in a less-than-significant impact (Issue GHG-2). The cumulative evaluation determined that based on the estimate of GHG emissions associated with implementation of the LMP, future activities would not exceed the recommended SCAQMD threshold, therefore, the LMP would not result in cumulatively considerable emissions.

5.3 Biological Resources

Because the Davis Unit is currently managed, the impact analysis addresses the proposed management changes. Thus, potential impacts to sensitive biological resources from implementation of the LMP in the Davis Unit are focused on: (1) proposed management activities in areas that are not currently being managed (see Figure 5.3-8A); (2) proposed management activities in areas that are being managed but the proposed management is for a different resource (see Figure 5.3-9); and (3) proposed new facilities, structures, and water storage. Potential impacts to sensitive biological resources from implementation of the LMP in the Potrero Unit are focused on: (1) proposed management activities in areas that are not currently being managed (see Figure 5.3-8B); and (2) proposed new facilities, structures, and water tanks (for the domestic water system).

Implementation of the LMP could result in potentially significant temporary and permanent direct and indirect impacts to special-status species and suitable habitat, in the absence of appropriate mitigation measures (Issue BIO-1). These potential direct and indirect impacts to special-status species would be reduced to a less-than-significant level with incorporation of the mitigation measures MM-BIO-1a through MM-BIO-1q.

Issue BIO-2 addresses vegetation communities that occur within the SJWA that are considered sensitive by CDFW (CDFG 2010; CDFW 2018). Implementation of the LMP could result in temporary and permanent direct and indirect impacts to sensitive vegetation communities resulting in a potentially significant impact, in the absence of appropriate measures (Issue BIO-2). Impacts to sensitive vegetation communities would be avoided, minimized, and mitigated through implementation of MM-BIO-2a and MM-BIO-2b.

Issue BIO-3 addresses jurisdictional waters under the jurisdiction of ACOE, CDFW, and RWQCB. Potentially jurisdictional waters or features have been identified and impacts to these potentially jurisdictional waters are evaluated. The focus of this evaluation is whether the management activity would result in fill or dredge of a jurisdictional waters. Implementation of the LMP could result in potentially significant direct and indirect impacts to potentially jurisdictional waters, in the absence of other measures. These impacts to potentially jurisdictional waters would be avoided, minimized, and mitigated through implementation of MM-BIO-3a and MM-BIO-3b.

The SJWA is situated in a region of western Riverside County that is recognized as important for regional habitat connectivity by the MSHCP, the California Essential Habitat Connectivity Project (Spencer 2010), and the South Coast Missing Linkages project (South Coast Wildlands 2008). The SJWA also is an important stopover location for many migrant and wintering birds that may use riparian habitats, Mystic Lake, the waterfowl ponds, grasslands, or agricultural areas for resting

and foraging. Implementation of MM-BIO-1a, MM-BIO-1c, and MM-BIO-1g would reduce potential temporary direct impacts to wildlife moving through the SJWA to less than significant (Issue BIO-4). Potential direct permanent impacts to wildlife movement associated with implementation of the LMP would be less than significant (Issue BIO-4). Potential temporary indirect impacts to wildlife movement resulting from implementation of the LMP would be less than significant (Issue BIO-4). These potential permanent indirect impacts could be potentially significant without implementation of mitigation measures (Issue BIO-4). Implementation of mitigation measure MM-BIO-4b would ensure permanent indirect impacts to wildlife movement and nursery sites would be less than significant.

5.4 Cultural and Paleontological Resources

The evaluation of potential impacts to cultural resources resulting from new or expanded construction (ground-disturbing) activities associated with implementation of LMP activities could directly or indirectly disturb unknown historical or archeological resources or human remains resulting in potentially significant impacts (Issues CUL-1, CUL-2 and CUL-5). Compliance with MM-CUL-1a through MM-CUL-1d and MM-CUL-5 would reduce impacts to less than significant.

There have been a number of fossil discoveries near the SJWA and this area is considered to be moderate to highly sensitive for paleontological resources. The analysis found there was the potential to find paleontological resources during any ground-disturbing activities and concluded the impact was considered potentially significant (Issue CUL-3). Compliance with MM-CUL-3 would reduce the impact to less than significant. Activities under the LMP were also found to have the potential to impact tribal cultural resources, but compliance with MM-CUL-4 would reduce the impact to less than significant (Issue CUL-4). The LMP's incremental contribution to the cumulative loss of cultural resources is considered small yet it was determined to be potentially significant. Implementation of MM-CUL-1 through MM-CUL-5 would ensure that potential impacts to previously unidentified subsurface resources, including TCRs are mitigated to a less-than-significant level.

5.5 Geology and Soils

New structures to be constructed under the LMP include manufactured homes/trailers. Given the severity of ground shaking that could occur due to the proximity of the San Jacinto Fault, and that Earthquake Resistant Bracing Systems are not required for manufactured homes under state law, this impact is considered potentially significant (Issue GEO-1). Implementation of MM-GEO-1a would reduce the potential for personal injury to employees in the event of an earthquake reducing the impact to a less-than-significant level. The expansion of wetlands and waterfowl habitat, and the proposed water storage project, would involve construction of enclosed berms to hold water. Failure of the berms stemming from a major regional earthquake could result in a potentially

significant impact. Implementation of MM-GEO-1b would substantially reduce the potential for on-site and off-site flooding in the event of berm failure and reduce the impact to less than significant (Issue GEO-1). Construction activities would require land disturbances such as grading and site-preparation activities. If improperly performed, these activities could result in substantial soil erosion or the loss of topsoil resulting in a potentially significant impact (Issue GEO-2). Implementation of MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f would reduce impacts to less than significant. Future construction activities would be required to comply with the California Building Code (CBC) and local codes; therefore impacts associated with unstable soils including landslide, lateral spreading, subsidence, liquefaction, collapse or expansive would be considered less than significant (Issue GEO-3 and Issue GEO-4). Impacts associated with the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems were also determined to be less than significant (Issue GEO-5). Lastly, cumulative impacts relating to geotechnical hazards were also determined to not be considerable resulting in a less than significant cumulative contribution.

5.6 Hazards and Hazardous Materials

Based on a review of historical aerial photographs, regulatory agency records and databases, existing agricultural uses on the Davis Unit may include pesticides in the soils that could result in a potentially significant impact if disturbed by construction or grading activities. In addition, current cleanup operations and the potential for unexploded ordinance (UXO) to be present in areas on the Potrero Unit would also result in a potentially significant impact (Issue HAZ-1 and HAZ-2). Implementation of MM-HAZ-1a, MM-HYD-1a, MM-HYD-1, MM-HAZ-2b, and MM-HAZ-2c would reduce impacts to less than significant. The LMP activities would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school project nor is the SJWA located within an airport land use plan or, within two miles of a public airport or private airstrip (Issue HAZ-3, HAZ-5, and HAZ-6). These impacts were found to be less than significant. The Potrero Unit is listed in the State Response Sites (RESPONSE) database as an active cleanup site and any activities in this area would be considered a potentially significant impact. Implementation of MM-HAZ-1c, MM-HAZ-1d, and MM-HAZ-2b would reduce the impacts to a less-than-significant level.

Construction and maintenance activities may require may require detours, temporary road closure or lane closure for on-site roads to facilitate new construction, improvements or maintenance. These activities could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan resulting in a potentially significant impact (Issue HAZ-7). Implementation of MM-HAZ-7 would reduce impacts of construction and maintenance activities to less than significant. In addition, the Davis and Potrero Units are both located partially within areas designated by CALFire as Moderate, High, and Very High Fire Hazard Severity Zones

and heat or sparks from construction or maintenance equipment or vehicles have the potential to ignite a fire resulting in a potentially significant impact (Issue HAZ-8). Implementation of MM-HAZ-8 would reduce the potential for construction and maintenance activities to contribute to starting a wild fire to less than significant. Lastly, the LMP combined with buildout of the planning documents identified in Chapter 3, would not contribute to an existing cumulatively significant impact.

5.7 Hydrology and Water Quality

For all land-disturbing construction activities that exceed 1 acre in size, CDFW must obtain coverage under the Construction General Permit from the State Water Resources Control Board (SWRCB Order No. 2009-0009-DWQ, as amended). A Stormwater Pollution Prevention Program (SWPPP) must be developed that identifies all pollutant sources and non-stormwater discharges associated with the construction activity, and identifies appropriate water quality BMPs. However, due to the presence of sensitive resources and the proximity of receiving waters, the effects small facility construction activities could have on less than 1 acre could be potentially significant. In addition, land management activities including certain vegetation management methods, such as use of herbicides, the potential to expand agricultural operations, prescribed burning, and hunting dog activities could also result in a potentially significant impact to water quality (Issue HYD-1). Implementation of MM-HYD-1a through MM-HYD-1f would reduce potential impacts to less than significant. Future LMP activities would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge and impacts were determined to be less than significant (Issue HYD-2). Within the Davis Unit there is the potential small construction activities not subject to the SWPPP could contribute to a change in the rate and volume of stormwater runoff, which is inherently linked to how changes in topography or land cover alter drainage patterns; therefore the impact is potentially significant, but would be reduced to a less-than-significant level with MM-HYD-1a. Installation of structures involving impervious surfaces could also locally increase the rate or volume of stormwater runoff resulting in a potentially significant impact (Issues HYD-2 and HYD-3). Compliance with MM-HYD-1f would reduce impacts to less than significant. Since the exact location and coverage of impervious surfaces is not currently known and would be developed as the LMP is implemented, the creation or contribution of runoff water could provide additional sources of polluted runoff impacts resulting in a potentially significant impact, but would be reduced to a less-than-significant level through implementation of MM-HYD-1f (Issue HYD-4).

The LMP includes using recycled water for managed wetlands which may have concentrations of salts, TDS, and nitrates that are elevated when compared to high-quality raw water. There is the potential for the release of recycled water on the Davis Unit in the event of a major flood or earthquake-induced failure of a berm or levee resulting in a potentially significant impact (Issues HYD-5 and HYD-6). Implementation of MM-HYD-6 would mitigate the impact to less than

significant. Construction of berms for new ponds and water management infrastructure would involve localized changes in topography, but would not significantly alter the floodplain. However, because the details of new ponds, water management structures, or levees are not known, this is considered a potentially significant impact and implementation of MM HYD-8 would reduce the impact to less than significant (Issue HYD-8). Housing would not be placed within a 100-year flood hazard area, future activities under the LMP would not expose people or structures to significant risk of loss, injury or death involving flooding, or inundation by seiche, tsunami, or mudflow and all of these impact were determined to be less than significant (Issues HYD-7, HYD-9, and HYD-10). Lastly, compliance with the Construction General Permit and implementation of MM-HYD-1a through MM-HYD-1f ensures that the LMP's contribution to cumulatively significant water quality impacts are reduced to below a level of significance.

5.8 Recreation

Proposed improvements and expansion of existing recreational opportunities within the SJWA is anticipated to increase visitation. The anticipated increase in visitation to the SJWA attributed to implementation of the LMP would be adequately accommodated by the SJWA. Substantial physical deterioration of existing or expanded recreational facilities would not occur, thus, impacts would be less than significant (Issue REC-1). Future construction of new or expanded recreational facilities, including new hunting areas, and ongoing maintenance of improved or expanded recreational facilities and amenities could result in a potentially significant impact, specifically to air quality associated with construction, water quality and biological resources (Issue REC-2). Compliance with MM-BIO-1e, MM-BIO-1d, MM-BIO-1a, MM-BIO-1c, MM-BIO-1g, MM-AIR-1b, MM-HYD-1a through MM-HYD-1f, MM-HYD-6, MM-HYD-8 would reduce impacts to less than significant. The LMP would not result in a cumulatively considerable contribution associated with the substantial physical deterioration of a recreational facility or adverse effects on the environment associated with the expansion or construction of new recreational facilities.

5.9 Traffic and Circulation

The traffic analysis evaluated the increase in vehicle trips (including construction workers and export/import materials and equipment) attributed to construction activities and vehicle trips due to the increase in visitors. It was determined the export and import of construction materials should occur during off-peak hours to have a minimal traffic impact to the surrounding roadway network. However, because there was not a construction traffic control plan required this is considered a potentially significant impact (Issue TRAF-1). Compliance with MM-TRAF-1, which requires preparation of a traffic control plan, would reduce impacts to less than significant. The potential for future LMP activities to conflict with the 2011 Riverside County Congestion Management Program (CMP) was evaluated and found to be a potentially significant impact because construction

traffic would increase and could result in lane closures which would conflict with the County's CMP. The increase in hazards due to a design feature and inadequate emergency access was also evaluated and due to the increase in construction traffic and the potential for lane closures this was also determined to be potentially significant (Issues TRAF-2, TRAF-4, and TRAF-5). Compliance with MM-TRAF-1 would reduce impacts to the CMP and to potential hazards associated with a design feature and emergency access to less than significant. Potential conflicts with the South Coast Air Quality Management District thresholds and impacts relating to the LMP's potential to conflict with or obstruct implementation of the applicable Air Quality Management Plans were determined to be less than significant. Construction and operational activities associated with the LMP were evaluated and determined would not result in a change in air traffic patterns or result in substantial safety risks. Impacts would be less than significant (Issue TRAF-3). Future traffic was determined to not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities and the impact was determined to be less than significant (Issue TRAF-6). An evaluation of cumulative effects found the LMPs contribution to any cumulatively significant traffic and circulation impacts would not be considerable resulting in a less than significant cumulative contribution.

5.10 Utilities and Service Systems

The SJWA is not currently connected to any sewer service infrastructure and does not entail the extension of sewer services or the installation of new sewer connections to existing infrastructure. A new septic system may be required for future employee housing. Future uses under the LMP would not exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board, require construction of new water or wastewater treatment facilities, or exceed capacity at the wastewater treatment plant; therefore, impacts were determined to be less than significant (Issues UTL-1, UTL-2, and UTL-5). Future uses under the LMP would not require the construction of new stormwater drainage facilities or expansion of existing facilities, and impacts were determined to be less than significant (Issue UTL-3). The delivery of water is required for the benefit of wildlife habitat maintenance on the SJWA. Historically, annual water deliveries to the SJWA have been adequate for habitat conservation and recreation purposes. However, because the additional increase in water demand associated with new and expanded water-dependent uses on the SJWA is not yet known, this is considered a potentially significant impact (Issue UTL-4). Implementation of MM-UTIL-1 would ensure that long-term impacts associated with sufficient water supplies would be less than significant. Solid waste generated by future LMP activities would be served by a landfill with sufficient permitted capacity to accommodate demand and construction and operation activities under the LMP would comply with all applicable state and local statutes or regulations related to solid waste generation, storage, and disposal and impacts would be less than significant (Issues UTL-6 and UTL-7). In addition, future activities under the LMP would not have a considerable contribution to any existing significant cumulative impacts so there would

be no cumulative impact to water supply, wastewater treatment and capacity and solid waste disposal.

5.11 Energy

Construction or operational activities of the LMP are limited to various construction activities including new ponds and a reservoir; new roads and multi-use trails; parking areas; three manufactured homes, and either one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems; and new shade structures. Maintenance activities under the LMP include maintaining and developing hunter check stations and blinds, improving fire management facilities, and implementing fire control measures. These activities would not result in the wasteful, inefficient, and unnecessary consumption of energy. Due to the nature and type of construction and operation activities, the LMP would not conflict with applicable environmental policies, would not adversely affect local and regional energy resources or require additional supply, and the impacts are all less than significant (Issues ENE-1, ENE-2, and ENE-3). In addition, the LMP's contribution to increased demand for energy resources would be minuscule; therefore, the cumulative impact would be less than significant.

ES.4~~5~~ SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-1, Summary of Environmental Impacts and Mitigation Measures, provides a summary of the impact analysis related to the LMP. Table ES-1 provides a summary of environmental impacts resulting from implementation of the LMP pursuant to the CEQA Guidelines Section 15123(b)(1). For a more detailed discussion of project impacts, please see Chapter 5of this EIR. Table ES-1 also lists the level of significance of an impact prior to mitigation and lists all applicable mitigation measures identified for significant impacts, as well as providing the level of significance after mitigation. As stated in Chapter 1, Introduction, an Initial Study was not prepared because CDFW determined that an EIR was clearly required for the LMP. The following topics were not evaluated in this PEIR because impacts would be less than significant: Aesthetics, Agriculture and Forestry Resources, Land Use/ Planning, Mineral Resources, Noise, Population/Housing, and Public Services. Therefore, these topics are not addressed in the PEIR and not summarized in Table ES-1.

ES.~~5~~6 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Section 15123(b) (2) of the CEQA Guidelines requires that areas of controversy known to the lead agency must be stated in the executive summary prepared as part of the EIR. Issues of interest to the public and public agencies were identified during the 30-day public comment period for the NOP. A Scoping Meeting was held on June 15, 2016.

Written comments in response to the NOP were received from the following agencies and organizations:

- Department of Water Resources
- Department of Transportation (Caltrans)
- Riverside County Flood Control and Water Conservation District
- City of Moreno Valley, Community Development Department – Planning Division
- Southern California Association of Governments
- South Coast Air Quality Management District
- California Native Plant Society, Riverside-San Bernardino Chapter
- Sierra Club, San Gorgonio Chapter/Moreno Valley Group
- Center for Biological Diversity
- Friends of Northern San Jacinto Valley
- California Waterfowl Association
- Endangered Habitats League
- Tri-County Conservation League
- San Bernardino Valley Audubon Society
- German Shorthaired Pointer Club of San Diego

At the Scoping Meeting on June 15, 2016, no CEQA-related comments were received. The NOP, distribution list, and comment letters received during the NOP review period are included in Appendix A of this EIR.

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved; this includes the choice among alternatives and whether or how to mitigate significant impacts. The major issues to be resolved for the LMP include concerns regarding maintaining plant and wildlife habitat, linkage corridors, invasive species control, increased hunting of waterfowl and upland small game, and proposed public uses and expanded locations of activities/programs within the LMP.

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Topic	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.1 Air Quality			
~~AQ~~AIR-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	PS	**MM-AIR-1a Construction Schedule.** Based on the substantial earthwork required for construction of the water storage reservoir and levee located within the Davis Unit, the CDFW will require contractors to develop grading plans such that other earthwork activities associated with other representative activities, would not coincide with the grading schedule of the water storage reservoir and levee. This will ensure the daily maximum PM_{10} emissions threshold is not exceeded. **MM-AIR-1b Fugitive Dust Control.** CDFW will require construction activities adhere to South Coast Air Quality Management District Rule 403, which includes a variety of measures intended to reduce fugitive dust emissions. The following measures will be implemented during maintenance activities, as needed, to reduce the potential for fugitive dust emissions during grading, excavation, and construction activities: • The areas disturbed at any one time by clearing, grading, earth-moving, or excavation operations will be minimized to prevent excessive amounts of dust. • Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). • Water active sites at least three times daily. (Locations where grading is to occur shall be thoroughly watered prior to earth-moving.) • Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114. • Reduce traffic speeds on all unpaved roads to 15 mph or less. • During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth-moving, and excavation operations will be curtailed to the degree necessary to prevent fugitive dust created by construction activities and operations from being a nuisance or hazard, either on site or off site. • During all construction activities, construction contractors will sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1.	LTS
~~AQ~~AIR-2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	PS	**MM-AIR-2** Implement MM-AIR-1a and MM-AIR-1b	LTS
~~AQ~~AIR -3: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors)?	PS	Implement MM-AIR-1a and MM-AIR-1b	LTS
~~AQ~~AIR -4: Would the project expose sensitive receptors to substantial pollutant concentrations?	PS	**MM-AIR-4** Implement MM-AIR-1a and MM-AIR-1b	LTS
~~AQ~~AIR -5: Would the project create objectionable odors affecting a substantial number of people?	LTS		
5.2 Greenhouse Gases			
GHG-1: Would project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	LTS		
GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	LTS		
Would the project result in a cumulative contribution?	LTS		

5.3 Biological Resources			
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	PS		LTS ~~(with the exception of Potentially Significant and Unavoidable impact to nesting birds)~~
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive vegetation community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	PS	**MM-BIO-2a** (temporary) Implement MM-BIO-1a through MM-BIO-1g and MM-BIO-1i through MM-BIO-1m **MM-BIO-2b** (permanent) Implement MM-BIO-1a through MM-BIO-1c and MM-BIO-1e through MM-BIO-1l	LTS
BIO-3: Would the project result in a net loss of federally protected wetlands or state-protected wetlands on the site?	PS	**MM-BIO-3a** (temporary) Implement MM-BIO-1a through MM-BIO-1m **MM-BIO-3b** (permanent) Implement MM-BIO-1a through MM-BIO-1l	LTS
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	PS	**MM-BIO-4a** (temporary recommended) Implement MM-BIO-1a, MM-BIO-1c, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, MM-BIO-1q **MM-BIO-4b** (permanent) Implement MM-BIO-1c, MM-BIO-1e, MM-BIO-1g, MM-BIO-1h, MM-BIO-1i, MM-BIO-1p, MM-BIO-1q	LTS
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	PS	**MM-BIO-5a** (temporary) Implement MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1m **MM-BIO-5b** (permanent) Implement MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1l.	LTS
BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	LTS		
Would the project contribute to a cumulative Loss of Habitat for Special-status Species?	PS	Implement MM-BIO-1a through MM-BIO-1m	LTS
5.4 Cultural Resources			
CUL-1: Would the project cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines §15064.5?	PS	**MM-CUL-1a Known Resources.** Subsurface ground-disturbing activities may result in adverse impacts to known archaeological resources, listed in below: • Potrero Unit: Resource 33-00239 • Davis/Potero Unit: Resource CA-RIV-6726 For any subsurface ground-disturbing activities within 100 meters of these known resources, CDFW will require a qualified archeologist that meets the Secretary of the Interior's Professional Qualification Standards with professional experience in Southern California to prepare a site-specific survey to determine the extent of site resources. All work plans for site-specific surveys and the potential requirement for Native American monitoring during any subsurface ground-disturbing activities for new or expanded LMP activities will be provided to the consulting Tribes for their review and comment prior to commencement of fieldwork. It is CDFW's intent that Historic Resources and Unique Archeological Resources will be preserved in place or left in an undisturbed state. If necessary, any applicable California Department of Parks and Recreation DPR forms will be updated. Examples of preservation, in place may include, but are not limited to, any of the following: • Planning construction to avoid archaeological sites. • Deeding archaeological sites into permanent conservation easements. • Capping or covering archaeological sites with a layer of soil before building on the site. • Planning parks, greenspace, or other open space to incorporate archaeological sites. (PRC Section 21083.2(b)(1)-(4).	LTS
		MM-CUL-1b Unknown, Unidentified or Undetermined Resources. Subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas may result in adverse impacts to cultural resources that either (a) were previously unidentified or (b) previously recorded but have not been determined to be a significant Historic or Unique	LTS

		Archaeological Resource (including but not limited to the previously recorded resources listed in Tables 5.4-2 and 5.4-3). Prior to any subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas, CDFW will retain a qualified archeologist that meets the Secretary of the Interior's Professional Qualification Standards, to prepare a site-specific cultural resources survey. All work plans for site-specific surveys and the potential requirement for monitoring during any subsurface ground-disturbing activities for new or expanded LMP activities will be provided to the consulting Tribes for their review and comment prior to commencement of fieldwork. If any resources are unearthed by any of the LMP activities and determined to be eligible as a Historic Resource or a Unique Archeological Resource, CDFW, or the qualified archeologist will temporarily install flags or create an Environmentally Sensitive Area buffer to ensure protection until eligibility is determined. If determined to be eligible it is CDFW's intent these resources will be preserved in place or left in an undisturbed state. If avoidance is not practical see MM-CUL-1c below. California Department of Parks and Recreation DPR forms will be prepared and submitted to CDFW and the appropriate California Historical Resources Information System – Information Center. If it is determined to be an eligible prehistoric or unique archeological resource, the Tribes will be consulted. Examples of preservation may include, but are not limited to, any one or more of the following: • Planning construction to avoid archaeological sites. • Deeding archaeological sites into permanent conservation easements. • Capping or covering archaeological sites with a layer of soil before building on the site. • Planning parks, greenspace, or other open space to incorporate archaeological sites. (PRC Section 21083.2(b)(1)-(4).)	
		MM-CUL-1c Potentially Unidentified or Unknown Resources. Through implementation of MM-CUL-1a and 1b, CDFW intends to address all cultural resources prior to subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas. However, there is a potential that unidentified prehistoric or archaeological resources could be uncovered during this disturbance. In the event this occurs, all such activities will stop within 100 feet of the find and temporary flagging installed or an Environmentally Sensitive Area buffer established around this resource to avoid any disturbances from equipment, vehicular traffic, or construction-based activities. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, will be retained by CDFW to evaluate the find and recommend appropriate action. Where avoidance is not practical, consulting Tribes will be notified of the discovery within 48 hours of the find and be permitted to evaluate and assess the discovery and review and comment on the archeologist's significance evaluation and recommended actions prior to any further ground-disturbing activities. If the qualified archaeologist and/or consulting Tribes determine the discovery to be potentially significant pursuant to CEQA, and CDFW determines avoidance of the resource to not be practical, then additional efforts such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted prior to allow construction to proceed in this area. Any treatment plan will be developed in consultation with the Tribes. Additionally, any archeological work plan or treatment plan will include Native American monitoring, if requested by consulting Tribes during discussions with CDFW about the development or implementation of any treatment plan or work plan. If during work plan or treatment plan coordination efforts the Tribes establish conflicting terms, the Tribes shall have 30 days to present CDFW with a resolution as to those conflicting terms. If the Tribes are unable to reach resolution, then CDFW will proceed with the non-conflicting terms of each Agreement. Regarding any conflicting terms, within 30 days, the Tribes shall inform CDFW that they were unable to reach resolution and shall select which form between the conflicting terms to implement.	LTS
		MM-CUL-1d Unidentified or Undetermined Historic Structures. For any activities under the LMP that may require altering or removing buildings, structures, or features, CDFW will retain a qualified architectural historian to determine if the buildings are considered eligible for listing on the California Register of Historic Resources. The architectural historian will do the following: • Prepare an inventory of all buildings and structures that would be 50 years of age or older prior to commencing project activities. • Before altering or otherwise affecting a building or structure 50 years old or older, the qualified architectural historian will record it on a California Department of Parks and Recreation DPR 523 form or equivalent documentation and assess its significance using the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. For historic buildings, structures or features that do not meet the CEQA criteria for historical resource, no further mitigation is required and the impact is less than significant. • For a building or structure that qualifies as a historic resource, the architectural historian will consider measures that would enable the project to avoid direct or indirect impacts to the building or structure. These could include preserving a building on the margin of the site, using it "as is," or other measures that would not alter the building. If the LMP activity cannot avoid modifications to a significant building or structure, the following will be required: o All renovations or other alterations are required will be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings". o If a significant historic building or structure is proposed for major alteration or renovation, or to be demolished, the architectural historian will thoroughly document the building and associated landscaping and setting. Documentation will include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record will be provided to the State Office of Historic Preservation.	LTS
CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	PS	**MM-CUL-2** Implement MM-CUL-1a through MM-CUL-1d.	LTS

CUL-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	PS	**MM-CUL-3** Prior to the commencement of activities that involve subsurface ground disturbance associated with new or existing activities being expanded into previously undisturbed areas, CDFW will review figure 5.4-1 and determine if the activity will also be occurring in an area of moderate to high paleontological sensitivity. Should this new or expanded activity involve subsurface ground disturbance and be located within an area of moderate to high paleontological sensitivity, CDFW will retain a qualified paleontologist to prepare a Paleontological Mitigation Plan (PMP) that adequately addresses the resources prior to conducting the subsurface ground disturbance. The PMP shall include, but not be limited to, the following: • General fieldwork and laboratory methods proposed. • Mitigation measures adequate for the recovery of a sample of significant fossils that may be applied to rock units determined to contain significant paleontological resources, if those rock units cannot be avoided by project activities. Such measures may include, but are not limited to, the following: o Recovering a sample of fossiliferous material prior to construction; o Monitoring construction and halting work to recover important fossils; or o Preparation, identification, curation, and reporting of fossil specimens collected. As detailed in the plan, the qualified monitor will have the authority to halt and /or divert construction activities to outside of the area of the discovery, and the area will be flagged as an environmentally sensitive area. The qualified paleontologist will evaluate the resource to determine its significance. If determined to be significant, the paleontologist will recover the fossil(s), and prepare, identify, and curate the recovered specimens. The fossils will then be donated to a suitable repository, such as the Western Science Center, along with a final report of the mitigation monitoring program.	LTS
CUL-4: Would the project cause a substantial adverse change in significance of a tribal cultural resource as defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?	PS	**MM-CUL-4 Tribal Cultural Resources.** Ground disturbance for new or existing activities expanded in previously undisturbed areas may result in adverse impacts to tribal cultural resources within the San Jacinto Wildlife Area. Prior to ground-disturbing activities, CDFW will consult with Native American tribe(s), including but not limited to the Pechanga Band of Luiseño Indians, Soboba Band of Luiseño Indians, and San Manuel Band of Mission Indians, to determine the type and extent of potential Tribal Cultural Resources in the project specific area. Once the extent of the Tribal Cultural Resource is determined in consultation with Native American tribe(s), CDFW will prepare a work plan, in coordination with the consulting Tribe(s) to avoid or minimize the significant adverse impacts prior to fieldwork commencing. Tribal Cultural Resources will be preserved in place or left in an undisturbed state. Examples of preservation in place and treatment of any Tribal Cultural Resources may include, but are not limited to, any of the following: • Planning construction to avoid the resources and protect the cultural and natural context and incorporate the resources with culturally appropriate protection and management criteria. • Treat the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: o Protect the cultural character and integrity of the resource o Protect the traditional use of the resource o Protect the confidentiality of the resource • Deeding Tribal Cultural Resources into permanent conservation easements, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places • Protecting the resource. (Pub. Resources Code, § 21084.3 (b).)	
CUL-5: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	PS	**MM-CUL-5** All ground surface disturbance for new or existing activities expanded in previously undisturbed areas will cease if any potential or identified human remains are uncovered and a 100-foot buffer will be established, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) will be followed.	LTS
Would the project result in a cumulative contribution?	PS	Implement MM-CUL-1 through MM-CUL-5	LTS
5.5 Geology and Soils			
GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: a. Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. b. Strong seismic ground shaking? c. Seismic-related ground failure, including liquefaction?	PS	**MM-GEO-1a Seismic Considerations for Trailers.** The California Department of Fish and Wildlife (CDFW) will require double-wide trailers and offices proposed in the San Jacinto Wildlife Area (SJWA) to be selected, designed and installed to resist the lateral loads that would be imposed under the maximum considered earthquake on the San Jacinto Fault zone. Trailers will be installed with Earthquake Resistant Bracing Systems that simultaneously resist lateral loading and prevent the trailer from dropping more than 2 inches if it moves off its supports. Utility hookups and interior appliances will be designed with straps, bracing, or (for all gas appliances and light petroleum gas tanks) flexible connections to avoid personal injury or fire. CDFW will require the contractor selected to install manufactured units to certify the installation meets the above standards prior to occupancy, in addition to U.S. Department of Housing and Urban Development standards. **MM-GEO-1b Seismic and Stability Considerations for Water Storage (Davis Unit only).** All proposed CDFW actions that meet the criteria of a dam under Division of Safety of Dams (DSOD) jurisdiction, including but not limited to the Water Storage Project, will be developed in compliance with DSOD dam safety regulations and in coordination with DSOD staff during the planning and design phases. The scope of the studies to support the planning, design, and engineering of a water storage project subject to DSOD jurisdiction will include: • **Inundation mapping:** A catastrophic failure scenario will be modeled using high-resolution topographic data and Hydrologic Engineering Center's River Analysis System (HEC-RAS) or similar model to evaluate the degree to which private property or sensitive land uses downstream would be inundated. This information will be used to inform the stability/safety design criteria of the water storage project.	LTS

d. Landslides?		• **Liquefaction analysis:** A liquefaction analysis will be conducted to assess whether the foundational soils would be stable in an earthquake scenario and not subject to liquefaction. The analysis will utilize the results of cone-penetration testing (CPT) to assess strength and character of soils and evaluate groundwater conditions and trends to determine the potential for liquefaction and the need for mitigation. • **Geotechnical/Stability Analysis:** CPT results and other soils testing data, as necessary, will be collected and evaluated to make dam safety recommendations based on seismic loading and the resulting stability of the berms/levees under earthquake scenarios (i.e., factor of safety analysis). Recommendations shall include but not be limited to ideal levee designs/geometry, earthwork specifications, minimum required freeboard, the location/extent of required armoring or emergency spillway, and long-term operation and maintenance requirements. Geotechnical and engineering studies for the water storage project (and any other project activity involving a jurisdictional dam) will be reviewed and approved by DSOD. The water storage project will not be constructed without final authorization from DSOD.	
GEO-2: Would the project result in substantial soil erosion or the loss of topsoil?	PS	**MM-GEO-2** Implement MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f	LTS
GEO-3: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS		
GEO-4: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	LTS		
GEO-5: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	LTS		
Would the project result in a cumulative contribution?	LTS		
5.6 Hazards and Hazardous Materials			
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	PS	**MM-HAZ-1a** Due to past uses of portions of the Davis Unit for agricultural purposes, residual metals and pesticides may be present in soils within current or historical agricultural use. For soil-disturbance activities associated with habitable structures (e.g., employee double-wide trailers) or visitor use facilities, the California Department of Fish and Wildlife (CDFW) will require historical land use for the construction area be investigated further. If it is determined that land was previously used for agricultural purposes and pesticides may have been used, as described in the Department of Toxic Substances Control (DTSC) guidance documents, then soils in the vicinity of the construction project activity will be sampled and analyzed for residual metals and pesticides prior to permit issuance in accordance with the current version of DTSC's Guidance for Sampling Agricultural Properties document. In addition, sampling will be conducted in accordance with the current version DTSC's Preliminary Endangerment Assessment Guidance Manual. Soil sampling will confirm the presence or absence of on-site contamination associated with past agricultural uses. Soils identified as hazardous waste will be delineated, removed, and disposed of offsite. Any soil that exceeds human health protective screening levels will be remediated on-site to levels protective of human health or removed and properly disposed of offsite. **MM-HAZ-1b** Implement MM-HYD-1a, MM-HYD-1b.	LTS
		MM-HAZ-1c A portion of the Potrero Unit was used by Lockheed Propulsion Martin Company as a test facility, and soils on site are impacted by solvents, degreasers, purgeable organics, trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,1,1-trichloroethane (1,1,1-TCA), perchlorate, 1,4-dioxane, and beryllium. Prior to any construction or grading permit issuance, a determination will be made by the California Department of Fish and Wildlife (CDFW) as to whether soils in the area may have been impacted by former testing operations by consulting Lockheed Propulsion Martin Company's remedial reports. If the area is in a historical operational area and soil data is available for the site, construction or grading will proceed pursuant the requirements of the Purchase and Sale Agreement between Lockheed Martin Corporation and CDFW, as well as the requirements in the Operation and Maintenance Agreement between Lockheed Martin Corporation and California Department of Toxic Substances Control (DTSC) ~~to the guidelines established in Lockheed's Remedial Action Plan.~~ If construction takes place in a potentially impacted area and no soil data is available, sampling ~~may~~ will need to be conducted to determine if special handling and disposal is necessary. If necessary, soil and soil gas sampling will be conducted in accordance with the current version of California Department of Toxic Substances Control (DTSC) guidance documents. Soil and soil gas sampling will confirm the presence or absence of onsite contamination associated with past uses, including an assessment of vapor risk where applicable. Soils identified as hazardous waste will be delineated, removed, and disposed of offsite in a facility that accepts contaminated materials. Any soil that exceeds human health protective screening levels will be remediated ~~onsite~~ to levels protective of human health or removed and properly disposed of offsite. Should a vapor intrusion risk be confirmed, the structure shall be equipped with adequate ventilation systems to mitigate the risk.	LTS

		MM-HAZ-1d Since munitions and explosives of concern (MEC) ~~unexploded ordinance (UXO)~~ may be discovered or encountered during grading or construction activities, the California Department of Fish and Wildlife (CDFW) will require all workers be properly trained in ~~UXO~~ MEC identification and reporting. Annual safety training for workers at the Potrero Site is currently provided by Tetra Tech and Lockheed, including discussion of ~~UXO~~ MEC protocols. All workers and construction contractors will be required to attend this training before working at the site. In addition, Lockheed Martin Company's Munitions and Explosives of Concern reports will be reviewed to determine if construction would take place in an area where ~~UXO~~ MEC may be encountered. If ~~UXO~~ MEC ~~is~~ are potentially encountered during construction, a ~~UXO~~ MEC survey will be conducted to determine if any ~~UXO~~ MEC are present prior to grading or construction.	
HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	PS	**MM-HAZ-2a** Implement MM-HAZ-1a (Davis Unit only), MM-HAZ-1c, and MM-HAZ-1d (Potrero Unit only). **MM HAZ-2b** To protect the public from the ongoing remediation activities within the historical operational area boundaries of ~~on~~ the Lockheed Martin Beaumont Site ~~conservation easement (Subunits P10 and P11)~~, ~~upon LMP approval~~ CDFW will construct ~~a~~ fencinge ~~along the boundary of the conservation easement boundary~~ around areas determined to be a public health and safety concern where signage only may not be adequate to preclude public access. Fencing locations will be determined in coordination with Lockheed Martin Corporation and ~~the boundary of the conservation easement boundary~~ prior to CDFW allowing public access on Potrero. Fencing will be reviewed by CDFW to ensure it does not pose a barrier to wildlife movement and shall be installed to allow for safe passage of all species, including small mammals. In addition and where appropriate, CDFW will include hazard warning signage within 100 feet of the constructed fenceing to alert the public of the ongoing remediation activities on the Lockheed Martin property. **MM HAZ-2c** Once CDFW, in association with Lockheed Martin Company, determine areas on the Potrero Unit are safe to open to passive recreational use, CDFW will post signage and prepare educational materials with maps placed at all kiosks to direct the public to open areas on the Potrero Unit.	LTS
HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS		
HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	PS	**MM-HAZ-4** (Potrero Unit only) Implement MM-HAZ-1c, MM-HAZ-1d, MM-HAZ-2b and MM-HAZ-2c.	LTS
HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	LTS		
HAZ-6: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	LTS		
HAZ-7: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	PS	**MM-HAZ-7** To avoid impeding emergency response or evacuation traffic during construction and maintenance activities, the California Department of Fish and Wildlife (CDFW) will develop ~~and include in the draft LMP~~ best management practices (BMPs) to be implemented when any public or on-site road is affected. At minimum, the BMPs will include the following: • Limit the extent and duration of road closures; • Where feasible, limit closures to lane closures to allow for vehicle passage; • Provide detours and appropriate signage around closed road/lane segments; • Where necessary, provide traffic control personnel/flaggers to direct traffic; • Incorporate alternative techniques (e.g., plantings over excavations) where feasible to minimize closures; and • Coordinate with local emergency response agencies, where applicable.	LTS
HAZ-8: Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where	PS	**MM-HAZ-8** The California Department of Fish and Wildlife (CDFW) will develop and ~~include in the draft LMP~~ best management practices (BMPs) to be implemented when using construction or maintenance-related equipment that has the potential to generate heat or sparks that could result in wildfire ignition. At minimum, the BMPs will include the following: • Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions;	LTS

wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?		• Proper use of construction equipment; • Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days; • Emergency fire suppression equipment/tools; • Worker training for fire prevention, initial attack firefighting; • Fire reporting; and • Emergency communication, response, and reporting procedures.	
Would the project result in a cumulative contribution?	LTS		
5.7 Hydrology/Water Quality			
HYD-1: Would the project violate any water quality standards or waste discharge requirements?	PS	**MM-HYD-1a Minimum Stormwater Quality Best Management Practices.** For all facility and infrastructure construction activities that are not covered under the Construction General Permit (i.e., less than 1 acre of disturbance), The California Department of Fish and Wildlife (CDFW) will apply the following minimum best management practices (BMPs): • Ground surface-disturbing activities will be designed to minimize wind and water erosion. Soil-disturbing activities will be avoided during periods of runoff, or when soils are wet and muddy, to minimize damage. • Sensitive natural areas within the construction areas will be identified and, where possible, left undeveloped/undisturbed. To the extent possible, areas of ground disturbance will be set back from creeks, wetlands, and riparian habitats, and any trees present will be preserved. • Grading activities will conform to natural land forms, excessive grading and disturbance of vegetation and soils shall be avoided, and the site's natural drainage patterns will be mimicked. • Silt fences will be installed along limits of the work area and the construction site; soil stockpiles will be protected/contained (e.g., visqueen sheeting, fiber rolls, gravel bags); and temporary slopes will be stabilized using bonded fiber matrix, hydroseed, or other suitable method). • No vehicle fueling activities will occur on site without protection from spills, and construction-related equipment and materials storage areas will be protected from spills/leaks of fuels or fluids using secondary containment devices (e.g., plastic sheeting, drip pans beneath vehicles, and containment bins for hazardous materials). • Work areas and construction sites will be kept orderly and free of unanchored debris or packaging material, and will be swept/cleaned at the end of each working day. Other BMPs, as appropriate and applicable, will be implemented from the California Storm Water Best Management Practices Handbook prepared by the California Stormwater Quality Association. CDFW will insure that construction contractors adhere to these minimum BMPs when performing work within the San Jacinto Wildlife Area (SJWA). **MM-HYD-1b Procedural Requirements for Pesticide and Herbicide Applications.** Use of pesticide or herbicides for habitat management activities or agriculture by California Department of Fish and Wildlife (CDFW) will be a measure of last resort after all alternative (non-chemical) management options have been evaluated and determined to be infeasible or ineffective. Where required, pesticide and herbicide application will occur under the direction of a professional pesticide applicator with either a Qualified Applicator License (QAL) or an Agricultural Pest Control Adviser License in the State of California, who will ensure the following: • Label instructions and all applicable laws and regulations will be strictly followed in the application of the product and in the disposal of excess materials and containers. • Only those materials registered by the U.S. Environmental Protection Agency (EPA) for the specific purpose planned will be authorized for use. • The aerial extent, frequency, and volume of pesticide or herbicide used will be limited to that needed to achieve habitat maintenance objectives; such products shall not be broadly/indiscriminately applied and will be limited to spot treatments, if feasible. • Grass-specific herbicides such as Fusillade will be applied at the lowest manufacturer recommended dose. • Giant reed and tamarisk control will be accomplished by cutting the trees at the stump and application of appropriate herbicide stump paint. **MM-HYD-1c Prescribed Fire BMPs.** Post-fire management shall include erosion control, targeted disking, washing of fire retardant from unburned vegetation, and regrading and revegetation of fire-damaged areas to promote sheet flow. Prescribed burns to predetermined areas shall be conducted by California Department of Forestry and Fire (CAL FIRE) crews in conjunction with vegetation management plans, with preferred timing being in the spring after winter rains have ceased for the year. **MM-HYD-1d Conditional Waiver of Waste Discharge Requirements for Agricultural Discharges.** California Department of Fish and Wildlife (CDFW) will coordinate with the Santa Ana RWQCB and the Western Riverside County Agricultural Coalition to ensure its agricultural operations and leases on the Davis Unit are adequately complying with applicable waste discharge requirements, including Santa Ana RWQCB Order R8-2016-0003, and the basin wide nutrient TMDL. CDFW will submit a notice of intent to the Santa Ana RWQCB outlining the nature and extent of its agricultural and food crop operations and leases, and describing the management practices employed that reduce or eliminate potential impacts to water quality objectives and beneficial uses that result from agricultural waste discharges. If determined necessary based on the notice of intent and in coordination with the Santa Ana RWQCB, CDFW will comply with the terms of Santa Ana RWQCB Order R8-2016-0003, including the development and implementation of a nutrient management plan, submittal of a water quality monitoring program, and other management practices as necessary to ensure compliance with the watershed-wide TMDL for nutrients, Basin Plan objectives, and other water quality standards outlined in the order.	LTS

		MM-HYD-1e Proper Management of Dog Waste (Davis Unit only). California Department of Fish and Wildlife (CDFW) will encourage patrons of the facilities to clean up after their dogs by providing signage, waste baskets, and baggies. To the greatest extent feasible, CDFW will ensure areas reserved for dog hunting activities are hydrologically isolated from surrounding waters. Dog training areas will be maintained in a manner that avoids or minimizes concentrated or channelized flow of stormwater runoff to off-site areas. CDFW will conduct biannual cleanup of dog waste within the dog training areas, focusing on areas where stormwater runoff could migrate outside of the management area. The schedule/timing of such cleanup activities will be determined by CDFW based on visitation volume/patterns and the arrival time of the wet season.	
		MM-HYD-1f Site Design Best Management Practices (BMPs) for Impervious Surfaces. Construction of new facilities involving more than 5,000 square feet of impervious surfaces, such as building pads, rooftops, or paved roads or trails, will be required by the California Department of Fish and Wildlife (CDFW) to integrate source control BMPs and low-impact development designs to the maximum extent feasible to reduce the potential for stormwater runoff attributed to construction activities to be accelerated/erosive, or to entrain pollutants. This includes site design BMPs, such as minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas. Where feasible and appropriate, CDFW will incorporate bioretention facilities, infiltration trenches, filter strips, or vegetated buffers to detain and treat runoff before letting it seep away slowly. Where proposed facilities could result in quantifiable increases in the rate or volume of runoff, the type, location, and sizing of treatment control BMPs will be determined based on the design capture volume standards contained in the Riverside County Municipal Separate Storm Sewer System (MS4) Permit (Santa Ana RWQCB Order No. R8-2010-0033, as amended).	
HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	LTS		
HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	PS	**MM-HYD-3** (Davis Unit only) Implement MM-HYD-1a and MM-HYD-1f	LTS
HYD-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	PS	**MM-HYD-4** (Davis Unit only) Implement MM-HYD-1a and MM-HYD1e	LTS
HYD-5: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	PS	**MM-HYD-5** (Davis Unit only) Implement MM-HYD-1f	LTS
HYD-6: Would the project otherwise substantially degrade water quality?	PS	**MM HYD-6** (Davis Unit only) California Department of Fish and Wildlife (CDFW) will notify the Santa Ana Regional Water Quality Control Board (RWQCB), Eastern Municipal Water District (EMWD), and the Elsinore Valley Water District in the event of an unplanned or emergency release of recycled water to the San Jacinto River. CDFW will provide the location, extent, and estimated volume of recycled water released, and shall assist the affected stakeholders with required actions as needed. Corrective actions, if required, could include increased water quality sampling, additional treatment of raw water supply, or other means as determined by the affected water agencies.	LTS
HYD-7: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	NI		
HYD-8: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	PS	**MM-HYD-8** (Davis Unit only) LMP tasks within a Special Flood Hazard Area (SFHA) that meet the following conditions will be subject to a detailed hydrologic study to evaluate potential changes in flood depths or extent: • Proposed berms or levees that exceed the height of the 2% annual chance flood event (about 1,431 feet amsl). • Proposed activities that change the cross sectional area of the SFHA by more than 1%.	LTS

		• Riparian management/restoration project that involves more than 50 cubic yards of earth moving within or immediately adjacent to the ordinary high water mark of a stream, ditch or riparian zone. The hydrologic study will evaluate whether such projects activities would increase the depth or extent of the floodplain in a 100-year storm in a manner that adversely affects new areas or places people or property at risk. The hydrologic study will recommend modifications to the planned layout or height, or other mitigation measures that are necessary to avoid either (1) greater than a 1-foot increase in the base flood elevation, or (2) appreciable changes in the extent/boundaries of the SFHA. In addition, for projects activities meeting the above criteria, CDFW will submit plans to be reviewed by Riverside County Flood Control and Water Conservation District. If determined to be necessary based on completion of studies and coordination with the flood control agency, CDFW will submit a letter of map revision to Federal Emergency Management Agency.	
HYD-9: Would the project expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LTS		
HYD-10: Would the project result in inundation by seiche, tsunami, or mudflow?	LTS		
Would the project result in a cumulative contribution?	PS	Implement MM-HYD-1a through MM-HYD-1f.	LTS
5.8 Recreation			
REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	LTS		
REC-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	PS	**MM-REC-2** Implement MM-BIO-1e, MM-BIO-1d, MM-BIO-1a, MM-BIO-1c, MM-BIO-1g, MM-AIR-1b, MM-HYD-1a through MM-HYD-1f, MM-HYD-6, MM-HYD-8.	LTS
Would the project result in a cumulative contribution?	PS	Implement MM-REC-2.	LTS
5.9 Traffic and Circulation			
TRA-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	PS	**MM-TRAF-1** Prior to issuance of grading permits, California Department of Fish and Wildlife (CDFW) or the project contractor will prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way. The traffic control plan will be reviewed and approved by the County of Riverside and City of Moreno Valley for construction activities occurring on the Davis Unit and the City of Beaumont and County of Riverside for construction activities occurring on the Potrero Unit. Traffic control plan review will be conducted prior to the initiation of any construction activities. The traffic control plan will include provisions for construction times and control plans to allow motorist, bicyclist, pedestrian, and bus access throughout construction. The traffic control plan will include provisions to ensure emergency vehicle passage at all times, and includes signage and flagmen when necessary. The traffic control plan will include provisions for coordinating with emergency service providers regarding construction times.	LTS
TRA-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	PS	**MM-TRAF-2** Implement MM-TRAF-1 for construction activities.	LTS
TRA-3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	LTS		

TRA-4: Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	PS	**MM-TRAF-4** Implement MM-TRAF-1 for construction activities.	LTS
TRA-5: Would the project result in inadequate emergency access?	PS	**MM-TRAF-5** Implement MM-TRAF-1 for construction activities.	LTS
TRA-6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	LTS		
Would the project result in a cumulative contribution?	LTS		
5.10 Utilities and Service Systems			
UTL-1: Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	LTS		
UTL-2: Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	LTS		
UTL-3: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	LTS		
UTL-4: Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	PS	**MM-UTIL-1** Curtail New or Expanded Water-Dependent Uses in Absence of Sufficient Long-Term Water Supply. The construction of new or expanded water-dependent uses on the SJWA by the California Department of Fish and Wildlife (CDFW) will be curtailed if recycled water demand associated with the draft LMP exceeds the 4,500 AFY identified in the 1987 Agreement. Any new water demands exceeding the 4,500 acre feet per year is subject to the availability of future Eastern Municipal Water District (EMWD) recycled water supply and will need to be addressed in a new long term agreement. Demands could also be met with CDFW well water supply. The construction of new or expanded water-dependent uses may proceed once a new long-term Agreement with EMWD that identifies sufficient recycled water deliveries to the SJWA to support increase recycled water demand pursuant to the draft LMP is executed.	LTS
UTL-5: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LTS		
UTL-6: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	LTS		
UTL-7: Would the project comply with federal, state, and local statutes and regulations related to solid waste disposal needs?	LTS		
Would the project result in a cumulative contribution?	LTS		
5.11 Energy Conservation			
ENE-1: Would the proposed project result in the wasteful, inefficient, and unnecessary consumption of energy?	LTS		

ENE-2: Would the project conflict with existing energy standards and regulations?	LTS		
ENE-3: Would the project adversely affect local and regional energy resources or require additional supply, the provision of which could have a substantial impact on the environment?	LTS		
Would the project result in a cumulative contribution?	LTS		

N/A = not applicable

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ES.~~6~~7 SUMMARY OF PROJECT ALTERNATIVES

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to a project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the project. Each alternative should be capable of avoiding or substantially lessening any significant effects of the project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per Section 15126.6.

ES.~~6~~7.1 Alternatives Evaluated

This PEIR includes an evaluation of the following alternatives:

- Alternative 1 - No Project Alternative
- Alternative 2 – No Recycled Water Storage Facility Alternative
- Alternative 3 – No Expansion of Hunting in the Davis Unit
- Alternative 4 – No Hunting in the Potrero Unit

ES.~~6~~7.1.1 No Project Alternative

The No Project Alternative assumes that the LMP would not be adopted and CDFW's current management of the SJWA would continue. This entails the following resources/activities: wetlands, riparian areas, alkali, vernal pools, waterfowl habitat and hunting areas, Stephens' kangaroo rat (*Dipodomys stephensi*), upland small game hunting, agriculture, hunting dog training, hunting and training events (such as youth hunts, Christmas bird count, hunting dog tests, and canine field trial activities) that occur on the SJWA throughout the year, and the structures (restrooms, residences, office, etc.) that currently exist on site.

Although this alternative would not meet the objectives identified for the LMP nor would it comply with section 1019(a) of the California Fish and Wildlife Code which requires CDFW to prepare a land management plan for the SJWA, CEQA requires an alternative that forgoes the project be analyzed.

ES.~~6~~7.1.2 Alternative 2 – No Recycled Water Storage Facility

Under Alternative 2, the No Recycled Water Storage Facility Alternative would eliminate the recycled water storage reservoir proposed within the Davis Unit, Subunit D2. Removing the recycled water storage reservoir would eliminate a source of water for use within the wildlife area, habitat for waterfowl when water is available, and construction activities associated with excavating and constructing the reservoir and installing the pipeline from the Hemet/San Jacinto Regional Water Reclamation Facility to the reservoir.

ES.6<u>7</u>.1.3 Alternative 3 – No Expansion of Hunting in the Davis Unit

Under the No Expansion of Hunting in the Davis Unit Alternative, construction of the 71-acre pond (Subunit D7) and 33 acres in fields (Subunit D4) that would permit waterfowl hunting would not be created. These lands would not change relative to existing conditions. Removing waterfowl hunting on the Davis Unit would eliminate approximately 330 additional hunters/persons per year and 22 daily vehicle trips during hunting season. In addition, the future waterfowl hunting areas that total 1,413 acres in Subunits D1, D3, D4, D11 and D13 would not be open to waterfowl hunting and no hunting blinds would be constructed. Under the LMP there are no additional lands proposed to be added that would permit small game hunting in the Davis Unit. This would not change under this alternative. Under this alternative the proposed and future lands designated for small game hunting in the Potrero Unit would remain unchanged from what is proposed.

ES.6<u>7</u>.1.4 Alternative 4 – No Hunting in the Potrero Unit

The No Hunting in Potrero Unit Alternative would not permit any waterfowl or small game hunting within any of the portions of the Potrero Unit, including small game hunting in upland habitat areas. The Potrero Unit does not contain any wetland habitat, but under the LMP, CDFW proposes to manage approximately 202 acres of riparian habitat within the Potrero Unit. Under this alternative, it is assumed this land would not be used for future hunting of waterfowl. It is also assumed new upland game hunting opportunities on the Potrero Unit would add approximately 170 additional hunters/persons per year. In addition, the 1,136 acres under the LMP proposed for small game hunting areas would not occur under this alternative along with the 5,734 acres proposed for future small game hunting.

ES.6<u>7</u>.2 Environmentally Superior Alternative

Table ES-2, Comparison of Impacts of the Alternatives, provides a summary of the alternatives impact analysis considered in the PEIR and identifies the areas of potential environmental effects per CEQA, and ranks each alternative as better, the same, or worse than the LMP with respect to each issue area.

Table ES-2
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Project	Alternative 1 – No Project	Alternative 2 – No Recycled Water Storage Facility	Alternative 3 – No Expansion of Hunting on the Davis Unit	Alternative 4 – No Hunting on Potrero Unit
Air Quality	**LTS/MM**	▼	▼	—	—
Greenhouse Gas Emissions	**LTS**	▼	▼	—	—

Table ES-2
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Project	Alternative 1 – No Project	Alternative 2 – No Recycled Water Storage Facility	Alternative 3 – No Expansion of Hunting on the Davis Unit	Alternative 4 – No Hunting on Potrero Unit
Biological Resources	~~LTS~~U/MM	▼	▼	▼	▼
Cultural Resources	LTS/MM	▼	▼	—	—
Geology and Soils	LTS/MM	▼	▼	—	—
Hazards and Hazardous Materials	LTS/MM	▼	—	—	—
Hydrology and Water Quality	LTS/MM	▼	▼	—	—
Recreation	LTS/MM	—	—	—	—
Traffic and Circulation	LTS/MM	—	—	▼	—
Utilities and Service Systems	LTS	▼	—	▼	—
Energy	LTS	▼	—	—	—

Δ Alternative is likely to result in greater impacts to issue when compared to project.
— Alternative is likely to result in similar impacts to issue when compared to project.
▼ Alternative is likely to result in reduced impacts to issue when compared to project.
LTS/MM = Less than significant impact with mitigation, LTS = Less than significant impact; SU/MM = SU even with mitigation

As indicated in Table ES-2, Alternative 1, the No Project Alternative would result in the fewest environmental impacts, and based on this would be considered the environmentally superior alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Of the alternatives evaluated above, Alternative 3 ~~4~~ was found to be the environmentally superior alternative (see Table 9-1) because it is feasible and ~~eliminates the significant and unavoidable impact associated with hunting activities on the Potrero Unit that could impact nesting birds~~ constructing eliminates the construction of new waterfowl ponds, reduces the overall demand for water supply to support the new waterfowl ponds, reduces vehicle trips during the hunting season, and reduces impacts to special-status species and wetlands where the waterfowl ponds are proposed [San Jacinto Valley crownscale (Subunit D7 pond) and Coulter's goldfields (Subunit D4)]. Alternative ~~4~~ 3 was found to have a slight reduction in impacts associated with construction activities and vehicle trips reduction thereby reducing in impacts related to air quality, biological resources, utilities, and transportation and traffic. However, Alternative ~~4~~ 3 does not meet all of the project objectives as well as the LMP.

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CHAPTER 1
INTRODUCTION

1.1 PROJECT BACKGROUND

The San Jacinto Wildlife Area (SJWA) is one of the larger public land holdings in Southern California and is a highly utilized recreational resource. Recognition of these lands as a valuable resource led to their preservation. In 1979, the lands were earmarked as mitigation property for the State Water Project's wildlife losses in Southern California through execution of a Memorandum of Agreement between the California Department of Fish and Game (renamed in 2013 as the California Department of Fish and Wildlife (CDFW)), the Department of Water Resources, and the Metropolitan Water District of Southern California. The mitigation actions were implemented pursuant to the Davis–Dowling Act of 1961, which identifies the preservation and enhancement of wildlife and public reation as purposes of the State Water Project. The Memorandum of Agreement designated existing State Water Project lands for wildlife mitigation and provided funding for land acquisition, both of which contributed to the establishment of the SJWA. The SJWA is managed pursuant to the 1979 Mitigation Agreement for the State Water Project, the intent of which was to mitigate the direct loss of fish and wildlife habitat and public recreational opportunity resulting from construction of the State Water Project. The SJWA is a type "A" wildlife area representing the highest level of recreational use designation for State Wildlife Areas to ensure quality public recreational opportunities. In 1982, the property was also designated as a wildlife area by the California Fish and Game Commission. In the following years, areas within the wildlife area have been improved to enhance and enlarge wetland, riparian, upland, and other native habitats for the conservation of native species.

The SJWA also supports a diverse array of biological resources, including habitats associated with the San Jacinto River floodplain and the San Jacinto foothill region. The SJWA is an important stop for a number of migratory birds along the Pacific flyway. The SJWA also provides significant conservation lands, including areas that are part of the Stephens' Kangaroo Rat Habitat Conservation Plan and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). As such, it provides important conservation for a variety of special-status species and plants (including rare plants and alkali dependent rare plants) that require the management of habitat conditions and monitoring.

In addition to conservation, the SJWA provides active and passive recreational resources including waterfowl and upland game hunting, bird watching, hiking, hunting dog training, horseback riding, nature study, photography, and mountain biking. Many of the recreational uses are supported by CDFW's active and adaptive management of SJWA facilities, including its wetland ponds and trails. The SJWA has been managed by CDFW since its inception. CDFW's

current management of the SJWA entails the following resources, facilities and activities: wetlands, riparian areas, alkali, vernal pools, waterfowl habitat and hunting areas, Stephens' kangaroo rat (*Dipodomys stephensi*) habitat, upland small game hunting, agriculture, hunting dog training and other events (such as youth hunts, Christmas bird count, hunting dog tests, and canine field trial activities) that occur on the SJWA throughout the year, and the structures (restrooms, residences, office, etc.) that currently exist on site.

The SJWA originally consisted only of the Davis Unit, with the first portions of the Davis Unit being acquired by the Wildlife Conservation Board in 1981 and 1982. Since the inception of the SJWA and acquisition of the Davis Unit, the Potrero Unit was added in December 2003; the Western Riverside County MSHCP was initiated in 2004; and numerous other changes have occurred in the environment, therefore prompting the need to formalize the Land Management Plan (LMP) for the SJWA.

1.2 PROJECT OBJECTIVES AND PURPOSE

CDFW has prepared the draft SJWA LMP to help guide its future planning and management operations for the SJWA. The general purpose of the SJWA is to protect and enhance habitat for plant and wildlife species and to provide the public with compatible, related recreational uses. The existing operation of the SJWA includes biological resources management and public uses, which are incorporated into the draft LMP. Biological resources that would continue to be or would newly be managed under the draft LMP include wetland habitats, riparian habitats, alkali habitats, vernal pools, waterfowl habitats, agriculture fields, Stephens' kangaroo rat habitats, and upland habitats. Current/existing public uses that would continue to be allowed and managed under the draft LMP include waterfowl and upland game hunting, bird watching, hiking, hunting dog training, horseback riding, nature study, photography, and mountain biking.

The purpose of the draft LMP is to comply with Section 1019 of the California Fish and Game Code and to set forth the goals, objectives, and actions for the use and management of CDFW's lands within the SJWA. Specific objectives of the draft LMP's protection and management of lands within the SJWA, while allowing approved recreational uses, include:

- To guide the management of habitat, species, and programs described in the LMP, and achieve CDFW's mission to protect and enhance floral and faunal values;
- To preserve and enhance biological communities in the region including grassland, sage scrub, chaparral, wetlands, and alkali scrub, that protect habitat contributing to and sustaining the overall ecosystem health of the region. This habitat is necessary to support special status species, including Stephen's kangaroo rat, least Bell's vireo, tricolored blackbird, burrowing owl, and others covered by the MSHCP;

- To maintain habitat connectivity between the SJWA and MSHCP's core areas and linkages;
- To provide quality recreational opportunities, including hunting, wildlife observation, and hiking, for both existing and expanded activities and facilities, where compatible with biological resource protection objectives;
- To coordinate with state, federal, and local agencies, as appropriate, when implementing LMP management activities;
- To provide interpretive and educational programs for the natural diversity within the SJWA; and
- To provide an overview of the SJWA's operation and maintenance, and personnel requirements to implement management goals. The LMP will also serve as a budget planning aid for annual regional budget preparation.
- To conserve plants, including rare and alkali dependent rare plants.

The draft LMP management concepts are categorized in three hierarchical levels: elements, goals, and tasks. The elements contain the management categories or considerations; the goals identify the conditions management is designed to achieve; and the tasks are the steps that will be taken to attain the goals.

1.3 ENVIRONMENTAL PROCEDURES

1.3.1 California Environmental Quality Act Compliance

The California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs, Title 14, Section 15000 et seq.) require the preparation and certification of an Environmental Impact Report (EIR) for any project that a lead agency determines may have a significant effect on the environment. This EIR has been prepared in compliance with all criteria, standards, and procedures of CEQA and the CEQA Guidelines. This document has been prepared as a Program EIR (PEIR)(pursuant to Section 15168 of the CEQA Guidelines) and represents the independent judgment of the CDFW as lead agency (Section 15050 of the CEQA Guidelines).

1.3.2 Notice of Preparation and Scoping Process

CEQA establishes mechanisms to inform the public and responsible and trustee agencies about the nature of the project being proposed and the extent and types of potential impacts that the project and its alternatives could have on the environment should the project or alternatives be implemented. CDFW determined that a PEIR was clearly required for the SJWA LMP, and pursuant to CEQA guidelines Sections 15060(d), 15063(a), and 15081 did

not prepare an Initial Study. Pursuant to Section 15082 of the CEQA Guidelines, CDFW circulated a Notice of Preparation (NOP) dated June 6, 2016, to interested agencies, organizations, and individuals. The NOP was also sent to the State Clearinghouse at the California Governor's Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH # 2016061018) to this PEIR. The NOP was also recorded with the County of Riverside. The NOP is intended to encourage interagency communication regarding the proposed action so that agencies, organizations, and individuals are afforded an opportunity to respond with specific comments and/or questions regarding the scope and content of the PEIR. Two public scoping meetings (one in the morning and one in the evening) were held at the SJWA in the warehouse located at 17050 Davis Road, Lakeview, California on June 15, 2016, to gather additional public input. The 30-day public scoping period ended on July 8, 2016.

The scoping process provided an opportunity for governmental agencies and the public to provide comments on the issues and scope of the Draft PEIR. Written comments received during the NOP scoping process became part of the public record and were reviewed and considered by CDFW in preparing the Draft PEIR. In addition, as part of the scooping process, CDFW participated in a joint agency consultation meeting with the U.S. Fish and Wildlife Service and Regional Conservation Authority. Further, as part of the Assembly Bill 52 (AB 52) process, CDFW consulted with the Pechange Tribe on July 20, 2016. Additional consultation with agencies and the tribes are anticipated throughout the CEQA process.

The NOP and comments received thereon are included in Appendix A to this EIR. Based on the scope of the proposed action as described in the NOP, the following issues were determined to be potentially significant and are therefore addressed in Chapter 5, Environmental Analysis, of this document:

- Air Quality
- Greenhouse Gases
- Biological Resources
- Cultural and Paleontological Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Recreation

- Traffic and Circulation
- Utilities and Service Systems
- Energy

Additional CEQA-mandated environmental areas, such as aesthetics and visual quality, agricultural and forestry resources, land use, mineral resources, noise, population and housing, and public services, are evaluated in Chapter 6, Effects Found Not to be Significant, of this PEIR. As described in Chapter 6, these topics were found not to be significant.

This PEIR will also address the cumulative environmental consequences of the draft LMP in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. This will serve to satisfy CEQA's requirements that a project's potential cumulative impacts be analyzed in the EIR. It should be noted that the intent of CEQA is not to evaluate the impacts of the cumulative projects on the SJWA LMP, but instead to evaluate the potential impacts on the environment resulting from implementation of the draft LMP in conjunction with the cumulative projects.

In compliance with CEQA Guidelines Section 15126.6, this PEIR also describes and evaluates the comparative merits of a reasonable range of alternatives to the proposed project, including the required No Project Alternative, and also identifies the environmentally superior alternative. This PEIR also describes alternatives that were considered but rejected by the lead agency as infeasible and explains the reasons why.

1.3.3 Overview of the Environmental Impact Report Process

This Draft PEIR has been made available to members of the public, agencies, and interested parties for a 45-day public review period in accordance with CEQA Guidelines Section 15105. Pursuant to CEQA Guidelines Section 15204, public review of the draft PEIR is intended to focus "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the draft LMP might be avoided or mitigated." The Notice of Completion of the Draft PEIR has been filed with the State Clearinghouse as required by CEQA Guidelines Section 15085. In addition, the Notice of Availability of the Draft PEIR has been distributed pursuant to CEQA Guidelines Section 15087. The document will be available for public review from December 15, 2017 to January 29, 2017. Table 1-1 lists where this Draft PEIR is available for review during the 45-day public review period.

Table 1-1
Repository Sites

Site	Address	Telephone
CDFW SJWA	17050 Davis Road Lakeview, California 92567	951.928.0580
CDFW Bermuda Dunes Office	78078 Country Club Drive, Suite 109, Bermuda Dunes, California 92203	760.200.9158
Nuview Library	29990 Lakeview Avenue Nuevo, California 92567	951.928.0769
San Jacinto Library	595 South San Jacinto Avenue San Jacinto, California 92583	951.654.8635
Moreno Valley Public Library	25480 Alessandro Boulevard Moreno Valley, California 92553 ·	951.413.3880
Perris Branch Library	163 E San Jacinto Avenue Perris, California 92570	951.657.2358
Beaumont Library District	125 E 8th Street Beaumont, California 92223	951.845.1357

In addition, the Draft PEIR will be available for public review online at the following website: https://www.wildlife.ca.gov/Lands/Planning/San-Jacinto-Valley-WA.

Once the 45-day public review period for the Draft PEIR has concluded, CDFW will review all public comments, prepare written responses to comments received, and propose revisions to the Draft PEIR text, if necessary. The written responses to comments and the revisions to the Draft PEIR will constitute the Final PEIR. The Mitigation Monitoring and Reporting Program (MMRP) will be incorporated into the Final PEIR, and it will include monitoring team qualifications, specific monitoring activities, a reporting system, and criteria for evaluating the success of the mitigation measures. Mitigation measures contained in the PEIR will be developed in consideration of future monitoring requirements and will be written in sufficient detail to address impacts of the proposed SJWA LMP, referencing the appropriate implementing permits and plans. In sum, the Final PEIR will include all comment letters received on the Draft PEIR and responses to those comments, an MMRP and, if applicable, edits made to the PEIR as a result of public review.

1.4 SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This PEIR evaluates the potential short-term (during construction) and long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed SWJA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. In addition, the draft LMP consists of the removal or modification of existing buildings and structures (such as the residential trailers), and the construction and eventual

operation of new buildings and facilities (such as residences (trailers), office, workshop, warehouse, and restrooms). The draft LMP also involves proposed improvements to the internal circulation network (roads, parking areas, and trails) within the SJWA and improvements and construction of on-site domestic water and power systems. The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR pursuant to Section 15146 of the CEQA Guidelines. Note that the PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and would not be modified would not be evaluated in this PEIR. Some of these existing activities include managing existing riparian habitat, managing waterfowl and small game hunting in areas designted for hunting, and habitat maintenance for the Stephens' kangaroo rat.

Furthermore, the PEIR evaluates the effects of draft LMP implementation on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Fish and Game Code Section 1602 or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

1.4.1 Incorporation by Reference

As a state entity, working to adopt and implement a land management plan for the SJWA as required by state law, CDFW is generally not subject to local land use regulations. (*Hall v. City of* Taft (1956) 47 Cal.2d 177, 183; *City of Orange v.* Valenti (1974) 37 Cal.App.3d 240, 244; *Town of Atherton v. Superior Court* (1958) 159 Cal.App.2d 41. Accordingly, any reference to local planning documents (e.g., the general plans of the surrounding cities/county) is for informational purposes only. The above notwithstanding, local plans and policies can often serve as a good reference or "benchmark" to understand local perspectives on population growth, housing, and environmental health and safety issues. For this reason, this PEIR references the general plans of the Cities of Moreno Valley, Beaumont, San Jacinto, and the County of Riverside.

This PEIR incorporates by reference information and analyses derived from previously prepared environmental documents that are relevant to the consideration of environmental effects of the draft LMP. In addition to the materials cited in each section, the following documents have been used in this PEIR and are incorporated herein by reference as if set forth in their entirety.

- CDFW (California Department of Fish and Wildlife). 2016. *Draft Land Management Plan for the San Jacinto Wildlife Area.*

- County of Riverside Transportation and Land Management Agency and U.S. Fish and Wildlife Serve. 2003. *Western Riverside County Multiple Species Habitat Conservation Plan* Final EIR/EIS.

A copy of the draft LMP is available on the CDFW website https://www.wildlife.ca.gov/Lands/Planning/San-Jacinto-Valley-WA. A copy of the Western Riverside County MSHCP Final EIR/EIS is available on the Regional Conservation Authority website http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/ and on the County's website http://www.rctlma.org/Portals/0/mshcp/volume4/index.html. Hard copies of the LMP and the MSHCP are available for review only at the CDFW Bermuda Dunes office located at 78078 Country Club Drive, Suite 109, Bermuda Dunes, CA 92203.

1.5 INTENDED USES OF THE ENVIRONMENTAL IMPACT REPORT

According to CEQA (Public Resources Code Section 21002.1(a)), "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." This PEIR provides relevant information concerning the potential environmental effects associated with construction and operation of the proposed SJWA LMP, and this PEIR identifies and evaluates potentially significant effects that may result from implementation of any activities proposed under the LMP. It is intended for use by decision makers and the public.

As the designated lead agency, CDFW has assumed responsibility for preparing this document. The decision to implement the proposed action is within the purview of CDFW. When deciding whether to approve the proposed action, CDFW will use the information provided in this PEIR to consider potential impacts to the physical environment associated with the LMP. CDFW will consider all written comments received on the Draft PEIR during the 45-day public review period in making its decision to certify the PEIR as complete and in compliance with CEQA and in making its determination whether to approve or deny thedraft LMP.CDFW will evaluate and weigh the environmental considerations and economic and social factors to determine the most appropriate course of action.

Subsequent to certification of the Final PEIR, agencies with permitting authority over all or portions of the draft LMP will use the Final PEIR as the basis for their evaluation of environmental effects related to the draft LMP and approval or denial of applicable permits. This PEIR will be used in considering the approval of the following discretionary actions necessary for the implementation of the SJWA LMP, which include but are not limited to the following:

- Eastern Municipal Water District could use this PEIR to evaluate the construction and operation of a reclaimed water storage project in the Davis Unit and for the extension of the Reclaimed Water Supply Project Agreement.
- The Regional Water Quality Control Board will use the PEIR to evaluate and issue a National Pollutant Discharge Elimination System Permit.
- The South Coast Air Quality Management District will use the PEIR to authorize construction activities and/or issue permits to operate.

Additional information regarding agency permits and approvals is provided in Section 2.6, Agency Use of this Document and Permits Required, of this PEIR.

1.6 ORGANIZATION AND CONTENT OF THE PROGRAM ENVIRONMENTAL IMPACT REPORT

This PEIR has been prepared because a programmatic level analysis is necessary for the comprehensive nature of the ~~draft~~ proposed LMP. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general or qualitative discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides CDFW (as lead agency) with the opportunity to consider broad policy alternatives and programwide mitigation measures and provides CDFW with greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive basis. Agencies generally prepare Program EIRs for programs or a series of related actions that are linked geographically; are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or are individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways. Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document needs to be prepared. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope, and additional environmental documents may not be required (CEQA Guidelines Section 15168[c]). The CDFW ~~Wildlife and Fisheries Division (which~~

~~includes the Wildlife Branch~~ Regional Lands ~~Management Branch)~~ Program will consult with the CDFW ~~Ecosystem Conservation Division (which includes the~~ Regional Habitat Conservation ~~Planning Branch)~~ Program and request review of management actions, where appropriate, to ensure consistency with state and federal environmental regulations. The review process will identify if additional CEQA measures are required. Consultation with the regulatory division will ensure that proposed future activities discussed in this PEIR identify necessary CEQA documentation and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines. When a Program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities. The CDFW ~~Wildlife Branch~~ Regional Lands Program ~~land management division~~ will work with the CDFW Regional Habitat Conservation Program ~~regulatory division~~ to ensure that feasible and appropriate mitigation measures are identified and incorporated into the draft LMP before any activity is allowed to commence.

If a subsequent activity would have effects that were not examined in the Program EIR, the lead agency must prepare an Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. Certification of this Program EIR will allow CDFW to seek additional grants and other funding sources, conduct research, re-assess resources, and establish priorities for the SJWA. The CEQA Guidelines (Section 15168[b]) encourage the use of Program EIRs, citing five advantages:

1. Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
2. Focus on cumulative impacts that might be slighted in a case-by-case analysis;
3. Avoid continual reconsideration of recurring policy issues;
4. Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them; and,
5. Reduce paperwork by encouraging the reuse of data (through tiering).

In order to clarify the level and significance of impacts from management actions, each impact was classified based on the following definitions:

Class I, Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.

Class II, Potentially Significant: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.

Class III, Less Than Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

To describe the direct, indirect, and cumulative impacts as well as mitigation measures and alternatives for the proposed action, this PEIR is organized as follows:

- An Executive Summary of the PEIR is provided at the beginning of this document, which outlines the conclusions of the environmental analysis and a summary of the draft LMP as compared to the alternatives analyzed in the PEIR. This section also includes a table summarizing all environmental impacts identified in this PEIR along with the associated mitigation measures proposed to reduce or avoid each potentially significant impact.
- Chapter 1, Introduction, serves as a foreword to the PEIR, introducing the project background, the applicable environmental review procedures, and format of the PEIR.
- Chapter 2, Project Description, provides a thorough description of the proposed SWJA LMP components and required discretionary approvals.
- Chapter 3, Cumulative Impacts and Methodology, describes how the cumulative impacts are evaluated and the methodology used to evaluate cumulative impacts. The cumulative analysis relies on a list of past, present, and probable future projects (project list) and/or a summary of projects contained in an adopted planning document, or in a prior environmental document, which describes or evaluates regional or area-wide conditions contributing to the cumulative impact (projection method). Which approach is dependant on the environmental issue area, as detailed in Table 3-1 in Chapter 3. The project's cumulative impacts are evaluated in Chapter 5.
- Chapter 4, Environmental Setting, describes the project location and physical environmental setting in and around the SJWA.
- Chapter 5, Environmental Analysis, provides an overview of the section format and the different levels of significance used to determine the impact significance included in Sections 5.1 through 5.11. The environmental impacts, including cumulative impacts associated with implementation of the SJWA LMP are evaluated in Sections 5.1 through 5.11.
- Chapter 6, Effects Found Not to be Significant, includes a summary of potential environmental topics that have been found to have a less-than-significant or no effect on the environment.

- Chapter 7, Significant Irreversible Environmental Changes, addresses environmental areas where significant environmental effects cannot be avoided and any significant irreversible environmental changes that would result from implementation of the SWJA LMP.
- Chapter 8, Growth Inducement, addresses any growth-inducing impacts associated with the SWJA LMP.
- Chapter 9, Project Alternatives, discusses four alternatives to the SWJA LMP, including Alternative 1 – No Project Alternative, Alternative 2 – No Recycled Water Storage Facility, Alternative 3 – No Expansion of Hunting in the Davis Unit, and Alternative 4 – No Hunting in Potrero Unit.
- Chapter 10, List of Preparers.
- Appendices include various technical studies prepared for the SJWA LMP, as listed in the table of contents.

1.7 MITIGATION MONITORING AND REPORTING PROGRAM

As mandated by CEQA Guidelines Sections 15091 and 15097, CDFW will prepare a mitigation, monitoring and reporting program (MMRP) prior to project approval. The MMRP will include all mitigation measures outlined in the PEIR, the responsible entity for implementation, implementation timing (e.g., prior to construction, during construction, after construction), and any follow-up reporting requirements (such as submittal of materials to regulatory agencies). CDFW, as the designated lead agency for the SWJA LMP, is responsible for enforcing and verifying that each mitigation measures is implemented.

1.8 REFERENCES

Cal. Code Regs., Title 14, Sections 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

CDFW (California Department of Fish and Wildlife). 2016. *Draft Land Management Plan for the San Jacinto Wildlife Area.*

CHAPTER 2
PROJECT DESCRIPTION

Chapter 2 describes the draft Land Management Plan (LMP) (available at https:// www.wildlife.ca.gov/Lands/Planning/San-Jacinto-Valley-WA) for the San Jacinto Wildlife Area (SJWA) as proposed by the California Department of Fish and Wildlife (CDFW), which includes broad management recommendations over a 30-year-long term (CDFW 2016). The potential environmental effects of the draft LMP as described in this chapter are analyzed in Chapter 5 of this Program Environmental Impact Report (PEIR). This chapter provides a discussion of the SJWA location in Section 2.1 and describes the existing uses within the SJWA, as well as the recommendations of the management plan in Section 2.2. Section 2.3 describes the draft LMP's proposed operation and maintenance activities, including monthly tasks and future implementation activities. Section 2.4 provides information on SJWA staffing requirements and section 2.5 provides a list of anticipated equipment that would be used for implementation of the draft LMP. Agency use of the PEIR and discretionary actions required for the draft LMP are described in Section 2.6, and references cited in this section are listed in Section 2.7.

2.1 PROJECT LOCATION

The SJWA project area is currently composed of approximately 20,126[1] acres of land located in Southern California within central Riverside County (Figure 2-1). The SJWA consists of three noncontiguous land areas: the Davis Unit (with its two noncontiguous land areas) and the Potrero Unit. The Davis Unit generally consists of approximately 10,996 acres in the San Jacinto River Valley. The larger portion of the Davis Unit is located east of the Perris Reservoir, and the Davis Unit's smaller portion of land is located south-southwest of the Perris Reservoir. The Potrero Unit consists of approximately 9,130 acres in the foothills of the San Jacinto Mountains, which is the mountain range that separates the cities of Moreno Valley and San Jacinto on one side and Beaumont on the other side (also referred to as "the Badlands").

Figure 2-2 depicts the boundaries of the SJWA. The main portion of the Davis Unit shares a boundary along the western edge with the Lake Perris State Recreation Area, and one non-contiguous portion of the Davis Unit is located along the south-southwestern edge of Lake Perris. Most of the Davis Unit is located within unincorporated Riverside County, but a small portion of the northern edge of the Davis Unit is located within the incorporated City of Moreno Valley, which lies to the north and west of the Davis Unit (Figure 2-3). The cities of Hemet and San Jacinto

[1] The 20,126 that comprise the draft SJWA LMP includes noncontiguous land parcels as well as parcels that are privately owned and lands within adjacent jurisdictions (see Figure 2-3).

are located to the southeast, and the unincorporated rural Riverside County communities of Lakeview and Nuevo are located south of the Davis Unit.

The Potrero Unit is located approximately 3 miles east of the Davis Unit. The vast majority of the Potrero Unit is located within the City of Beaumont, with a portion on the western edge located in unincorporated Riverside County. The Potrero Unit is bordered on the east by Bureau of Land Management land and to the southeast by the Soboba Indian Reservation. The Potrero Unit is located approximately 3 miles south of Interstate 10 (I-10), and portions of its western boundary are defined by State Highway 79 (SR-79) (also referred to as Lamb Canyon Road).

2.2 DESCRIPTION OF THE LMP

2.2.1 LMP Organization Overview

Sections 1–4 of the draft LMP provide the environmental and policy context for consideration when planning land management activities within the SJWA. Section 1 is the introduction of the LMP and consists of the objectives and purpose of the draft LMP as well as the history of property acquisition. Section 2 consists of a description of the property including physical characteristics such as geography and hydrology, existing land uses and infrastructure, cultural features, and current and planned adjacent land uses. Existing agreements and easements are also discussed in Section 2.

A number of federal and state regulations also govern the management of the SJWA and its natural and recreational resources. All of the applicable regional, state, and federal regulations are discussed in Section 3 of the draft LMP. In addition to the applicable regulations, the draft LMP discusses compliance of management activities within the context of regional planning efforts that apply to the SJWA, including the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (Riverside County 2003) and Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) approved by the U.S. Fish and Wildlife Service and CDFW (RCHCA 1995).

Section 4 of the draft LMP includes a description of habitat and species that have been documented or have potential to occur within the SJWA, including a general description of plants and wildlife within habitat guilds (e.g., upland species, wetland species), a detailed listing of special-status species (e.g., listed by local, state, and/or federal agency as rare, sensitive, threatened, endangered), and a brief description of non-native, invasive species.

Figure 2-1 Regional Vicinity

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Figure 2-2 Project Vicinity

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Figure 2-3 Ownership Map

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Section 5 of the draft LMP includes discussion of management, beginning with a definition of terms, then provides a discussion of considerations made toward the designation of areas for various types of biological resources, cultural resources, and public use management. Specific management goals are listed by elements: biological resources, cultural resources, and public use. Implementation of these goals within the designated management areas is facilitated by the identification of specific tasks for each management element (i.e., biological resource, cultural resource, and public use).

Finally, Section 6 of the draft LMP consists of the Operation and Maintenance requirements to implement the plan.

The draft LMP takes into account a 30-year planning horizon to the extent feasible Although an update to the draft LMP may occur sooner, depending on funding and changes in conditions and the property extent of the SJWA itself, the preparers of the LMP attempted to anticipate the requirements necessary to meet the objectives for which the lands have been acquired given the anticipated evolution of environmental, political, and demographic conditions over the next 30 years (CDFW 2016).

2.2.2 LMP Management Goals and Tasks

Table 2-1 lists the goals identified in the draft LMP and the tasks necessary to implement those goals, and indicates whether each pertains to existing or proposed activities in the Davis and Potrero Units. A variety of activities and administrative functions currently exist and thus do not require analysis pursuant to the California Environmental Quality Act (CEQA) because the draft LMP does not propose any changes to those existing and long-standing activities and functions. However, the draft LMP recommends a number of new activities and functions, changes in or additional locations of existing activities, and improvements to achieve them. In particular, the draft LMP proposes new hunting facilities, agricultural areas, and public recreation facilities and access (CDFW 2016). All hunting activities and visitor use would be consistent with the California Code of Regulations (CCR) title 14 section 551 (14 CCR §551), which identifies wildlife areas designated by the State for ecological conservation, restoration, preservation, development and management of wildlife and wildlife habitat, and hunting. The CCR defines the days and the species permitted to hunt within the Davis Unit and are listed under Section 2.2.3.2.8 starting on page 2-53 of this chapter. Under state regulations, ~~H~~hunting in the Potrero Unit ~~is~~ would be allowed daily only for upland game birds and small game in designated areas. ~~unless otherwise restricted by CDFW~~. However, ~~CDFW has~~ hunting would be restricted ~~hunting~~ by the Fish and Game Commission within the Potrero Unit so that the hunting season does not overlap with the nesting bird season (generally ~~to approximately between~~ February 15 through September 1). Hunting would not be allowed on Lockheed Martin's property within Subunits P10 and P11. Further, CDFW coordinates with Lockheed Martin ~~Corproation~~Corporation regarding areas that the public

is allowed on Potrero in order to avoid areas that may be hazardous. If ~~CDFW~~the Fish and Game Commission decides to extend the hunting season for any reason they would be required to conduct nesting bird surveys in those areas open to hunting to ensure any nesting birds have successfully fledged.

In contrast to the Davis Unit, no activities/uses or administrative functions have been developed within the Potrero Unit since it was added to the SJWA, aside from limited mowing to clear vegetation along access roads. Accordingly, all of the draft LMP's management goals and tasks associated with the Potrero Unit are thus considered to be new proposals that would change the existing conditions within the Potrero Unit. In instances where there could be an overlap in incompatible uses it is important to note that not all of the activities identified in the draft LMP and discussed in this chapter will necessarily be implemented simultaneously, but instead may vary from year to year depending on site conditions. SJWA staff will assess activities on an annual basis and will make adjustments, as necessary to meet the overarching objectives of the LMP. Given that this PEIR provides a program-level analysis, additional project-level CEQA analysis may be needed for future activities or improvements in both the Davis and Potrero Units. More specifically, if a future subsequent activity implemented pursuant to the LMP (e.g., recycled water storage reservoir) would have effects that were not examined in the PEIR, CDFW would evaluate the future activities by preparing an Initial Study or similar device. If new significant effects are identified, a subsequent Negative Declaration or Mitigated Negative Declaration, or an EIR (e.g., Supplemental or Subsequent) would be prepared to evaluate project-specific aspects of any subsequent activities or projects that were not adequately addressed in the PEIR. As required by CEQA, CDFW would circulate these documents for public review and comment and, if approved by CDFW, a Notice of Determination would be filed with the State Clearinghouse. In some cases, where the project-specific activity would require minor changes or additions, an Addendum to the PEIR may be appropriate provided none of the conditions calling for preparation of a supplement or a subsequent EIR have occurred (Sections 15162, 15163 and15164[a]). For those activities determined to be adequately evaluated under the LMP, as reviewed and approved by the CDFW ~~Wildlife Branch~~ Regional Lands Program and the CDFW Regional Habitat Conservation ~~Branch~~ Program, CDFW would file a Notice of Determination with the State Clearinghouse prior to commencing work.

In addition, CEQA has identified a list of projects that are exempt from environmental review including the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures and facilities; or, construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made to the exterior of the structure (Sections 15301 and 15303). If, based on review by CDFW ~~Wildlife Branch~~ Regional Lands Program and the CDFW Regional Habitat Conservation ~~Branch~~ Program, a project is considered exempt from CEQA, CDFW may prepare

and file a Notice of Exemption with the State Clearinghouse. The NOE would trigger a shorter statute of limitations and would be filed on a case-by-case basis, per CDFW review. Lastly, there are also some activities that would not be subject to CEQA because these types of activities have been adequately addressed in the LMP, and with implementation of mitigation, would not result in environmental impacts. Other activities, such as routine maintenance, may be determined covered under the general rule that CEQA applies only to projects which have the potential to cause a significant effect (Section 15061(b)(3)) and would not require further evaluation.

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
BE1 – Biological Element 1: SKR – Goal: Efficiently and effectively provide for conservation of SKR pursuant to approved HCPs and mitigation requirements and ensure protection of SKR during development of future SJWA facilities and other potentially non-compatible uses.				
1.1	Consistent with the applicable requirements of the Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP), Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and conservation provision of parcels acquired specifically as SKR mitigation.	X	X	X
1.2	Implement adequate avoidance, minimization, and, if necessary, mitigation to offset potential future impacts to SKR within the SJWA.	X	X	X
1.3	Actively participate in the region's ongoing development of effective SKR management techniques by regionally coordinating management and monitoring activities.	X	X	X
BE2 – Biological Element 2: Alkali Communities – Goal: Develop and implement a program to monitor and conserve alkali community functions and services and ensure the protection of alkali resources during development of future SJWA facilities and other potentially non-compatible uses.				
2.1	Develop and maintain a repeatable inventory of special-status alkali species and an assessment of alkali habitat quality by community subtypes.	X	X	X
2.2	Control adverse edge effects such as to maintain or improve habitat quality within existing alkali communities.	X		X
2.3	Develop an alkali restoration program to incrementally increase alkali habitat quality and re-establish alkali communities in existing degraded areas supporting alkali soils.		X	
2.4	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to alkali habitat within the SJWA and to specifically protect designated Critical Habitat for listed alkali species.	X	X	X
BE3 – Biological Element 3: Wetland Communities – Goal: Enhance existing and develop new wetland resources for a variety of game and nongame species and ensure the protection of wetland resources during development of future SJWA facilities and other potentially non-compatible uses.				
3.1	Maintain and enhance conditions of existing open water and marsh habitats to balance vegetative cover with open water and maintain water quality within managed wetlands.	X	X	
3.2	Identify and manage non-native invasive plant and animal species affecting wetlands.	X	X	X

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
3.3	Expand open water, marsh, and green feed field habitats to support more productive wetland communities in terms of increased wildlife usage.		X	X
3.4	Identify opportunities and implement a program to provide adequate habitat for western pond turtle.		X	X
3.5	Participate in regional efforts to develop and implement tricolored blackbird conservation measures.	X	X	X
3.6	Develop a program to manage existing vernal pool habitat to maximize habitat quality.	X		X
3.7	Identify breeding habitat for western spadefoot and ensure protection of this resource.		X	
3.8	Identify properties for acquisition that promote conservation of wetlands resources in terms of special-status species locations and hydrologic resources such as Mystic Lake.		X	
3.9	Maintain the ability to use an adequate supply of reclaimed water at a reasonable cost to support existing and future wetlands habitats on the Davis Unit.	X	X	
3.10	Ensure the compatibility and coordination of SJWA management practices on both private and public lands.	X		X
3.11	Implement avoidance and minimization measures to protect sensitive species and habitats from adverse future wetland activities.		X	X
BE4 – Biological Element 4: Riparian Communities – Goal: Enhance existing and develop new riparian resources for a variety of game and nongame species and ensure the protection of riparian resources during development of future SJWA facilities and other potentially non-compatible uses.				
4.1	Maintain new and existing managed riparian habitats by providing appropriate spring/summer irrigations (March 30–November 1). Habitat maintenance includes irrigation for plant growth and water availability for wildlife species during appropriate times of the year.	X	X	
4.2	Develop plans for a joint wetlands/riparian restoration closed zone in D4 and strips of riparian habitat in D7 that will include plans for grading to achieve necessary hydrology, planting to establish riparian trees, shrubs, and herbaceous species, maintenance and monitoring to establish riparian resources in this area for the benefit of native plants, wildlife, and waterfowl.		X	
4.3	Evaluate the suitability of establishing a riparian restoration/mitigation program in D7, D13, and along Potrero Creek that expands riparian habitat and results in more stable habitat conditions. Such a restoration/mitigation program may potentially rely on funding partnerships with other entities (non-profits, municipalities, private applicants).		X	X
4.4	Control invasive and exotic plant and animal species within riparian corridors, particularly tamarisk, brown-headed cowbird, and European starling, to benefit native plant and wildlife species.	X	X	X
4.5	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to riparian habitat within the SJWA.	X	X	X

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
BE5 – Biological Element 5: Upland Communities – Goal: Manage upland resources for a variety of game and nongame species and ensure the protection of upland resources during development of future SJWA facilities and other potentially non-compatible uses.				
5.1	Conduct qualitative refinements of the vegetation classification at the alliance level to establish a measure for monitoring and managing conversion between chaparral, sage scrub, and grassland vegetation types.	X	X	X
5.2	Develop and implement wildfire management measures (discussed in PUE 6) that are consistent with optimum fire return intervals to maintain upland vegetation community diversity.	X	X	X
5.3	Assess erosion and type-conversion issues within upland communities and develop appropriate vegetation management measures to minimize adverse effects, particularly with attention to sage scrub and chaparral post-fire recovery at the Potrero Unit.	X	X	X
5.4	Control adverse edge effects, including establishment of invasive and exotic species, to protect upland habitats.	X	X	X
5.5	Implement raptor protection measures including protection of prey, nesting, roosting, perching opportunities, and protection from electrocution.	X		X
5.6	Maintain and manage suitable habitat for burrowing owl in a manner that allows life-cycle activities for the species.	X		X
5.7	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to upland habitats supporting special-status species within the SJWA.	X	X	X
PUE1 – Public Use Element 1: Trail Use and Wildlife Viewing – Goal: Maintain and improve recreation opportunities, access, and education.				
1.1	Implement maintenance and improvements to existing opportunities and access for a diversity of authorized, trails recreation.	X		X
1.2	Construct new facilities to access the SJWA and facilitate passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources.		X	X
1.3	Regularly solicit input and survey SJWA visitors regarding public use programs and recommendations for improvements.	X		X
1.4	Continue to develop an education program that informs the public at all age levels and user interests.	X		X
1.5	Utilize funding and volunteer opportunities from recreation groups.	X		X
PUE2 –Public Use Element 2: Waterfowl Hunting – Goal: Safely manage existing and new waterfowl hunting opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.				
2.1	Safely operate and manage a waterfowl hunting program; conduct hunter education, program supervision, habitat monitoring, and maintain adequate records of hunter harvest, hunter satisfaction, and hunt quality to ensure that the hunting experience is sustainable and consistent with CDFW code.	X	X	
2.2	Maintain and improve existing hunting infrastructure within waterfowl areas including blinds, parking areas, trash cans, etc.	X	X	

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
2.3	In coordination with PUE 1, consider development of non-motorized boat access to Mystic Lake from Gilman Spring Road through a new road, parking area, and dock structure.		X	
PUE3 – Public Use Element 3: Agriculture – Goal: Maintain and expand agricultural leases and CDFW food plots to provide multiple benefits to multiple wildlife species while protecting other biological, cultural, and recreational resources.				
3.1	Develop and maintain an agricultural lease such that contributions are made to overall management goals of the SJWA in terms of providing forage for wildlife and a financial resource to CDFW while protecting biological, cultural, and recreational resources.	X	X	
3.2	Continue, but reconfigure, existing CDFW food plots, to provide forage for wildlife while protecting SJWA biological, cultural, and recreational resources.	X	X	
3.3	Consider the expansion of leases to provide additional wildlife forage and a financial resource to CDFW while protecting biological, cultural, and recreational resources.		X	
3.4	Consider the expansion of CDFW food plots to provide additional wildlife forage while protecting SJWA biological, cultural, and recreational resources.		X	
3.5	Consider the development of grazing permits to maintain SKR habitat and to provide a financial resources to CDFW.		X	X
PUE4 – Public Use Element 4: Upland Small Game Hunting – Goal: Safely manage existing and new upland hunting opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.				
4.1	Safely operate and manage the upland small game hunting program in a manner that avoids or minimizes impacts to other resources.	X	X	X
4.2	Incrementally open portions of the Potrero Unit to upland small game hunting and evaluate the management requirement and environmental effects before future expansions.			X
4.3	Maintain and develop agricultural and wildlife food crop production as identified in PUE 3.1 – 3.4, to ensure the proper mixture of successional stages of vegetation is available to meet upland game food and cover needs throughout the year. Also, evaluate the adequacy of cover for upland game and utilize rock piles, tree planting, and brush piles, to provide cover.	X	X	
4.4	Maintain and install guzzlers to provide a water source for birds, small game and in some instances for big game, particularly during the summer months at locations throughout the SJWA.	X	X	X
4.5	Work cooperatively with the Department of Parks and Recreation staff to assist with their obligations of providing hunting opportunities, as required by the State Water Project mitigation, within the overall SJWA–Lake Perris State Recreation Area by monitoring hunter satisfaction and hunt quality.	X		
4.6	Evaluate the potential for ~~two~~ one additional game programs: ~~1)~~ supplementation of the ring-necked pheasant population on the Davis Unit; ~~2);~~ ~~and~~ 2~~3) implementation of deer hunting on the Potrero Unit only.~~	X	X	X

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
PUE 5 – Public Use Element 5: Hunting Dog Training and Field Trials – Goal: Safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.				
5.1	Maintain and improve existing and proposed new hunting dog training facilities to provide adequate habitat types including open water, marsh, and upland areas.	X	X	
5.2	Manage hunting dog training events to ensure compatible use with other resource protection goals.	X	X	
5.3	Regularly solicit input and participation from field trial organizations and hunting dog trainers regarding recommendations for improvements.	X		
PUE6 – Public Use Element 6: Fire Management – Goal: Develop a fire management program to ensure readiness for wildfire, implement fire prevention measures, and maintain appropriate fire return intervals, to the extent feasible.				
6.1	Transfer critical SJWA site, habitat, access, and sensitive resources information to CAL FIRE and other likely fire responders.	X		X
6.2	Avoid catastrophic wildfires that negate the habitat management goals of the SJWA through fire prevention activities and targeted suppression activities.	X		X
6.3	Restore or enhance the quality of degraded vegetation communities and habitat types in a manner consistent with overall conservation goals for species and natural communities.	X		X
6.4	Develop fuel loading reduction methods that are consistent with overall SJWA management goals for habitat needs, wildlife sensitivities, and public safety, amongst others.	X	.X	X
6.5	Provide for public safety through pre-response plans and fire prevention activities.	X		X
6.6	Provide for adaptive fire management should goal achievement be affected by uncontrollable or unforeseen factors.	X		X
PUE7 – Public Use Element 7: Cultural Resources – Goal: Identify and protect cultural resources.				
7.1	Identify all potentially significant archaeological resources within proposed new grading and new agricultural use areas and provide avoidance or, if unavoidable, provide mitigation in consultation with the Native American community.		X	X
7.2	Provide communications to SJWA users regarding the sensitivity and importance of Native American and historical archaeological resources.		X	X
7.3	Monitor areas of likely significant archaeological resources and ensure that public access and natural environmental conditions do not adversely affect preservation of those resources.		X	
PUE8 – Public Use Element 8: Agency Coordination – Goal: Maximize multi-agency synergies and protect SJWA resources through cooperation and communication with other agencies.				
8.1	Maintain a mutually beneficial, cooperative relationship with RCA to allow ongoing monitoring of MSHCP species and to coordinate management with other regional reserve managers.	X		X
8.2	Maintain a mutually beneficial, cooperative relationship with RCHA to coordinate management of SKR pursuant to the SKR HCP.	X[2]		

Table 2-1
Draft LMP Management Goals and Tasks

Task #	Description	Davis Unit		Potrero Unit[1]
		Existing	*Proposed*	*Proposed*
8.~~2~~3	Maintain communications with RCFCD to understand flood control requirements and potential for flood control maintenance and/or infrastructure development.	X		X
8.~~3~~4	Renew agreement with EMWD for reclaimed water~~. and work with EMWD on potential water storage project on the Davis Unit.~~		X	
8.~~4~~5	Establish and maintain active lines of communication with municipalities to advocate for compatible land uses adjacent and near the SJWA.	X		X
8.~~5~~6	Establish and maintain active lines of communication with utilities that maintain facilities within and adjacent to the SJWA to advocate for compatible facilities and operations and maintenance practice within and near the SJWA.	X		X
8.~~6~~7	Establish and maintain lines of communication with private land owners and Lockheed Martin within and adjacent to the SJWA to advocate for compatible land use practices within and near the SJWA.	X		X
8.8	Establish and maintain active lines of communication with State agencies, including but not limited to Department of Water Resources, Department of Toxic Substances Control, and California Natural Resources Agency, to advocate for compatible land uses within, adjacent to, and near the SJWA.	X[2]		
8.9	Maintain a mutually beneficial, cooperative relationship with interested non-governmental organizations, including but not limited to, Audubon Society, California Native Plant Society, California Waterfowl Association, Center for Biological Diversity, Endangered Habitats League, Friends of Northern San Jacinto Valley, and Sierra Club, to coordinate and balance management of sensitive species and habitats with recreational opportunities within the SJWA.		X	
8.10	CDFW will consider formation of an advisory committee comprised of invited public and private stakeholders.		X	

Source: CDFW 2016, Table 5-2.
SKR = Stephens' kangaroo rat; N/A = not applicable; CAL FIRE = California Department of Forestry and Fire Protection; RCA = Resource Conservation Authority; RCFCD = Riverside County Flood Control and Water Conservation District; EMWD = Eastern Municipal Water District
1 All management goals and tasks in the Potrero Unit are newly proposed as none have been developed or are currently implemented on the Potrero Unit, with the exception of some limited mowing to clear vegetation along access roads.
2 The coordination discussed in PUE 8.2 and 8.8 is already performed by CDFW; however, as part of the proposed LMP, CDFW will expand on this coordination.

2.2.3 LMP Management Setting

The management setting includes all existing management efforts occurring on the SJWA, as well as existing agreements and easements that influence management decisions. Figure 2-3 shows the current ownership within the SJWA boundary.

2.2.3.1 Management Subunits

The regional, ecological setting frames the breakdown of management units. While the entire SJWA is within the Southern California Mountain and Valley Ecological Section, the Davis Unit is within the Perris Valley and Hills subsection, and the Potrero Unit is in the San Jacinto Foothills–

Cahuilla Mountains subsection with only a small portion along the eastern boundary in the San Jacinto Mountains subsection (USGS 7.5 Minute Series Quadrangle, Figure 2-4). The SJWA is further divided into 26 management subunits by CDFW based on geographic features and management objectives (refer to Figure 2-5). Management subunits in the Davis Unit are labeled D1 through D15. Management subunits in the Potrero Unit are labeled P1 through P11. Table 2-2 shows the ownership and acreage of each of the management subunits within the SJWA study area.

Table 2-2
Management Subunits, Ownership, and Acreage for the SJWA – LMP Study Area

Management Subunit	Ownership	Private Property Name (if applicable)[2]	Approximate Acreage[1]
Davis Unit[2]			
D1	CDFW		816
D2	CDFW		715
D3	CDFW		1,582
	Private	Ramona Hunt Club	<1
D4	CDFW		1,140
	Private	Horse Ranch	171
D5	CDFW		774
D6	CDFW		609
D7	CDFW		934
	Private w/ easement	Ramona Hunt Club	18
D8	CDFW		166
D9	CDFW		56
	Private w/ easement	Mystic Duck Club	202
		Ramona Hunt Club	279
D10	CDFW		140
	Private w/ easement	Mystic Duck Club	3
		Ramona Hunt Club	112
	Private	21 Gun Club	41
		Four Winds Pheasant Club	163
D11	CDFW		430
	Private	21 Gun Club	<1
		Four Winds Pheasant Club	2
D12	CDFW		481
	Private w/ easement	Mystic Duck Club	4
		Ramona Hunt Club	4
D13	CDFW		839
D14	CDFW		707
D15	CDFW		605
		Davis Unit Subtotal	*10,996*

Table 2-2
Management Subunits, Ownership, and Acreage for the SJWA – LMP Study Area

Management Subunit	Ownership	Private Property Name (if applicable)[2]	Approximate Acreage[1]
Potrero Unit			
P1	CDFW		453
P2	CDFW		1,044
P3	CDFW		805
P4	CDFW		1,301
P5	CDFW		1,070
P6	CDFW		436
P7	CDFW		865
P8	CDFW		908
P9	CDFW		1,127
P10	CDFW		145
	Private w/ conservation easement	Lockheed Martin	560
P11	CDFW		411
	Private w/ conservation easement	Lockheed Martin	5
		Potrero Unit Subtotal	*9,130*
		Total	**20,126**

1 Acreages are rounded to nearest whole number.
2 The EIR analysis will address all land within the Davis Unit and Potrero Unit, including lands owned by CDFW and private lands with a CDFW easement.

The management subunits have been devised to more easily reference and manage the diverse range of resources and management activities on the SJWA (referred to as management designations in this PEIR). A brief description of the management designations and the applicable management subunits is provided below.

2.2.3.2 Management Designations

The draft LMP evaluates multiple resource management considerations in the context of regulatory requirements, public use demands, and funding sources to develop a set of recommended management areas for the SJWA. Management recommendations are intended to define what resources should be considered within a specific area prior to implementing specific construction or management activities within the management areas. The following is a brief description of existing and recommended management areas within the Davis and Potrero Units. Of the newly recommended management areas, where there are specific activities proposed, these activities are identified. Based on this identification, the total recommended management areas identified in the draft LMP are divided into Existing, Proposed Resource, and Future Potential designations (Table 2-3). For the purposes of this document, "Proposed Resource" refers to activities being anticipated to occur in the near-term (next 10 to 15 years), whereas "Future Potential" refers to possible activities in the long-term (15 to 30 years), possibly even after the 30-year planning horizon. The

PEIR will consider the existing management areas/activities as the baseline conditions, and the proposed new or expanded management areas and activities and the future management areas/activities will be evaluated at a program-level analysis in the PEIR. "Future Potential" is not intended to imply that these future activities would occur simultaneously or cover the entire areas where they are being considered. Instead, "Future Potential" is intended to be informational in that certain areas have been identified as being suitable for various activity within the SJWA; however, additional review and analysis by CDFW may be required.

Chapter 4 of this PEIR provides a description of the existing uses and resources (environmental setting/baseline condition) and Chapter 5 provides a detailed environmental evaluation for proposed new activities/actions and potential changes in management designations relative to existing and planned operation and maintenance within each unit. Note that the activities associated with the management areas may overlap. In addition, the location or intensity of activities may change, i.e., for an existing use the management method may change (could increase or decrease in intensity) and for a new proposed use it would be in a new location within either the Davis or Potrero Units. Existing activities, including active and passive uses, that are not changing or expanding, are described as part of the existing baseline, but are not considered part of the draft LMP activities under CEQA and thus are not being evaluated in this PEIR. Per the Purchase and Sales Agreement with LMC, CDFW will coordinate with LMC and possibly the Department of Toxic and Substance Control prior to implementing any activities on the Potrero Unit.

2.2.3.2.1 Wetlands Habitat Management Areas

Wetlands are transitional areas between aquatic and terrestrial ecosystems that are inundated or saturated for periods long enough to produce hydric soils and support hydrophytic (water-loving) vegetation. Wetland habitat is most prevalent on the Davis Unit and is essentially nonexistent on the Potrero Unit. Within the Davis Unit, wetland habitat is extensive, especially for this arid region, largely due to the use of reclaimed water to irrigate fields, seasonally flood ponds, and maintain some ponds with permanent water. Habitat conditions within these areas, and within Mystic Lake during wetter years, is ideal for wetland wildlife, especially migratory bird species. Currently, approximately 1,134 acres of the Davis Unit is managed for wetlands (Figure 2-6A). These areas consist primarily of waterfowl ponds in Subunits D4, D9, with small areas in Subunits D7, D10 and D13. These areas would continue to be managed for wetlands resources under the draft LMP.

CDFW proposes to implement wetlands management on an additional 882 acres of the Davis Unit (Figure 2-6A). These areas consist of approximately 145 acres of new waterfowl ponds and fields in Subunits D4 and D7, which are discussed in more detail under waterfowl habitat and waterfowl hunting sections below, as well as approximately 737 acres of additional lands identified as locations where wetlands resources may occur and wetlands resources should be

specifically considered. These additional areas include Mystic Lake (Subunit D3) and areas mapped as wetlands between existing waterfowl ponds in Subunit D9 (Figure 2-6A).

Future potential wetlands management areas (582 acres) are mainly comprised for future potential waterfowl ponds and fields in Subunits D4, D11, and D13 (Figure 2-6A).

There are 7 acres of the Potrero Unit (P2 and P6) where possible wetlands were identified in the draft LMP (i.e., recommended management area). All of these areas are proposed for wetlands management (Figure 2-6B).

Figure 2-4 Regional Ecological Setting

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Figure 2-5 Management Subunits

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Figure 2-6A Wetlands Habitat Management Areas – Davis Unit

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Figure 2-6B Wetlands Habitat Management Areas – Potrero Unit

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2.2.3.2.2 Riparian Habitat Management Areas

Riparian habitat typically refers to vegetation growing on the banks of a river or stream. In the draft LMP, it applies to habitats that are seasonally flooded and support hydrophytic tree and shrub communities. Riparian habitat on the Davis Unit occurs along the San Jacinto River and in association with the northern waterfowl ponds. Approximately 136 acres of existing riparian resources are located within Davis Subunits D3, D4, D7, and D13 (Figure 2-7A). These areas will continue to be managed for riparian resources under the draft LMP.

The draft LMP identified up to an additional 118 acres of proposed riparian resources for riparian management, mainly located within Davis Subunits D3-7, D11, and D14 (Figure 2-7A) (CDFW 2016). Some of these areas would require use of irrigation/flooding to create and sustain riparian habitat (53 acres, mostly in D4 but also in D7) and an additional 65 acres of existing mapped riparian vegetation that are currently not managed have been identified for management in the LMP. (Figure 2-7A). There are 32 acres of future potential riparian habitat management areas on the Davis Unit, mostly in Subunit D4, where existing waterfowl ponds occur and management is currently directed toward wetlands resources.

While there may be future potential riparian resources within future potential waterfowl habitat and waterfowl hunting areas, for the sake of simplicity these areas were included in the discussion above given that in some cases, riparian resources would represent a smaller portion of the overall habitat supported by the larger water feature. As riparian resource areas are identified, these additional areas would be managed for riparian resources, as appropriate.

There is currently no managed riparian habitat within the Potrero Unit. Under the draft LMP, CDFW proposes to manage approximately 202 acres of riparian habitat within the Potrero Unit (Subunits P1- P3, and P5-P11) (see Figure 2-7B) (CDFW 2016).

Table 2-3

SJWA LMP Existing, Proposed Resource, and Future Potential Management Areas

Unit/Resource	Existing		Proposed Resource		Future Potential		Total
	Acres	*Subunit Description*[1]	*Acres*	*Subunit Description*[1]	*Acres*	*Subunit Description*[1]	
Davis							
Wetlands Habitat Management Areas	1,134	D4, 7, 9, 10, 13	882	D3, 4, 7, 9	582	D3, 4, 7, 11, 13	2,598
Riparian Habitat Management Areas	136	D3, 4, 7, 13	118	D3, 4, 5, 6, 7, 11, 14	32	D2-4,7, 13	286
Alkali Habitat Management Areas	—	—	1,738	D1, 3-5, 7-8, 10, 13	344	D1, 3-4, 7, 10, 13, 15	2,082
Waterfowl Habitat Areas	9	D7	47	D4	—	—	56
Waterfowl Hunting Areas	1,130	D4, 9, 10, 13	104	D4, 7	1,413	D1, 3-4, 11, 13	2,647
SKR Management Areas	863	D1, 6-7, 12-13, 15	648	D1-3	1,262	D1, 3, 5-8, 12-15	2,773
Upland Habitat Management Areas		—	4,445	D1, 3-8, 10-15	2,559	D1-8, 11-13, 15	7,004
Upland Small Game Hunting Areas	6,478	D1-7, 9-13, 15	—	—	—	—	6,478
Agriculture Areas	1,304[2]	D2, 4, 7, 11	269	D1, 3-4	858	D11, 13	1,648[2]
Hunting Dog Training Areas	267	D13	220	D11	316	D7, 11	803
SJWA Events	—	D1-5, 7, 9-15	—	D1-11, 13	—	—	—
Facilities and Structures	—	D4, 8, 9	—	—	—	—	—
Water Storage Project	—	—	—	D1, 2, 3, or 4	—	—	—
Potrero							
Wetlands Habitat Management Areas	—	—	7	P2, P6	—	—	7
Riparian Habitat Management Areas	—	—	202	P1-3, P5-11	—	—	202
Alkali Habitat Management Areas	—	—	140	P2, 4-7, 9-11	7	P10, 11	147
SKR Management Areas	—	—	304	P5	334	P2-5	638
Upland Habitat Management Areas	—	—	7,343	P1-4, 7-11	1,672	P2, 5-8, 11	9,015
Upland Small Game Hunting Areas	—	—	1,506	P5, 6	5,734	P1-4, 7-8, 11	7,240
SJWA Hunting and Training Events	—	P2	—	P1-11	—	—	—
Facilities and Structures	—	P2-5, 10	—	P2-5, 10	—	—	—

1 Subunits listed represent primary locations for each resource. Areas of less than 2 acres in size may not be listed.

2 Agricultural uses are the only resource management area identified to be reduced from existing conditions. Of the 1,304 acres of existing agricultural areas, 783 acres would be discontinued, reducing agricultural uses, before the proposed projects are added, to 521 acres.

Figure 2-7A Riparian Habitat Management Areas – Davis Unit

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Figure 2-7B Riparian Habitat Management Areas – Potrero Unit

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2.2.3.2.3 Alkali Habitat Management Areas

Alkali resources refer to series of habitat types that form within saline-alkali (i.e., salty or high pH) clay soils. The SJWA represents an important conservation area for the unique alkali communities that occur in Western Riverside County. Alkali communities on the Davis Unit generally occur along the San Jacinto River floodplain within the Willow–Domino–Traver soils complex. While there are existing alkali resources on the Davis Unit, there is no formal management program for these resources. One 30-acre area of alkali habitat along Davis Road was restored approximately 12 years ago, but not as part of a formal management program.

Approximately 2,082 acres of the Davis Unit are identified in the draft LMP as recommended for future alkali community management, which would include vernal pool management. These resources are primarily located within Davis Subunits D3, D4, D5, D7, D8, D10, and D13 (Figure 2-8A). A majority of these areas (approximately 1,738 acres) are proposed for alkali management, based on the timing of potential activities identified within the areas recommended for alkali management (Figure 2-8A). The remaining area (344 acres) is identified for future potential alkali management. These areas consist primarily of other recommended management areas (e.g., SKR) or are identified for specific activities (e.g., waterfowl habitat, agriculture). Alkali resources will be considered in the planning and implementation of these activities and management decisions.

There are currently no managed alkali communities within the Potrero Unit. The draft LMP proposes approximately 140 acres of alkali communities within Potrero Subunits P2, P4 through P7, and P9 through P11, which would include vernal pool management (Figure 2-8B). An additional 7 acres of alkali resources are classified as future potential within Subunits P10 and P11, as they currently are identified for riparian resource management (CDFW 2016), and future study is required to determine if alkali resources exist in those areas.

2.2.3.2.4 Waterfowl Habitat Areas

The expansion of open water/marsh habitat is intended to provide resources through the construction of new waterfowl ponds with appropriate water management infrastructure. Waterfowl habitats are areas that are suitable for waterfowl species, such as ducks, geese and other large aquatic birds, and those not open to hunting are referred to as “closed zones.” Approximately 9 acres of an existing waterfowl closed zone (ponds) are located within Davis Subunit D7. Up to 47 acres of a new waterfowl closed zone (ponds) are proposed within Davis Subunit D4 (Figure 2-9).

Wetland management practices are continually improved by research and experimental management, which includes varying the amount of water used in certain situations. The results of these learning efforts are disseminated to interested parties by the agencies and organizations involved in waterfowl management. However, it is to the advantage of all wetland managers to

keep accurate records of habitat manipulations (e.g. dates of flooding, irrigation, drawdown, discing). Managers should eventually be able to predict how the vegetation on their property will respond to specific management practices; this in turn will allow them to provide high-quality waterfowl habitat with the most efficient use of water. The Davis Unit uses recycled water to flood-up the various wetland types. Moist soil wetlands includes crops grown to attract tricolored blackbirds. There are 1,134 acres of various wetlands maintained with recycled water and 136 acres of riparian habitat. Only 20% of riparian habitat is actually flooded with an estimated 14 acre feet/month.

The average loss of water to evaporation is estimated to be 0.29 acre feet per surface acre per month, or about ~~3.48~~ 7 acre-feet per surface acre per year. The following table (Table 2-4) is a rough estimate of recycled water use in a given year for various wetland types on the Davis Unit. The table does not include the proposed 297 acres of new wetlands. The amount of water used depends on weather conditions and may not match the actual totals of historical water use depicted in Table 2.5.

Table 2-4
Estimated Existing Annual Recycled Water Use For Various Wetland Types on Davis Unit

	Surface Area (Acres)	Depth (ft)	Months	Flood-up (acre feet)	Evaporative Loss* (acre feet)	Total (acre feet per year)
Seasonal wetlands	200	2	4	400	~~232~~ 174	~~632~~ 574
Semi-permanent wetlands	404	2	9	808	~~1054~~ 885	~~1862~~ 1693
Permanent wetlands	100	2	12	~~-----~~200	~~348~~ 296	~~348~~ 496
Reverse cycle wetlands	160	1	5	160	~~232~~ 197	~~392~~ 357
Moist soil wetlands	270	0.5	3	135	-----	135
Riparian Habitat	~~27~~8**	0.5	12	~~---~~14	-----	16~~2~~ 8
Total	**1,161~~2~~**				**Total**	**~~3,645~~ 3,395**

Note:
* Evaporative water loss adjusted rate = 0.29 acre feet/month-surface acre
** About 20% of riparian habitat (or about ~~27~~ 8 acres of the existing 136 acres) is maintained with recycled water

On August 18, 1987, the California Department of Fish and Game (now CDFW) and EMWD entered into an agreement that provided CDFW with a 4,500 acre feet per year allocation of recycled water (see section 4.3 of this document for a more detailed description of this agreement). The initial term of the agreement was 25 years ending on June 30, 2014. As part of the Agreement, CDFW has reserved 6.5 MGD (20 acre feet per day), of peaking capacity rights in the system from September 1 through May 31, to allow for full utilization of the 4,500 acre feet per year allocation (CDFG and EMWD 1987).

Figure 2-8A Alkali Habitat Management Areas – Davis Unit

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Figure 2-8B Alkali Habitat Management Areas – Potrero Unit

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Figure 2-9 Waterfowl Habitat/Hunting Areas – Davis Unit

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On June 18, 2014, CDFW and EMWD executed the First Amendment to the 1987 Agreement for the SJWA. The amendment extended the original agreement terms one year (CDFW and EMWD 2014). A subsequent Second Amendment to the 1987 Agreement was executed on June 26, 2015 (CDFW and EMWD 2015). A Third Amendment to the 1987 Agreement was executed June 30, 2016 (CDFW and EMWD 2016). A Fourth Amendment to the 1987 Agreement was executed May 22, 2017 (CDFW and EMWD 2017). CDFW and EMWD plan to extend this Agreement each year indefinitely until after the draft LMP is approved, at which time an agreement will be requested that covers a longer time period. The new agreement may require additional CEQA review by CDFW (see discussion in Section 2.2.2 regarding future subsequent activity implemented pursuant to the LMP).

The construction of new or expanded water-dependent projects within the SJWA shall not occur if recycled water demand exceeds the 4,500 acre feet per year identified in the 1987 Agreement. Any water demands exceeding the current 4,500 acre feet per year allocation will need to be addressed in a new long term agreement and be subject to availability of future EMWD recycled water supply, CDFW well water supply, and/or other sources of water. Any recycled water CDFW anticipates to deliver and store in the proposed future recycled water storage reservoir above the existing 4,500 acre-feet per year identified in the 1987 Agreement would need to be addressed in a new long term agreement and be subject to the availability of future EMWD recycled water supply. Table 2-5 shows the historic uses of recycled water at the SJWA.

Table 2-5
Historic Usage of Recycled Water at Davis Unit

Year	Usage (Acre Feet)
1992	106.98
1993	675.56
1994	1113.58
1995	604.64
1996	1466.85
1997	1760.01
1998	921.90
1999	2385.04
2000	2316.10
2001	2623.57
2002	2632.71
2003	2029.70
2004	1387.35
2005	2027.53
2006	1298.13
2007	2392.69
2008	3068.47

Table 2-5
Historic Usage of Recycled Water at Davis Unit

Year	Usage (Acre Feet)
2009	2805.13
2010	1998.85
2011	2254.11
2012	2538.13
2013	3054.54
2014	3480.69
2015	3493.24
2016	3340.25

Source: CDFW 2017.

While there are some naturally occurring wetlands on the Potrero Unit, these areas are discussed under wetlands resources above and are not open for hunting; therefore they are considered waterfowl habitat closed zones.

2.2.3.2.5 Waterfowl Hunting Areas

Waterfowl hunting occurs in open zones during the four-month hunting season that runs from October through January. Hunting currently occurs on Wednesdays and Saturdays only, with approximately 30 open days visited by a maximum of 6,000 hunters each year. Currently, no waterfowl hunting is permitted on the remaining days, including Sundays. ~~This~~ The number of actual hunters and/or hunting days may vary year to year due to participation, conditions, regulations etc. Approximately 1,130 acres of existing waterfowl open zones (ponds) are primarily located within the Davis Subunits D4, D9, D10, and D13. These areas will continue to be managed as open zone ponds, supporting wetlands/waterfowl habitat. CDFW currently proposes construction of one 71-acre open zone (pond) in D7 and 33 acres of open zone (fields) in D4 (104 acres total) (Figure 2-9). Future potential waterfowl hunting areas include approximately 844 acres identified within Mystic Lake as a recommended waterfowl open hunting (lakes) located within Davis Subunit D3; approximately 178 acres of new waterfowl open zone (ponds) within Davis Subunits D4 and D13; and up to 391 acres of new waterfowl open zone (fields) within Davis Subunits D1, D3, D4, and D11 (Figure 2-9).

No existing waterfowl hunting occurs on the Potrero Unit, and no waterfowl hunting is proposed on the Potrero Unit.

2.2.3.2.6 Stephens' Kangaroo Rat Management Areas

Approximately 863 acres of existing Stephens' kangaroo rat (*Dipodomys stephensi*) (SKR) management areas (SKR management areas include habitat maintenance on an approximate 5-year rotational pattern) are located primarily on Davis Subunits D1, D6, D7, D12, D13, and D15, with

approximately 741 acres of existing SKR management areas designated as mitigation areas (SKR mitigation areas are lands specifically set aside for SKR as a result of anticipated SKR habitat losses from development projects). These existing SKR management areas would continue to be managed for SKR under the draft LMP. In addition, the draft LMP recommends that SKR management should be considered on an additional 1,910 acres of the Davis Unit. Of this area, 648 acres are proposed for SKR management in Davis Subunits D1, D2, and D3 and the remaining areas are classified as future potential management areas (Figure 2-10A). There are currently no new planned SKR mitigation areas within the Davis Unit as part of the draft LMP.

There are currently no existing SKR mitigation areas within the Potrero Unit. The draft LMP recommends that approximately 638 acres of land on the Potrero Unit be considered for SKR management (Subunits P2 through P5). Of this area, 304 acres within Subunit P5 are proposed for SKR management currently, and 334 acres within P5 are future potential SKR management areas (Figure 2-10B).

2.2.3.2.7 Upland Habitat Management Areas

Upland habitat management areas consist primarily of coastal sage scrub, chaparral, and grasslands which support many special-status species, such as coastal California gnatcatcher (*Polioptila californica californica*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus cyaneus*), loggerhead shrike (*Lanius ludovicianus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). There is currently no existing formal program to manage upland habitat on either the Davis or Potrero Units, although these areas are already protected for multiple species and habitat benefits as part of the MSHCP and SKR HCP. Under the draft LMP, approximately 4,445 acres of the Davis Unit are proposed as upland habitat management areas. An additional 2,559 acres are considered future potential upland habitat management areas, based on the fact that currently other habitat and resource management designations (primarily SKR) have been identified in those areas (Figure 2-11A).

On the Potrero Unit, 7,343 acres are proposed as upland habitat management areas where as 1,672 acres are identified as future potential upland habitat management areas (Figure 2-11B). These additional future potential areas are primarily in Subunits P5 and P6 where SKR management has been proposed.

2.2.3.2.8 Upland Small Game Hunting Areas

Upland small game hunting includes hunting for ~~black-tailed jackrabbit (*Lepus californicus*),~~ rock pigeon (*Columba livia*), cottontail rabbit (*Sylvilagus floridanus*), dove (family Columbidae), snipe (family Scolopacidae), California quail (~~*Coturnix coturnix*~~*Callipepla californica*), American crow (*Corvus brachyrhynchos*), ring-necked pheasant (*Phasianus colchicus*), ~~and squirrels~~ and other

small mammals that have no special status. Additional upland small game hunting for ring-necked pheasant is proposed in the Davis Unit. Bag limits and other hunting regulations are governed by the California Fish and Game Commission statewide, and the managers at SJWA manage limits within the SJWA based on annual conditions (such as in a drought year, when limits could be reduced). All small-game hunting activities taking place on the SJWA would be conducted in accordance with current-year CDFW hunting regulations.

Approximately 6,478 acres of existing upland small game hunting are located on Davis Subunits D1-D7, D9-D13, and D15, and this practice will continue under the draft LMP (Figure 2-12A). Currently, approximately 3,000 hunters hunt small game on the Davis Unit each year. No additional lands are proposed to be added to the upland small game hunting areas on the Davis Unit.

Figure 2-12A also depicts "guzzlers," which are wildlife water containment drinking systems. There are many types of these systems but those at the SJWA generally consist of an apron that directs water toward the toe, into a small culvert, and ultimately into an underground water collecting tank. These particular systems are constructed so that wildlife accessing the available water source are smaller than an average-sized raccoon, and include use by quail, dove, songbirds, and other native species.

There is no existing upland small game hunting on the Potrero Unit. Up to 7,240 acres of the Potrero Unit are recommended as proposed areas and future potential areas where upland small game hunting could occur. At this time, P5 and P6 (1,506 acres) are proposed in the near-term to be opened to upland small game hunting (Figure 2-12B). There is a potential for other acres to be opened to upland small game hunting in the long-term.

Figure 2-10A Stephens' Kangaroo Rat Management Areas – Davis Unit

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Figure 2-10B Stephens' Kangaroo Rat Management Areas – Potrero Unit

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Figure 2-11A Upland Habitat Management Areas – Davis Unit

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Figure 2-11B Upland Habitat Management Areas – Potrero Unit

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Figure 2-12A Upland Small Game Hunting Areas – Davis Unit

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Figure 2-12B Upland Small Game Hunting Areas – Potrero Unit

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Upland game species hunted on the Davis Unit include the following. It is anticipated these species would also be hunted on the Potrero Unit outside of the nesting bird season if the draft LMP is approved. In addition, various areas may be closed to hunting under some instances (see Chapter 5.8, Recreation).

~~Black-tailed jackrabbit (*Lepus californicus*) and~~ ~~r~~Rock pigeon (*Columba livia*). No restrictions, hunted year round.

Cottontail rabbit (*Sylvilagus floridanus*) – July 1 to the last Sunday in January

Dove, both Mourning Dove (*Zenaida macroura*) and White ~~W~~winged Dove (*Zenaida asiatica*) – September 1 to September 15 and then reopens for the second season on the second Saturday in November and the following 45 days

Quail (*Callipepla californica*), also known as the California valley quail or valley quail – Traditionally from the second week in October to the last Sunday in January

Eurasian Collared-Dove (*Streptopelia decaocto*) – No restrictions, hunted year round

Snipe (*Scolopacidae*) – Second Saturday in October and extends to the last Sunday in January

Crow (*Corvus brachyrhynchos*) – First Saturday in December to the second Sunday in April

Ring-necked pheasant (*Phasianus colchicus*) – Second Saturday in November running for six consecutive Mondays. CDFW currently limits the pheasant season and number of pheasant hunters (1,200 annually) on the SJWA due to low populations

2.2.3.2.9 Agriculture Areas

Approximately 588 acres of land on Davis Subunits D4, D7, and D11 have been used by CDFW for agricultural purposes (i.e., food crops to support wildlife populations). An additional approximately 716 acres of lands, primarily on Davis Subunit D2 were previously leased for agricultural purposes (i.e., dry farmed food crops, typically wheat). Of these 1,304 acres of land, only 521 acres could be used for agriculture under the recommendations of the draft LMP. CDFW may use the 521 acres for wildlife food crops, such as wheat, millet, milo, alfalfa, triticale, safflower, sunflower, mix grain, and other various upland game and waterfowl forages, or CDFW may create another agricultural lease on this land. These crops benefit many species of waterfowl. The alfalfa and triticale crops are intended to attract tricolored blackbirds to nest. The alfalfa crops may also benefit burrowing owl. Large areas in Subunits D2 and D7, as well as a portion of agriculture in Subunit D4 are recommended to be discontinued (783 acres total) to allow for other management uses (e.g., SKR management in D2, development of waterfowl ponds in Subunits D4 and D7, and management of alkali resources in D7) (Figure 2-13).

Up to 1,127 acres of land located primarily on Davis Subunits D1, D3, D4, D11, and D13 are recommended as areas for future additional agricultural production (Figure 2-13). Approximately 713 acres of these lands could be leased. None of the potential additional lease lands are proposed to be actively planted at this time. Proposed new agricultural areas would be operated by CDFW and include approximately 101 acres of irrigated production in D3 (66 acres), D4, (7 acres) and D10 (1 acre: 50% production) and D4 (27 acres: 100% production) and 168 acres of dry land farming in D1 (20% production) (Figure 2-13). The draft LMP may allow for a grazing lease on the Davis Unit in coordination with SKR management.

No land on the Potrero Unit is currently used for agriculture, and at this time, the draft LMP does not recommend any areas of the Potrero Unit for proposed or future potential agriculture except for a potential grazing lease in coordination with management for SKR.

2.2.3.2.10 Hunting Dog Training Areas

The existing hunting dog training area at SJWA is a highly valued resource among hunting dog enthusiasts in southern California. Approximately 267 acres of land within Davis Subunit D13 is currently used for hunting dog training and would continue to be used and managed for this purpose under the draft LMP. Up to 536 acres of additional land primarily in Subunits D7 and D11 were recommended (proposed and future potential) as areas where new hunting dog training could be developed. Of these areas, approximately 220 acres in Subunit D11 are currently proposed to be developed into a second hunting dog training site (Figure 2-14).

There are no existing hunting dog training areas on the Potrero Unit, and the draft LMP does not identify any areas of the Potrero Unit for proposed or future potential hunting dog training areas.

2.2.3.2.11 SJWA Hunting and Training Events

Public waterfowl hunting currently takes place on Davis Subunits D1, D3, and D4. The SJWA is open to waterfowl hunting approximately 30 days a year and visited by approximately 6,000 hunters. With implementation of the draft LMP, CDFW anticipates approximately 500 more hunters annually. Wild pheasant hunting historically occurs on Mondays on the Davis subunit D8 but currently is not being hunted due to a lack in the current pheasant population, a plan to revitalize the pheasant population is being considered. Occasionally there are pen raised youth and women's pheasant hunts that occur on Davis Subunit D7. Upland game hunting is allowed all season long on Davis Subunits D8, D11, D12, and D15. Waterfowl hunting activities by the Ramona Hunt Club and the Mystic Lake Duck Club currently take place on Davis Subunit D9. Waterfowl hunting activities by Ramona Hunt Club, 21 Gun Club, and Four Winds Pheasant Club currently take place on Davis Subunit D10. An annual Christmas bird count is annually done within Davis Subunits D1 through D13, and D15.

Approved organizations such as the American Kennel Club, North American Versatile Dog Association, and other approved organizations currently sponsor or conduct hunting dog tests and canine field trial activities on Davis Subunit D13. One to three hunting dog events currently are held each month during a 9-month season (June through February), bringing approximately 1,000 dog trainers, hunt test people, and field trial people to the SJWA. These existing hunting dog events would continue under the draft LMP. Dog training is also proposed in Subunits D7, and D11 and can include search-and-rescue and bomb detection training. With implementation of the draft LMP, CDFW anticipates approximately 250 more dog trainers will visit the SJWA.

A women's pheasant hunt occurs on Davis Subunit; however, no upland game hunting or hunting dog events currently occur on the Potrero Unit. There is a conservation easement between CDFW and Lockheed Martin that extends over Subunits P10 and P11 (565 acres) in which continued cleanup is anticipated for the next 50 years for hazards deposited as a result of past weapons testing activities. Upon cleanup of the conservation easement, CDFW will have the option to purchase this easement. Up to 7,240 acres of the Potrero Unit are recommended as proposed areas and future potential areas where upland small game hunting could occur. At this time, Subunits P5 and P6 (1,506 acres) are proposed in the near-term to be opened to upland small game hunting (Figure 2-12B). There is a potential for other acres to be opened to upland small game hunting in the long-term.

An annual Christmas bird count is proposed in the future within Potrero Subunits P1 through P11; however, where appropriate, clean-up activities would need to be completed before access would be allowed.

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Figure 2-13 Agricultural Areas – Davis Unit

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Figure 2-14 Hunting Dog Training Areas – Davis Unit

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2.2.3.2.12 Facilities and Structures

The draft LMP includes new facilities and structures that would require land disturbing construction activities associated with the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources (through targeted grading); installation of water distribution, management, and water storage systems; construction of employee residences (manufactured homes), office, workshop, and warehouse buildings; roads and expanded trail/interpretive service activities that would require land disturbances such as grading and site-preparation activities. More information on these various components are included below.

Davis Unit

Within the Davis Unit on Subunit D12 there is existing privately-owned property that includes the Ramona Hunt Club with an estimated 2,400 square-foot barn/clubhouse and 28 spaces for trailer/cabins and the Mystic Lake Duck club with a 2,200 square-foot clubhouse and storage shed with 13 cabins. These facilities are not managed or owned by CDFW and would not be removed or changed in any way. CDFW property on the Davis Subunit D8 includes an existing approximately 1,200-square-foot office/check station (40 feet by 30 feet), parking lot, an approximately 450-square-foot (30 feet by 14 feet) public restroom; an approximately 4,000-square-foot shop and utility building (40 feet by 100 feet), three shade structures (two 1,200 square feet (40 feet by 30 feet) and one 900 square feet (45 feet by 20 feet)), two double-wide trailers, two approximately 1,500-gallon water tanks, and a domestic water well. The two double-wide trailers (one approximately 1,200 square feet and the other approximately 1,300 square feet) are proposed to be removed and replaced with three, approximately 1,300-square-foot new manufactured homes and either one 5,000-gallon or two 2,500-gallon domestic water systems on Davis Subunit D8. A new septic system would be required for the third residence. The two other new residences would be serviced by the existing septic system. In addition, three new 1,200 square-foot shade structures are proposed on Davis Subunit D8 (40 feet by 30 feet). The existing office/check station, restroom, shop and utility building, shade structures, water tanks, and water well will remain on site; however, minor repairs may occur as needed basis. A parking lot is also included in Subunit D13. It is envisioned to have solar power generated at these structures sometime in the future. There are some hunting blinds and a small number of cabins used by hunters also located on Subunit D9. These facilities are not managed or owned by CDFW and would not be removed or changed in any way associated with future LMP activities.

As shown in Figure 2-15A, an existing gas line and transmission line traverses the western portion of the Davis Unit and bisects Subunits D1, D2, D4, D6, D7, D8 and D15. A portion of the San Jacinto River bisects Subunits D7 and D13. In addition, there are numerous paved and unimproved trails that traverse throughout the Davis Unit. The majority of trails depicted on Figure 2.15A are not county trails, but there is a short segment of an existing unimproved trail shown on the Davis

Unit (and more specifically, on Subunit D1) which overlaps with the alignment of a trail identified in the Riverside County General Plan.

Potrero Unit

Within the Lockheed Martin Conservation Easement primarily in Subunit P10 there are several buildings/structures that are owned/maintained by Lockheed Martin. Under the draft LMP, these buildings are proposed to be restored/modified by CDFW; however, they would not be demolished and would remain in their current location in Subunit P10. These buildings include the following:

- a 640-square-foot brick warehouse (40 feet by 16 feet) with garage and office
- 3 bunkers – (1) 375-square-foot (15 feet by 25 feet); (2) 880-square-foot (22 feet by 40 feet), and (3) 28-foot round bunker that is 30 feet deep
- a 4,875-square-foot building (65 feet by 75 feet) with an adjacent small 80-square-foot shed structure (8 feet by 10 feet)
- a 6,500-square-foot (130 feet by 50 feet) missile silo
- a 720-square-foot (60 feet by 12 feet) trailer

There is also an historic landing strip and rocket launching structure with a 30-foot-tall concrete vertical wall within Potrero Subunit P3. These structures would also remain in place. An existing parking lot is located within Subunit P10, as shown on Figure 2-15B. There are also existing asphalt trails and unimproved trails throughout the Potrero Unit, as depicted on Figure 2-15B. The trails shown on this figure are not county trails.

A new visitor center and parking lot is proposed in Subunit P5 along with a proposed new trail, shown on Figure 2-15B. A new domestic water system and supporting power system is proposed within Potrero Subunit P5. The new domestic water system would be approximately 1,500 gallons. The system proposed within Subunit P5 extends to the boundary of P6. The power system would be electric with a diesel back-up if determined necessary. These infrastructure improvements are necessary to provide water and power to the facilities proposed in P5, including two new residences (double-wide trailers that are approximately 1,440 square feet), an office, a workshop, and a warehouse.

Figure 2-15A Facilities and Structures – Davis Unit

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Figure 2-15B Facilities and Structures – Potrero Unit

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2.2.3.2.13 Water Storage Project

A recycled water storage reservoir, including a levee and pipeline, is proposed on the Davis Unit (Figure 2-16) and would be constructed, owned and operated by CDFW. The reservoir would serve as seasonal storage for recycled water that would be used throughout the wildlife area. This recycled water storage reservoir would be in addition to the two main water storage reservoirs located in the northern area of Davis Subunit D4. This reservoir would be filled with recycled water, if available, from the Hemet/San Jacinto Regional Water Reclamation Facility; a facility owned and operated by EMWD. The draft LMP currently proposes two options for the water storage reservoir. One option proposes that the reservoir would hold up to approximately 2,500 acre-feet of water, would be uncovered to support waterfowl and occupy approximately 275 acres within Davis Subunit D2. The reservoir would be approximately 9 feet deep with a 6-foot fall, the fall is the slope of the pond floor used for storage and drainage from north to south (this includes a 3-foot cut, a cut refers to the amount of soil being removed to balance the pond and make the designed fall and then the cut material is used for construction of the levees resulting in approximately 631,000 cubic yards (cyds) of soil). This soil would be used for an approximately 16,000-foot long, 12-foot-high levee with a 5:1 slope (700,000 cyds). A second option for a reservoir would occupy approximately 235 acres within Davis Subunits D1 and D2, and would hold up to approximately 2,115 acre-feet of water. Under this option, the reservoir would also be open and be approximately 9 feet deep with a 5-foot fall, the fall is the slope of the pond floor used for storage and drainage of the pond from north to south (this includes a 2.5-foot cut resulting in approximately 250,000 cyds of soil). The cut refers to the amount of soil being removed to balance the pond and make the design fall and then used for construction of the levees. This soil would be used for an approximately 18,000-foot long, 12-foot-high levee with a 5:1 slope (750,000 cyds). For both options, CDFW or its contractor would aim to balance excavations on site, meaning there would be no import or export of soil from the Wildlife Area, with construction of the water storage facilities, including the reservoir, levee, and pipeline. An up to 3,000-foot-long pipeline would be constructed with standard trenching and backfill construction methods. It is anticipated that construction of the water storage reservoir would take up to 8 months (3-5 for the reservoir, 1 month for the levee, and 2-3 months for the pipeline). Note that project-level design and related details are not known at this time; therefore, this document represents a program-level analysis of the water storage facility. When potential project-level design and locations are available, additional CEQA will be done (see discussion in Section 2.2.2 regarding future subsequent activity implemented pursuant to the LMP).

The water that would be stored in this reservoir would be exclusively available to the wildlife area as per the San Jacinto Wildlife Area Reclaimed Water Supply Project Agreement with the Eastern Municipal Water District (CDFG and EMWD 1987), discussed in Section 4.3 of this EIR. The water would be conveyed from the Hemet/San Jacinto Regional Water Reclamation Facility via an existing pressurized water transmission pipeline that traverses the central portion of the Davis

Unit as well as a newly constructed pipeline to the new reservoir (see Figure 2-16). The water that would be delivered to this new reservoir would be treated by EMWD first at their water treatment facility and then delivered as reclaimed water to the SJWA. The reclaimed water delivered by EMWD would be stored in one of the two above-described reservoirs and used on site only.

2.3 PROJECT OPERATIONS AND MAINTENANCE

Operations and maintenance tasks are implemented under three primary categories: habitat/species management activities, public use facilities, and administrative facilities. Table 2-6 provides an overview of existing operations and maintenance tasks that occur throughout the year on the SJWA. This work plan is amended yearly depending upon the conditions and status of various management goals, objectives, funding, and environmental conditions.

This section describes the existing and proposed tasks that take place on either the Davis Unit, Potrero Unit, or both; related personnel requirements; and current and anticipated future needs. Figure 2-17A provides a summary of the proposed management designations within the Davis Unit and Figure 2-17B provides a summary of the proposed management designations within the Potrero Unit. The draft LMP describes planned expansions of operations and maintenance activities within generally short-term (1 to 5 years, 5 to 10 years, and ongoing activities) and long-term, a 30-year planning horizon, following adoption of the LMP. Table 2-7 provides an outline of the approximate implementation schedule for the 1 to 5 years and 5 to 10 years planned activities and also lists the activities that are ongoing. The 30-year planning horizon may or may not be implemented, depending on funding availability, but it is assumed that they will be implemented for purposes of the analysis of potential impacts in this PEIR.

Table 2-6
SJWA Existing Monthly Task Schedule

Task	Month
Habitat/Species Management	
Open waterfowl and upland hunting seasons	October –January
Operate check station for waterfowl hunt program	October–January
Conduct water management on ponds	January – December
Hunt test field trial area in use and management	June – March
Conduct burrowing owl (*Athene cunicularia*) maintenance and activities	September-January
Conduct SKR habitat management (contingent on habitat conditions); mowing, grazing, or prescribed burns	March (begin), April, May, June
Redoing SKR habitat management if needed; mowing, grazing, or prescribed burns	June, July
Drawdown water at ponds depending upon weather conditions and pond levels	March, April, May
Watering riparian areas if/when needed	March – December
Manage brooding habitat of designated wetlands units	March, April, May, June
Conduct tricolored blackbird (*Agelaius tricolor*) habitat management	July-January
Conduct Riparian habitat enhancement	March, April, May, June, July

Table 2-6
SJWA Existing Monthly Task Schedule

Task	Month
Remove invasive vegetation species – herbicide/pesticide, grazing, or prescribed burns	March, April, May, June, July, August
Conduct raptor poles management	February, March, April, May
Ensure delivery of Mystic Lake Duck Club water per agreement (150 acre-feet/year)	March
Mowing for weed abatement depending upon habitat conditions.	March, April, May, June
Conduct spring/summer wetlands management	March, April, May, June, July
Conduct upland game crop management – mowing, disking, planting, and irrigating	March, April, May, June, July
Flood irrigation of wetland habitat for waterfowl food production, depending upon conditions	April, May, June, July, August
Maintain upland food plots	May, June, July, August, September
Conduct water management on wetlands units	August, September, October, November, December, January, February
Conduct upland game water guzzler maintenance	March, April, May, June, July, August
Planting forage for waterfowl	May, June, July, August
Planting winter forage for waterfowl	May, June, July, August
Planting upland food plots depending upon the weather	October, November December
Flooding rare and endangered plant species ponds	December, January
Public Use Facilities Maintenance	
Maintain area roads	January – December
Repair and posting signage	January – December
Repairs to gates and fences	January – December
Repairs to water control structures	January – December
Close waterfowl and upland hunting seasons	February
Conduct youth waterfowl hunt	February
Hunt test field trial area ending and management	March
Conduct hunter education course	April, May, or June
Maintain blue bird and wood duck boxes	March, April, May
Volunteer work days	March, April, May, July, August, September
Maintain levees, ponds, and marshes; repair water distribution lines and valves; mow, disk, and reshape levees and ponds where needed	January - December
Open rabbit hunting season	July
Irrigate/flood ponds ready to receive water	July, August, September
Prepare fields for wildlife forage winter crops	August, September, March, April, May
Open dove hunting season	September (1–15)
Open second dove hunting season	November
Open hunting season for waterfowl, quail, snipe, etc.	October (open)
Maintain waterfowl and upland hunting seasons in progress	October, November, December January, February

Table 2-6
SJWA Existing Monthly Task Schedule

Task	Month
Operate check station for waterfowl hunt program	October, November, December, January
Mow pheasant strips	October, November
Operate check station for pheasant hunting season	November, December
Conduct pheasant hunts	November, December
Administrative Facilities Maintenance	
Maintain State facilities	January – December
Maintain kiosks	January – December
Maintain shop and equipment	January – December
Perform other duties as required	January – December

Table 2-7
Approximate Implementation Schedule for Future Plans and Tasks*

Task – Approximate Implementation Schedule
*1 to 5 Years following Adoption of the LMP***
Conduct alkali resource assessment
Implement alkali resource protection
Conduct vernal pool and San Diego fairy shrimp assessment
Conduct western pond turtle (*Actinemys marmorata pallida*) assessment
Conduct tricolored blackbird assessment
Conduct western spadefoot (*Spea hammondii*) assessment
Conduct chaparral/sage scrub/grassland vegetation assessment
Conduct raptor nesting assessment
Conduct burrowing owl nesting assessment
Prepare guidelines for data management
Implement active SKR habitat management at Potrero Unit
Develop plans and conduct regulatory compliance review for expanded/new wetlands activities (e.g., ponds, green feed fields)
Implement a portion of the planned expanded/new wetlands activities (e.g., pond, green feed fields)
Develop plans and conduct regulatory compliance review for a joint wetlands/riparian restoration closed zone project
Implement a joint wetlands/riparian restoration closed zone project
Develop wildfire management measures
Develop plans and conduct regulatory compliance review for planned expanded trail/interpretive service activities
Implement a portion of the planned expanded trail/interpretive service activities
Develop stakeholder outreach methods
Develop plans and conduct regulatory compliance review to reconfigure CDFW-managed food plots
Implement re-configuration of CDFW-managed food plots
Evaluate and potentially implement expansions of current agricultural leases
Evaluate and potentially implement a grazing lease(s)
Open portions of the Potrero Unit to upland game hunting
Develop plans and conduct regulatory compliance review to replace existing and install new guzzlers

Table 2-7
Approximate Implementation Schedule for Future Plans and Tasks*

Task – Approximate Implementation Schedule
Implement replacement of existing guzzlers and installation of new guzzlers
Evaluate and potentially implement two new game programs: ring-necked pheasant , and mule deer
Develop plans and conduct regulatory compliance review for planned new dog training project
Implement fire management tasks including agency coordination, developing and implementing fuel reduction methods, and preparation of a fire plan
Identify potentially significant archaeological resources; implement measures to protect those resources
5 to 10 Years following Adoption of the LMP
Implement long-term alkali resources management
Re-evaluate LMP goals, tasks, and management designations
Implement remaining planned expanded/new wetlands activities (e.g., pond, green feed fields)
Implement remaining portions of the planned expanded trail/interpretive service activities
Implement new hunting dog training activity
Ongoing – Minimum Annual Basis
Evaluate areas where invasive species control measures have been implemented
Evaluate effects of activities within the SJWA for regulatory compliance including resource avoidance, minimization, and mitigation
Review compliance with conservation easements
Coordinate with other agencies, organizations, and institutions
Identify potential acquisition and new conservation easement areas
Evaluate potential mitigation opportunities/proposals

* Long-term (30-year) plans and tasks not listed as they may or may not be funded.
** Frequency of these future plans and tasks would be implemented at the discretion of the LMP manager and based on need. Refer to Chapter 5 Impacts Analysis sections for an evaluation on potential effects resulting from implementation of these future plans and tasks.

2.3.1 Habitat/Species Management – Maintenance Activities

The following list of habitat/species maintenance tasks for wetlands, riparian, alkali, SKR, and upland areas are either currently being implemented or would be implemented through management actions described in Table 2-1 (Page 2-10). The current and proposed habitat/species maintenance tasks described below are broken down by Davis Unit and Potrero Unit, providing further specificity to the tasks outlined in Table 2-1. To enable a more complete understanding of activities that are currently ongoing in the SJWA, current maintenance activities are outlined below to help inform how future tasks would be a continuation of current maintenance activities on the SJWA.

Task 1: Conduct habitat manipulations (mowing, grazing, disking, herbicide application, and/or prescribed fire) to maintain optimum grassland habitat values.

Davis Unit (Current): Currently, approximately 863 acres of SKR habitat are actively managed through habitat manipulations within the Davis Unit. This area is managed on a 5-year cycle so that an average of approximately 150 acres is managed each year (typically, 100 to 300 acres per year). Currently, mowing and shallow disking (to break up consolidated soils where necessary) are the predominant form of habitat management. In the past (mid- to late 2000s), grazing (the use of livestock) was used as a method for habitat maintenance year round, but was halted in 2009. Currently herbicide application (fusilade) may be used on an as-needed basis as a method for habitat maintenance.

Davis Unit (Future): An additional 1,910 acres are recommended for active SKR management of which 648 acres are proposed for SKR management in Davis Subunits D1, D2, and D3. It is undetermined exactly when additional areas would be added to the active SKR management areas; however, it is envisioned to expand when possible and potentially continue long term. Creation of facilities that result in the loss of SKR habitat would require the expansion of active SKR management areas; however, the creation of facilities is expected to include avoidance of SKR habitat to the maximum extent practicable, per Task 1.2 of the draft LMP. CDFW currently manages more acreage than has been allocated for SKR mitigation on the Davis Unit, and therefore, no expansion of SKR mitigation is required or anticipated in the near term. However, with confirmation of SKR occurrence on lands adjacent to Gilman Springs Road, if funding is available, CDFW would prioritize active management of lands in this area for the benefit of SKR, effectively doubling the active management area within the existing Davis Unit. This habitat would be managed on the same 5-year cycle as is currently conducted; therefore, annual habitat manipulations would be expected to be approximately 300 acres (200 to 600 acres per year) thus allowing for 1,000 to 3,000 acres of additional habitat that could be actively managed for SKR on a 5-year cycle within the Davis Unit. While herbicide applications may occur in future, the draft LMP emphasizes that grazing, mowing, and burning are the most appropriate methods for habitat management.

With or without expansion of the active SKR management area on the Davis Unit, it is expected that a greater variety of management practices would be employed, with an emphasis on grazing. The draft LMP also proposes prescribed burns as a management practice which will be conducted in cooperation with the California Department of Forestry and Fire Protection (CAL FIRE). Per South Coast Air Quality Management District Rule 444, prescribed burns for wildland and range burning cannot exceed 175 acres a day.

Potrero Unit (Current): No habitat manipulations are currently being implemented on the Potrero Unit.

Figure 2-16 Conceptual Water Storage Facilities

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Figure 2-17A Summary of Proposed Project/Management Designations – Davis Unit

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Figure 2-17B Summary of Proposed Project/Management Designations – Potrero Unit

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Potrero Unit (Future): The draft LMP recommends creation of 638 acres of active SKR management areas to be managed in a similar 5-year rotational pattern as currently conducted on the Davis Unit. Annual management areas are expected to average 125 acres and would typically be 100 to 300 acres in size. As on the Davis Unit, an emphasis would be placed on utilizing grazing as a method for habitat maintenance; however, mowing, disking, prescribed fire, and herbicide application may also be used.

Additional management areas, especially within Potrero Subunit P10, may be added to the active management area in the future, following clean-up of the area. Such an addition has the potential to increase the active SKR management area by another approximately 600 acres.

Future management of SKR habitat may increase by approximately 200% (doubling of acreage on the Davis Unit and addition of the Potrero Unit); however, with greater emphasis on grazing as a management method, it is expected that habitat maintenance can be achieved in a more efficient manner compared with current practices. Nonetheless, the overall management efforts for SKR are expected to increase by at least 100% (i.e., double the current effort).

Task 2: Construct and install numerous water management structures such as levees, water control structures, and an extensive water distribution pipeline system, all of which require annual maintenance actions.

Tasks 2 and 3 are discussed concurrently because they both pertain to the same wetland habitat areas described as follows below.

Task 3: Periodically clear monotypic cattail communities to maintain long-term wetland productivity using prescribed fire and/or mechanical treatments (disking or mowing) and potentially grazing.

Davis Unit (Current): Water management structures, such as irrigation pumps, pipes, outfalls, inlets, culverts, spillways, and flood gates are currently in place on the Davis Unit and require ongoing maintenance to ensure reliability and functionality. These structures allow for the management of irrigation water that supports the majority of wetland and riparian habitats on the Davis Unit. Wetland ponds require management of cattail growth and other vegetation to maintain the proportion of marsh to open water/mudflat area that is optimum for waterfowl use and breeding. The most routine method utilized on the SJWA to manage/remove cattails is to dry out the pond, allow the cattails to die back, mow them, and then disk the area.

Davis Unit (Future): A number of new water management structures may be constructed to create new wetland ponds (including closed zones), flooded fields, and/or riparian zones. These new water management structures would be expected to require the same types of operation and maintenance activities as currently required for existing water management facilities; however, an increase in the

amount of operation and maintenance would be anticipated. For example, the draft LMP identifies up to a 25% increase in the area of wetland ponds that could be created on the Davis Unit (CDFW 2016). This may include activities such as periodic clearing of cattail growth. Operation and maintenance would also be required for the potential acreage (up to 425 acres) in the Davis Unit that could be modified where there are currently no flooded fields. The draft LMP also identifies up to an approximately 80% increase in the area of riparian habitat in two general locations (Subunits D4 and D7). Furthermore, the draft LMP identifies a potential new hunting dog training area that would require water management in Subunit D7. All these new facilities combined represent an approximate 30% to 40% increase in operation and maintenance efforts as compared to existing conditions.

Potrero Unit (Current): No wetland management facilities exist on the Potrero Unit.

Potrero Unit (Future): Wetland management areas are proposed in the Potrero Unit, specifically in Subunit P2 (approximately 1 acre) and in Subunit P6 (approximately 6 acres).

Task 4: Plant and irrigation of wildlife food crops.

Davis Unit (Current): Planting and irrigation of wildlife food crops (i.e., wheat, millet, milo, alfalfa, triticale, safflower, sunflower, and other various upland game and waterfowl forages) occurred in several areas of the Davis Unit (Subunits D4, D7, and D11). These plantings included areas adjacent to wetlands where crops are geared toward waterfowl and migratory bird use, as well as planting in grasslands adjacent to sage scrub habitats where plantings are directed toward upland game and wildlife. There are approximately 113 acres of lands in active food crop production each year on the Davis Unit in three areas (Subunits D4, D7, and D11) requiring soil preparation, planting/seeding, and sprinkler irrigation. The 113 acres of active food crop production (irrigated) does not include the dryland farming agricultural areas primarily in Subunits D2 and D7.

Davis Unit (Future): The total proposed new wildlife food crop planting area to be implemented by CDFW pursuant to the draft LMP has the potential to expand to nearly 400 acres of active production. This represents a more than twofold expansion from existing practices. A portion of this area may be operated by leaseholders and represent multiple alternative, potential agricultural-use areas, some of which would be interim uses prior to the use of facilities planned for the same location. For planning purposes, it is expected that the near-term expansion of agricultural production by CDFW staff would be two to three times greater than the existing levels.

Potrero Unit (Current and Future): No existing food production occurs on the Potrero Unit, and no food production is proposed in the future.

Task 5: Control exotic and invasive species such as salt cedar (*Tamarix*), brown-headed cowbirds (*Molothrus ater*), bullfrogs, etc.

Davis Unit (Current): CDFW currently manages invasive exotic plant species through physical removal and herbicide applications as needed. Annual inspections are conducted, and control measures are implemented on an as-needed basis. Currently, control measures aimed at exotic animal species are not regularly scheduled or implemented.

Davis Unit (Future): Table 2-1 lists the goals and management recommendations directed toward the assessment and control of invasive exotic plant and animal species on both the Davis and Potrero Units. Following assessments of various habitats, including alkali and wetlands as priority areas, an exotic species control program and/or habitat restoration program would be developed and implemented, and it is expected to include a variety of control methods for both plant and animal species.

It is expected that control of exotic plant species within riparian habitats would be maintained at or near current levels of practice. However, if and when alkali management areas are created, it is expected that exotic plant species controls within this habitat would be established, and they would represent an approximately 50% increased maintenance requirement from current levels.

As discussed previously, exotic animal control measures are not regularly conducted. The need for future exotic animal control measures would be determined through assessment of special-status species populations and suitable habitat. If it is determined that special-status species occurring within the SJWA are adversely affected by exotic animals, or that existing habitats have the potential to support special-status species that are currently being prevented from becoming established within the SJWA due to exotic animal species, then it is likely that exotic animal control measures would be implemented according to a control program that would be established and implemented. Any such program would be an increase in management from current practices.

Potrero Unit (Current): No exotic animal and plant control measures are currently being implemented on the Potrero Unit other than removal of salt cedar.

Potrero Unit (Future): As described for the Davis Unit, the draft LMP recommends the assessment of various habitats and special-status species to determine the need for establishment and implementation of an exotic animal and/or plant species control program (CDFW 2016). It is expected that, at a minimum, control measures for exotic invasive plant species would be implemented within riparian habitats on the Potrero Unit.

2.3.2 Habitat Management – Staff Operations

In addition to the physical maintenance activities described above, the following staff operational activities would be conducted to achieve the goals outlined for habitat management (Table 2-1). These operational activities include coordination with other land managers; analysis of current practices, habitat, species, and land use conditions; training; and documentation necessary to ensure that habitat management is being implemented as described by the draft LMP:

Maintain sufficient personnel and equipment to implement and monitor habitat management measures as described in Section 2.3.1 above, including management of wetland, riparian, alkali, SKR, and upland resources. Staff will be aware of management goals, habitat assessment techniques, and various habitat management methodologies. Documentation of management measures implemented and results in terms of assessed habitat conditions will be recorded and maintained. Coordination with species monitoring groups, including the Western Riverside County Biological Monitoring Group, and researchers from various educational institutions and volunteer/amateur users will be incorporated into the review and documentation of habitat/species management practices.

Maintain sufficient personnel and/or coordinate with other entities to implement the biological monitoring elements outlined in Table 2-1, including assessments of alkali resources and SKR, targeted species surveys, invasive species control, and irrigation management.

Maintain sufficient personnel and/or consultant contracts to implement future activities including creation of new wetland ponds, flooded fields, riparian zones, and agricultural areas. CDFW staff is responsible for the development of plans and specifications for construction activities and ensuring compliance with applicable local, state, and federal regulations during the planning and implementation phases of new projects. This may include surveys for biological and cultural resources, public review, permitting, monitoring, and documentation.

Obtain the necessary wildland prescribed fire training and experience to enable SJWA personnel to implement a prescribed fire habitat management program in appropriate upland locations and for wetland cattail (*Typha* ssp.) management. Obtain necessary prescribed fire equipment including personnel, fire-protective clothing, firefighting hand tools, drip torches, and the necessary firefighting water transport apparatus.

Investigate opportunities and means to establish habitat partnerships with adjacent private landowners and nonprofit organizations. Where possible, create additional semi-permanent wetlands, riparian habitat areas, and other feasible cooperative habitat management programs with willing neighboring private land owners.

Investigate opportunities for establishing grazing and agricultural leases that can also be used as management tools for SKR and upland game, respectively.

2.3.3 Public Use Facilities – Maintenance Activities

As outlined in Table 2-1, public use management includes measures that would support: passive recreation (trails and wildlife viewing), waterfowl hunting, agriculture, upland small game hunting, hunting dog training, and fire management. Cultural resources and agency coordination are listed under the public use element, but there are no maintenance activities associated with these elements; there are operations associated with these elements, and those are discussed in Section 2.3.4 below. The habitat management and maintenance measures described in Section 2.3.1 address many of the habitat requirements related to waterfowl hunting, agriculture, upland small game hunting, and hunting dog training. This section focuses on the public use facilities such as roads, trails, signage, check stations, and blinds. The following list of public use facilities maintenance tasks are either currently being implemented or would be implemented through management actions recommended in the draft LMP; the task numbers are continued from Section 2.3.1 above.

Task 6: Maintain and develop roads, access, and trail infrastructure.

Davis Unit (Current): The Davis Unit currently includes multi-use roads, parking areas, gates, fencing, and signage that serve to facilitate recreational use of the SJWA while protecting habitat from inappropriate access and adverse edge effects (Figure 2-15A). These facilities require regular inspections and maintenance with particular emphasis on areas where trespass and illegal dumping occur. Signs (i.e., no trespassing, no entry, or foot traffic only) and fencing are used in areas where additional public safety measures or habitat and cultural resource protection is required. The location of the signs and fencing varies depending on location and the activity that needs protection.

All the above public use facilities require regular maintenance to keep them safe, clean, and accessible to the public. Visitor displays and panels require regular updating of the interpretive information. The maintenance of the 5-mile auto-tour loop road (Figure 2-15A) is particularly important because it provides the primary means of visitor access to the SJWA. The northern loop road at the Davis Unit also provides primary access for waterfowl hunters to the northern waterfowl hunt sites. The road is difficult to maintain during the rainy season. To provide road accessibility and public safety, CDFW maintains the roads on an as-needed basis during the rainy season. Typically, as needed, Class II aggregate and decomposed granite are used to improve the roadways.

Davis Unit (Future): Figure 2-15A shows new road, access, and trail infrastructure within the Davis Unit including approximately 5 miles of new trails around Mystic Lake (proposed feature),

a new parking and access area from Gilman Springs Road, and new interpretive signage throughout the unit (Figure 2-15A). Improvement to the auto-tour loop road providing primary visitor access to the SJWA may include elevating and graveling the roadway to facilitate year-round public access. Multiple shade structures with picnic tables in the headquarters area are also planned to improve visitor use. A new SJWA entrance sign is planned for the intersection of Marvin Road and Davis Road. Following construction, these new facilities would represent a 10% to 20% increase in maintenance requirements from current practices.

Potrero Unit (Current): Although there are more than 20 miles of existing roads on the Potrero Unit, maintenance is limited to maintaining access to the site and not currently geared toward facilitating recreation. Additionally, gates and fencing, particularly along the northern and western borders of the property, are of particular maintenance concerns to prevent/minimize illegal access, trash dumping, and theft of metal wires/cables.

Potrero Unit (Future): No new roads are recommended for the Potrero Unit. A new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4. New facilities within the unit would primarily consist of access control (i.e., gates and fences), parking, and signage (including boundary and interpretive signage, and signage where additional public safety measures or habitat and cultural resource protection is required). A visitors' center/interpretive area is a proposed feature in Subunit P5 located south of the northeastern entrance gate to the Potrero Unit (Figure 2-15B). The new facilities are expected to require a one- to two-fold increase in maintenance requirements from current practices.

Task 7: Maintain and develop hunter check stations and blinds.

Davis Unit (Current): The Davis Unit currently operates a check station within the headquarters office and a self-check station on Davis Road by Subunits D7 and D8 for upland game hunting, as well as approximately 50-60 existing blinds[2] within the waterfowl hunting areas. These facilities would be maintained in accordance with current practices, which include annual inspections and as-needed repairs and improvements. Hunter check-station staffing at the headquarters office and at Lake Perris during the waterfowl hunting season requires approximately 24 to 32 hours of staff time per week for 18 weeks (from mid-October to the first week in February).

Davis Unit (Future): No new check stations are proposed; however, several new blinds may be installed if new wetland ponds and/or flood fields are created. The increase may be as much as 25% from current levels.

[2] A hunting blind (approximately 4 to 5 feet in diameter) is a structure intended to conceal hunters, dogs, and equipment from the intended prey.

Potrero Unit (Current): Because there is no hunting allowed on the Potrero Unit, there are no existing check stations or blinds.

Potrero Unit (Future): The draft LMP recommends the addition of small upland game hunting to the Potrero Unit, and as such, a new self-check-in station in Potrero Subunit P5 would need to be developed and maintained. The self-check-in station would be approximately 12 feet high, 4 feet deep, and 7 feet tall. Maintenance of this station would be similar to the self-check-in station on the Davis Unit.

Task 8: Maintain and improve fire management facilities and implement fire control measures.

Davis Unit (Current): Current fire management measures include maintenance of roads as firebreaks and maintenance of fuel reduction zones around existing structures within the Davis Unit. These fire abatement practices occur on an annual basis in coordination with CAL FIRE. This includes maintenance of cleared zones along the sides of existing roadways; maintenance of roads in a condition suitable for use by fire-response personnel and equipment; and maintenance of fuel reduction zones within 100 feet of the headquarters office, maintenance warehouse, and residence buildings. There are approximately 28 miles of roads within the Davis Unit currently maintained per these measures. The location and timing of fire abatement measures varies from year to year and are based on coordination with CAL FIRE. Currently, CDFW and CAL FIRE do not conduct prescribed fires within the SJWA.

Davis Unit (Future): Future fire management measures would include installation and maintenance of Knox boxes, a small box or safe typically mounted on a gate or pole, containing important site information only accessible to fire department personnel; installation and maintenance of signage and gates specifically designed in coordination with the CAL FIRE to aid fire responders; implementation of fuel reduction measures potentially including grazing, mowing, herbicides, prescribed fire, vegetation thinning using hand tools, and/or implementation of new fuel breaks or firebreaks; designation and maintenance of staging areas to be used by fire respondents during a fire incident; implementation of post-fire management potentially including erosion control, washing of fire retardant from unburned vegetation, and regrading and revegetation of fire damaged areas; and implementation of research measures including experimental fire control plots. These activities represent an increase in fire management practices over what is implemented currently.

Potrero Unit (Current): As described for the Davis Unit (Current), existing fire management is limited to maintenance of roads as potential fire breaks. There are approximately 22 miles of roads within the Potrero Unit currently maintained per these measures. There are currently no structures that are actively protected through implementation of fuel reduction zones.

Potrero Unit (Future): As described for the Davis Unit (Future), similar fire management practices would be implemented on the Potrero Unit, including implementation of fuel reduction zones within 100 feet of proposed structures once developed and prescribed fires.

2.3.4 Public Use Element – Staff Operations

In addition to the public use maintenance activities discussed above, staff operations would be conducted to achieve the goals outlined for the public use elements (Table 2-1), as follows:

Maintain sufficient personnel and equipment to inspect, maintain, and improve infrastructure and the equipment required to implement maintenance of infrastructure.

Provide staff to assist with special event setup and/or with cleanup at the conclusion of the event.

Continue to provide staff to dispense visitor information and respond to visitor requests at the headquarters office.

Dedicate sufficient staff resources toward coordination with public use groups including passive recreation users, hunters, hunting dog training groups, and CAL FIRE required to inform groups of management practices, rules, and regulations, and to solicit feedback regarding management of the SJWA.

Maintain personnel or contract with consultants to inspect and monitor cultural resource areas to ensure that resources are adequately protected.

Dedicate sufficient staff resources to establish and maintain communication with the agencies (see Table 2-1, Public Use Element 8: Agency Coordination), regarding facilities within and adjacent to the SJWA and the resources (e.g., water, electricity) that support management.

Maintain sufficient personnel and/or consultant contracts to implement future activities including new facilities within the Potrero Unit (visitors' center, residence, maintenance warehouse, etc.) and improved facilities within the Davis Unit (staging/parking areas, trails, interpretive signage, etc.). CDFW staff is responsible for the development of plans and specifications for construction activities and ensuring compliance with applicable local, state, and federal regulations during the planning and implementation phases of ~~newactivities.~~ new activities. This may include surveys for biological and cultural resources, public review, permitting, monitoring, and documentation.

Continue to provide staff to operate the waterfowl and pheasant hunter check-stations at the SJWA and potentially restore the waterfowl hunting opportunities at Lake Perris recreational area.

Continue to dedicate staff to provide visitor services from the headquarters office and respond expeditiously to mail and telephone recreation-related inquiries from the public. Continue to facilitate visitor use of the SJWA consistent with the wildlife conservation goals identified in the draft LMP and Table 2-1.

Continue to work closely with CAL FIRE in implementing fire abatement practices. And as needed, continue the use of the CAL FIRE Department of Corrections inmate program for activities on the SJWA.

2.3.5 Administrative Facilities – Maintenance Activities

Administrative facilities include office, equipment yard/storage, and residences used and needed by CDFW staff to operate the SJWA. Existing facilities are located on the Davis Unit, and new facilities are planned for the Potrero Unit. Further, the existing residences (double-wide trailers) within the Davis Unit will be replaced by three new manufactured homes. A single maintenance task pertaining to administrative facilities is listed below (with task numbering continued from Sections 2.3.1 and 2.3.3), followed by a summary of staff operations.

Task 9: Maintain and improve administrative buildings to facilitate management of the SJWA.

Davis Unit (Current): Administrative facilities for the SJWA are currently located at 17050 Davis Road. This headquarters area includes a 1,200-square-foot office/check-station built in 1984. The building provides administrative work space for the SJWA staff. It also functions as a year-round visitor information site. During the fall hunting seasons, the building also serves as a hunter check-station. Directly east of the office/check-station, a 4,000-square-foot shop and utility building was constructed in 1986. The utility building is partitioned with one side being used for equipment storage for a backhoe, two wheel tractors, farming implements, irrigation pumps, and general maintenance equipment. SJWA vehicles include several trucks. The utility building also includes an equipped shop area. The shop/utility building is surrounded by a 6-foot-tall chain-link fence. From time to time, when not in use, a surplus California Department of Transportation motor grader is parked within the fenced maintenance area. Diesel fuel for equipment operation is dispensed from a 1,000-gallon aboveground tank (with containment vessel) located within the maintenance compound.

Two mobile home residences, one approximately 1,200 square feet and the other approximately 1,300 square feet, are located on the slope directly behind the headquarters area. Two employees live on the SJWA and perform site security functions and ensure the area is safe and accessible to the public. A headquarters entrance gate is closed and locked each day, an hour or so after sundown, and unlocked and opened again at 7:00 a.m. The older of the two mobile home residences was purchased in 1973. The other, a 1980 Flamingo Model was purchased with the property on which it is presently located. Southern California Edison provides electrical power for

the entire facility. Telephone service is provided by a local telephone company. Three propane tanks on site provide gas for heating the residences and office/check-station. Domestic water for residences, the office/check-station, and public restrooms is obtained from a domestic well located 300 yards south of the headquarters office.

Davis Unit (Future): Recommended improvements to existing administrative facilities on the Davis Unit include replacement of the two current employee double-wide trailers, one approximately 1,200 square feet and the other approximately 1,300 square feet, with three, approximately 1,300-square-foot residences (also double-wide trailers). New buildings are anticipated to be similar to existing buildings in terms of location and size. Maintenance requirements would be reduced in the initial years following replacement/installation. Currently, bottled water is used for consumption purposes and the domestic water supply is provided by an existing well. A new domestic water supply system is not proposed.

Potrero Unit (Current): At present there are no CDFW administrative facilities on the Potrero Unit.

Potrero Unit (Future): In the future, two new residences are recommended for the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet (60 feet long and 24 feet wide) and would be served by a new domestic water system and supporting power system. The new domestic water system would be approximately 1,500 gallons. The power system would be electric with a diesel back-up if determined necessary. Currently there are abandoned structures on the site that were used in the past by Lockheed Martin. These structures will not be removed but may be restored in the future; CDFW will continue to remove any debris that could result in a public hazard (e.g., broken glass, pot holes, or other obstacles that could result in safety issues). Once new structures are installed, the same maintenance would be carried out as on Davis Unit structures.

2.3.6 Administrative Element – Staff Operations

The administrative duties necessary to operate the SJWA are largely carried out by the present on-site staff. There are currently 5 permanent staff, 1 or 2 temporary staff, and 50 volunteers that are on site throughout the year. A summary of staff operations related to administration of the SJWA is provided as follows:

Routinely maintain the interior and exterior of the existing administrative facilities located on the SJWA including the office/check-station, shop/utility building, employee residences, and the headquarters area public restrooms. Regularly inspect and perform janitorial services to ensure employee work areas and public use spaces are clean, safe, and accessible. Routinely maintain employee residences to ensure safe and healthy living spaces.

Regularly maintain and service all SJWA equipment including all vehicles, tractors, backhoe, utility vehicles, and all other maintenance equipment to ensure reliable operation. As necessary, provide employee training to ensure safe and efficient operation of all maintenance equipment and tools used on the SJWA.

Maintain sufficient support staff to perform administrative duties necessary to efficiently operate the SJWA; maintain personnel records; accomplish accounting and business services functions; administer annual budgets; implement management plans and programs; maintain data records, including information regarding biological monitoring, habitat management, public uses, and agency coordination; and provide visitor use services. When necessary, initiate and administer outside contracts for work to be performed on the SJWA.

2.4 FUTURE STAFFING AND CAPITAL OUTLAY

Currently, the SJWA is funded for five permanent positions and one temporary seasonal aid position. Due to the expanding public use, multiple habitats and wildlife management responsibilities, and with implementation of the draft LMP, the number or staff would increase as outlined in Table 2-8.

Table 2-8
Existing and Recommended Staffing Allocations for the SJWA LMP

Staff Type	Existing Staff	Recommended Future Additional Staff	Total
Permanent Positions			
Senior Fish, Wildlife and Habitat Supervisor	1	1	2
Interpreter I	—	1	1
Biologist	—	1	1
Habitat Supervisor I	1	1	2
Fish and Wildlife Technician	2	6	8
Tractor Operator/Laborer	1	1	2
Office Technician	—	1	1
Total Permanent Positions	**5**	**14**	**19**
Temporary Positions			
Seasonal Aide	2	4	6
Scientific Seasonal Aide	—	2	2
Total Temporary Positions	**2**	**6**	**8**

Section 2.5 provides information on future and planned facility enhancements for the SJWA. CDFW would allocate budgets/capital expenditures for implementation of activities within the SJWA on an annual basis. Annual budget allotments for SJWA operation and maintenance activities would require

periodic adjustment to keep pace with increasing land management and public use responsibilities. Budgets fluctuate annually and are dependent on available grant monies.

2.5 EQUIPMENT

Ongoing and future operation and maintenance activities for habitat management, public use facilities, and administrative activities would involve the use of a wide variety of equipment and infrastructure. Table 2-9 provides a list of existing equipment with the exception of the proposed bulldozer use in the future, and infrastructure anticipated to be used for LMP maintenance activities.

Table 2-9
SJWA LMP Maintenance Equipment and Infrastructure

Facilities Maintenance Activity	Equipment/Infrastructure
Vegetation Management	Tractors (John Deere 8520 and 5510)
	Mowers (flail mower or rotary mower)
Grazing	Animal feed
	Tractors John Deere 8520 and or 5510
	Fencing
Invasive Species Control/Vegetation Management	Backhoe and John Deere 8520 and or 5510 tractors
	Bulldozer is a proposed use front-Backhoe with a frontend loader
	Hauling truck/trailer
	Chainsaws
	Backpack sprayers
	Temporary fencing
	Erosion control materials including straw wattles, silt fence
Roads, Access, and Trail Infrastructure	Bulldozer is proposed for work in the future
	Backhoe and John Deere 8520 and 5510 tractors
	Split-rail fencing
	Interpretative signage
	Access barricades
	Gates
	Pipe culverts
	Levees and berms
Water Infrastructure	Pipelines
	Pumps
	Valves
	Reservoirs
	Weirs
	Flood gates
	Guzzlers
	See vegetation management and roads, access, and trail infrastructure above
Agriculture	Irrigation
	Planting using tractors, John Deere 8520 and 5510
	See vegetation management and water infrastructure above

Table 2-9
SJWA LMP Maintenance Equipment and Infrastructure

Facilities Maintenance Activity	Equipment/Infrastructure
Administrative Facilities and Equipment (Headquarters and Shop/Utility Building	Paint
	Plumbing
	Electrical Service

2.6 AGENCY USE OF THIS DOCUMENT AND PERMITS REQUIRED

CDFW is the lead state agency for CEQA compliance in evaluating the proposed SJWA LMP, a "discretionary project" under CEQA. In this role, CDFW is responsible for compliance with CEQA and for coordinating with other state and local agencies that will use this EIR in their permitting processes. Under CEQA requirements, CDFW will determine the adequacy of the Final PEIR and, if adequate, will certify the document in compliance with CEQA. After the Final PEIR is completed and certified, CDFW will make a final decision on the adoption of the draft LMP.

Implementation of management goals and tasks that require construction activities would require permits or other forms of approval from public agencies and regulatory entities prior to construction activities within the LMP study area. CDFW would obtain any permits necessary for their activities on the SJWA. Table 2-10 lists the federal, state, and local permits and authorizations that may be required prior to implementation of the draft LMP.

Table 2-10
Permits or Other Actions Required

Agency	Regulatory Trigger/Jurisdiction	Regulatory Permit Requirement
	Federal	
U.S. Fish and Wildlife Service	Endangered Species Act, 16 U.S.C. 1531–1544; Migratory Bird Treaty Act; Bald and Golden Eagle Protection Act; Fish and Wildlife Coordination Act	Section 10 Incidental Take Permits Bald and Golden Eagle Protection Act Take Permits
U.S. Army Corps of Engineers (on behalf of the U.S. Environmental Protection Agency)	Clean Water Act	Clean Water Act Section 404 Nationwide Permit or Individual permit
	State	
California Department of Fish and Wildlife	CEQA; SJWA Study Area Manage fish, wildlife, plant resources, and habitats consistent with California Endangered Species Act, California Native Plant Protection Act, and California Fish and Game Code Sections 1600-1616	(note: the State does not issue permits for State projects)

Table 2-10
Permits or Other Actions Required

Agency	Regulatory Trigger/Jurisdiction	Regulatory Permit Requirement
California Department of Toxic Substances Control	Hazardous Waste Control Act of 1972	Environmental Protection Agency (EPA) Hazardous Waste Generator ID 90 days Treatment, Storage, and Disposal Permit Hazardous Material Business Plan
California Office of Historic Preservation	Potential to affect cultural resources	National Historic Preservation Act, Section 106 Consultation
Regional Water Quality Control Board (Santa Ana Region 8)	Clean Water Act, Sections 401 and 402; Porter-Cologne Water Quality Control Act; California Water Code Division 7. Water Quality	401 Certification Stormwater Construction General Permit 2009-0009-DWQ (National Pollutant Discharge Elimination System Permit)
Local		
South Coast Air Quality Management District	South Coast Air Quality Management District Rule 403 and Rule 444	Fugitive dust control plan prior to grading Open burning/Smoke management plan
Eastern Municipal Water District	San Jacinto Wildlife Area Reclaimed Water Supply Project Agreement (CDFG and EMWD 1987)	Extension of San Jacinto Wildlife Area Reclaimed Water Supply Project Agreement

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CHAPTER 3
CUMULATIVE IMPACTS ANALYSIS METHODOLOGY

3.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines require that an Environmental Impact Report (EIR) discuss cumulative impacts of a project, taken together with other closely related past, present, and probable future projects producing related impacts. The goal of this analysis is twofold: first, to determine whether the impacts of all such projects would be cumulatively significant; and, second, to determine whether the proposed project would itself cause a "cumulatively considerable" (and thus significant) incremental contribution to any such cumulatively significant impacts. The definition of cumulatively considerable is provided in Section 15065(a)(3) of the CEQA Guidelines: "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Cumulative impacts are addressed throughout Chapter 5 of this EIR for each respective issue area. This chapter summarizes the CEQA requirements, methodology for cumulative impact analysis, and nearby projects that form the basis for the cumulative impact analysis in Chapter 5.

3.2 METHODOLOGY

CEQA Guidelines Section 15130(b) provides the following parameters relative to cumulative impact analysis: "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

To conduct a cumulative impact analysis, a cumulative impact scenario must first be developed. CEQA Guidelines Section 15130 allows for the use of two alternative methods to determine the cumulative impact scenario.

List Method: A list of past, present, and probable future projects producing related or cumulative impacts, including those projects outside the control of the lead agency.

Projection Method: A summary of projects contained in an adopted general plan or related planning document, or in a prior environmental document, that have been adopted or certified, which describe or evaluate regional or area-wide conditions contributing to the cumulative impact.

The cumulative impact analysis for the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) implementation relies on the projection method of cumulative evaluation. For resources and services that are affected by overall regional growth, the projection method is most appropriate. This includes construction and mobile source emissions for air quality, greenhouse gas emissions, traffic, and utilities/service systems (water supply, wastewater treatment, and solid waste). It also includes some biological impacts, such as general impacts to populations of key special-status species, such as Stephens' kangaroo rat (*Dipodomys stephensi*) and coastal California gnatcatcher (*Polioptila californica californica*). Section 3.2.1 provides an overview of the various planning documents that have been adopted or certified and describe or evaluate regional or area-wide conditions contributing to the overall cumulative conditions.

The cumulative impact scenario must also take into account the geographic scope of the cumulative impact analysis. The geographic area that could be affected by implementation of the draft LMP in combination with other projects varies depending on the type of environmental resource being considered. For instance, cumulative aesthetics or noise impacts are more localized, whereas cumulative air quality and greenhouse gas emissions impacts occur on a broader regional or global scale. Each technical section in Chapter 5 includes an evaluation of cumulative impacts immediately following the project evaluation. The discussion provides a more detailed explanation of the geographic scope of the cumulative analysis. Table 3-1 describes the geographic scope of the cumulative impact analysis for each environmental resource category.

Table 3-1
Geographic Scope of the Cumulative Analysis

Environmental Resource		Geographic Area
Air Quality	Toxic Air Contaminants; Odors	Immediate vicinity (i.e., within 1 mile of the SJWA)
	Construction and Mobile Sources	South Coast Air Basin
Greenhouse Gas Emissions		Global
Biological Resources		Local, within the applicable reserve features of the Western Riverside County Multiple Species Habitat Conservation Plan and the Stephens' Kangaroo Rat Habitat Conservation Plan
Cultural Resources		Immediate vicinity (i.e., generally within 1 mile of the SJWA, or the Area of Potential Effect)
Geology and Soils		Immediate vicinity (i.e., within 1 mile of the SJWA)
Hazards and Hazardous Materials		Immediate vicinity (i.e., within 1 mile of the SJWA)
Hydrology and Water Quality		Middle San Jacinto River Watershed and Lower San Jacinto Watershed
Recreation		County of Riverside
Traffic and Circulation		Local
Utilities and Service Systems		Regional, within the respective service areas of the utilities that serve the project area
Energy		Southern California Edison service area

Notes: Projections = the use of projections contained in relevant planning documents.

3.2.1 Selection of Related Projects and Plans

The SJWA is surrounded by numerous jurisdictions. The City of Beaumont lies to the north of the Potrero Unit; the City of Moreno Valley lies to the north and west of the Davis Unit; the City of Perris lies to the west and southwest of the Davis Unit; and the City of San Jacinto lies to the south of the Potrero Unit and to the southeast of the Davis Unit. Surrounding lands also include unincorporated areas of Riverside County, Bureau of Land Management (BLM) lands, and the Soboba Reservation, which lies to the southeast of the Potrero Unit. With the exception of the Badlands and the Lake Perris State Recreation Area, much of the lands surrounding the SJWA are proposed to be developed with residential communities, commercial areas, and industrial facilities. The cities and communities near the SJWA are anticipated to grow in population throughout the planning horizon of the draft LMP, with populations in some areas anticipated to nearly double between 2010 and 2035. Numerous residential, commercial, industrial, and infrastructure projects are currently under development and being proposed in the surrounding cities and communities.

Because the project that is the subject of this EIR is a land management plan, land use plans for surrounding areas are considered as part of the cumulative scenario, in addition to the related projects. The land use plans included in the cumulative analysis were chosen based on their proximity to the SJWA. Only those land use plans whose boundaries overlap, abut, or nearly abut the SJWA were included. These land use plans also help inform the cumulative analysis that uses the projections method of evaluation.

3.2.2 Related Projects and Plans

The subsections below generally describe related projects, development patterns, and related land use plans in the neighboring jurisdictions to help inform the cumulative context. All of the projects identified below are, or will be, required to undergo their own independent environmental review under CEQA. Significant adverse impacts of these projects would be required to be reduced, avoided, or minimized through the application and implementation of mitigation measures. The net effect of these mitigation measures is assumed to be a general lessening of the potential for a contribution to cumulative impacts.

Industrial/Warehouse Projects

There are several industrial areas near the SJWA that are being developed with industrial and warehouse facilities, primarily within the City of Moreno Valley and City of Perris. These projects include the World Logistics Center Specific Plan Project, and other industrial developments that are planned in an area zoned for industrial/warehouse uses (City of Moreno Valley 2015a). Some of these projects include the Indian Street Commerce Center Project, South Moreno Valley Walmart Project (commercial/retail), Moreno Valley Logistics Center,

Modular Logistics Center, ProLogis Eucalyptus Industrial Park, First Nandina Logistics Center, First Inland Logistics Center II, RPT Centerpointe West Project, and the Westridge Commerce Center Project. Within the City of Beaumont, the Beaumont Distribution Center is being proposed near the Potrero Unit (OPR 2016).

Residential Projects

A number of large-scale residential developments are being proposed in the areas surrounding the SJWA. Overall growth in the project area is captured through the projection method of evaluation, which is used for the environmental issue areas that are most affected by regional growth, such as air quality.

Infrastructure Projects

EMWD, Southern California Gas Company, Southern California Edison, and Riverside County Flood Control and Water Conservation District provide water, natural gas, electricity, and stormwater conveyance services in the SJWA, respectively. A transmission line and a gas line extend through the Davis Unit. There is an electrical substation located approximately 1 mile south of the Davis Unit, and EMWD has recycled water storage ponds approximately 4 miles south of the Davis Unit. Each of these agencies/entities conducts ongoing maintenance and periodic expansion of their facilities. Proposed EMWD projects in nearby areas include groundwater recharge, expansion of recycled water facilities, and a master plan for water infrastructure in the communities of Lakeview and Nuevo.

Open Space/Restoration Projects

A number of projects involving recreation, open space, and remedial actions have occurred or are anticipated to occur within or near the SJWA. These projects are considered related, since the draft LMP would similarly involve expansion of recreational opportunities and habitat restoration activities.

Related Land Use Plans

City of Beaumont General Plan. The majority of the Potrero Unit lies within the City of Beaumont, and the city extends to the north of the Potrero Unit. The City of Beaumont General Plan was approved in 2007. The City of Beaumont's population is anticipated to increase by 22,900 between 2008 and 2020 (from 33,600 to 56,500) and is anticipated to increase by another 22,900 between 2020 and 2035, for a total anticipated population of 79,400 by 2035 (SCAG 2012). As of the time of this writing, there were numerous projects approved and under development throughout the City of Beaumont, which would amount to a total of approximately 11,300 new residential dwelling units and 287 acres of new commercial/industrial area upon

completion. Projects that are approved but not yet under construction, and projects that are still undergoing the approval process, total approximately 2,970 residential dwelling units and 170 acres of commercial/ industrial projects (City of Beaumont 2016). Land use designations near the Potrero Unit consist primarily of rural residential (City of Beaumont 2007).

City of Moreno Valley General Plan. The northwestern corner of the Davis Unit lies within the City of Moreno Valley, and the city extends to the north and northwest of the Davis Unit and the Lake Perris State Recreation Area. The City of Moreno Valley General Plan was adopted in 2006 and has a planning horizon of 2030. In 2000, the city's population was 142,655, and there were 39,264 households. By 2030, the city anticipates that its population would be approximately 238,703 and that there would be 71,619 households (City of Moreno Valley 2015b). The City of Moreno Valley has designated areas near the Davis Unit for business park/light industrial use. Other nearby land use designations include Open Space, Rural Residential, Residential, and Commercial (City of Moreno Valley 2014).

City of Perris General Plan 2030. The City of Perris borders the Davis Unit, Subunit D14, and extends to the west and southwest of this subunit. The City of Perris General Plan was certified in 2005 and has a planning horizon of 2030. Implementation of the plan would result in development of vacant lands in the city, and the redevelopment of existing sites in the downtown area. Development of vacant lands consistent with the General Plan is projected to result in approximately 13,700 additional residential dwelling units, approximately 1.9 million additional square feet of commercial uses, and approximately 7 million additional square feet of industrial uses (City of Perris 2005). Land use designations near Subunit D14 primarily consist of residential and a variety of specific plans for residential development, most of which have been implemented and constructed (City of Perris 2013).

San Jacinto General Plan. The City of San Jacinto does not directly border the SJWA. However, it is located approximately 0.5 mile south of the Potrero Unit and approximately 1.3 miles from the Davis Unit. The City of San Jacinto General Plan was adopted in 2006. Between 2000 and 2010, the population of the City of San Jacinto increased by 86%, from 23,779 to 44,199. The population of San Jacinto is projected to increase by 88% by 2035, to over 83,000 (RCTC 2015a). The housing element of the City of San Jacinto General Plan identifies the need for 2,433 new housing units within San Jacinto between 2014 and 2021 to accommodate future growth (City of San Jacinto 2013a). The areas of San Jacinto that are closest to the Davis Unit are designated for open space, residential, and the Gateway Area Specific Plan (City of San Jacinto 2013b). The Gateway Area Specific Plan would entail 1,700 acres of mixed use development in northwestern San Jacinto, near State Route (SR) 79 and the Ramona Expressway corridor. The anticipated land uses in this area would consist of regional commercial, office park, business park, and residential (City of San Jacinto 2006). Development proposed under the Gateway Area Specific Plan has not been constructed to date.

Riverside County General Plan. The Riverside County General Plan is the land use plan that governs the unincorporated areas that surround the SJWA. The unincorporated communities of Lakeview and Nuevo lie to the south of the Davis Unit, and unincorporated rural and agricultural lands lie to the north and east of the Davis Unit. The Potrero Unit is surrounded by unincorporated areas to the east, south, and north. The Riverside County General Plan was adopted in 2003 and updated in 2008. It provides policy direction and permitted land use intensities for future development in the unincorporated areas in the County. Much of the unincorporated part of Riverside County is divided into 19 area plans. The purpose of these area plans is to provide more detailed land use and policy direction regarding local issues such as land use, circulation, open space, and other topical areas (RCTC 2015a). The area plans that border and overlap the SJWA are Mead Valley, Lakeview/Nuevo, San Jacinto Valley, The Pass, Reche Canyon/Badlands, and the Riverside Extended Mountain Area Plan. Surrounding land use designations consist of Residential and Agriculture (south of the Davis Unit); Open Space (north of the Davis Unit); Rural Mountainous (northwest of the Potrero Unit); Public Facilities, Conservation Habitat, and Conservation (west of the Potrero Unit); Conservation (south of the Potrero Unit); and, Agriculture, Conservation, and Open Space Rural (east of the Potrero Unit) (County of Riverside 2016). The County anticipates that population would increase from 2.1 million in 2010 to 3.4 in 2035. The County anticipates that the number of housing units would increase from 798,347 in 2010 to 1,250,549 in 2035 (County of Riverside 2015a).

Revised South Coast Resource Management Plan. This plan governs the BLM lands that lie to the east of the Potrero Unit. The South Coast Resource Management Plan provides guidance for the management of approximately 300,000 acres of BLM-administered public lands in portions of five Southern California counties: San Diego, Riverside, San Bernardino, Orange, and Los Angeles. The current adopted plan was approved in 1994, and the 2011 revised version is currently undergoing environmental review. The South Coast Resource Management Plan sets forth seven primary management objectives for BLM lands in the region: (1) provide protection and enhancement for biological values; (2) provide for effective management and protection of cultural and paleontological sites and values; (3) identify, maintain, and enhance recreational opportunities, responsive to local needs and public visitation to the area; (4) work with local community leadership and law enforcement agencies to provide for safe visits to public land and to discourage illegal uses; (5) provide for community infrastructure needs to support the residents and economy of the region, with emphasis on energy, communications, and mineral materials sites; (6) coordinate management activities along the border with U.S. and Mexican agencies; and (7) provide for effective fire protection, fire prevention and vegetation management in cooperation with local communities, Fire Safe Councils, and California Department of Forestry and Fire Protection (BLM 2011a). The Potrero Area of Environmental Concern (ACEC) overlaps with the Potrero Unit. As described in Appendix H of the Revised South Coast Resource Management Plan, the Potrero ACEC includes 1,419 acres of BLM public

land, with approximately 12,000 acres of private land proposed for acquisition. Since 1994, most of the land within the Potrero ACEC proposed for acquisition by BLM has been purchased or acquired by the California Department of Fish and Wildlife (BLM 2011b).

Western Riverside County Multiple Species Habitat Conservation Plan. The Western Riverside County MSHCP was created in 2004 and covers 1.26 million acres, or about 2,000 square miles, in western Riverside County, including lands within the SJWA. The MSHCP has the goal of setting aside 40%, or 500,000 acres, for preservation by 2029. The goal is to form a self-sustaining habitat reserve in western Riverside County that protects, recovers, and sustains 146 Covered Species. The Davis Unit is within the Existing Core H of the MSHCP, which includes Lake Perris State Recreation Area, while the Potrero Unit is within the Proposed Core 3 (Badlands/Potrero) of the MSHCP.

Stephens' Kangaroo Rat Habitat Conservation Plan. The Stephen's Kangaroo Rat HCP (SKR HCP) was initially prepared as a Short-Term HCP. This HCP, approved in August 1990, was intended as an interim conservation program designed to afford protection to the SKR while a plan providing for the establishment of permanent preserves could be developed. A longer-term SKR HCP was approved in 1996. The SJWA is located within the SKR HCP area.

The Stephens' Kangaroo Rat Habitat Management Plan (HMP) provides a plan for effective management of the SKR populations and habitat on land owned by the Riverside County Habitat Conservation Agency (RCHCA). The plan represents current management practices for Stephens' kangaroo rat, compliant with the SKR HCP and the MSHCP. The HMP includes a summary evaluation of management strategies and found, in the context of the SJWA LMP Study Area, that the most appropriate techniques for management of Stephens' kangaroo rat habitat include grazing, burning, and mowing. CDFW is a permittee in the SKR HCP and as such, management of Stephens' kangaroo rat on the SJWA must be consistent with the SKR HCP and HMP.

Santa Ana Regional Water Quality Control Board (RWQCB) Basin Plan. The Santa Ana RWQCB Basin Plan establishes water quality standards for the ground and surface waters of the region. The 1995 Water Quality Control Plan for the Santa Ana River Basin was updated in February 2008 and June 2011. The Santa Ana Basin Plan includes parts of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. Specifically, the Santa Ana Regions includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainage areas. The SJWA is located within the San Jacinto River watershed. The Basin Plan includes an implementation plan describing the actions by the Regional Board and others that are necessary to achieve and maintain the water quality standards in this region.

Potrero Canyon Remedial Action Plan. The Potrero Remedial Action Plan that was prepared by Tetra Tech Inc. for the Lockheed Martin Corporation was approved by the Department of Toxic and Substance Control in July 2016. According to a Consent Order issued by Department of Toxic and Substance Control Lockheed Martin is required to investigate and appropriately remediate any releases or threatened releases of hazardous substances to the air, soil, surface water, and groundwater at or from the site. The purpose of Remedial Action Plan is to summarize the environmental conditions in Potrero Canyon and use technical data to explain the selection of the remedial actions that will meet the objectives of protecting public health and the environment. In addition, the Remedial Action Plan presents the preliminary remedial design, as well as regulatory, operational, and other requirements of the selected remedy.

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CHAPTER 4
ENVIRONMENTAL SETTING

This chapter provides a description of the existing site characteristics (Section 4.1) and information about the surrounding land uses (Section 4.2). The Land Management Plan's (LMP's) existing agreements, leases, and easements are outlined in Section 4.3. Section 4.4, also provides an overview of the environmental sensitivities present on and around the San Jacinto Wildlife Area (SJWA). The land use planning context relevant to the draft SJWA LMP, both federal and on the local level are provided in Section 4.5.

4.1 EXISTING SITE CHARACTERISTICS

4.1.1 Overview

The SJWA is located in the San Jacinto Valley, an inland coastal valley of Southern California situated south of the east–west trending Transverse Mountain range and west of the north–south trending Peninsular Mountain range (Figure 4-1). From the higher elevations on the SJWA, the San Gabriel and San Bernardino mountains, including San Gorgonio Peak, are viewed to the north. Mount San Jacinto, located in the most northern section of the Peninsular Range, is visible to the east. The more low-lying Santa Ana Mountains lie to the west and separate the inland San Jacinto Valley from the Pacific Ocean. Coastal influences largely affect the San Jacinto Valley as a result of this geographic setting. To the northeast of the SJWA, the San Gorgonio Pass allows the valley to be influenced by the adjacent Colorado Desert region. The resultant mix of coastal and desert influences provides for rich biodiversity.

The SJWA consists of three noncontiguous land areas: the Davis Unit, with its own two noncontiguous land areas, and the Potrero Unit. The Davis Unit is located in the San Jacinto Valley, approximately 18 miles southeast of downtown Riverside. Lake Perris State Recreation Area shares a boundary along the western edge of the Davis Unit's larger land area (Figure 4-2). A small portion of the northern edge of the Davis Unit is located within the incorporated city of Moreno Valley, which lies to the north and west of the Davis Unit. The cities of Hemet and San Jacinto are located to the southeast, and the unincorporated rural communities of Lakeview and Nuevo are located south of the Davis Unit. Located east of the Davis Unit and Gilman Springs Road, the vacant and rugged Badlands area includes public lands managed by the Bureau of Land Management (BLM).

The Potrero Unit is located within the foothills of the San Jacinto Mountains, approximately 3 miles east of the Davis Unit. The vast majority of the Potrero Unit is located within the City of Beaumont, with a portion on the western edge located in unincorporated Riverside County. The Potrero Unit is bordered on the east by vacant BLM land and to the southeast by the Soboba Indian

Reservation. The unit is located approximately 3 miles south of Interstate 10 (I-10), and portions of its western boundary are defined by State Route 79 (SR-79) (Lamb Canyon Road).

The San Jacinto Fault zone is a dominant geologic feature within the San Jacinto Valley. The fault is located at the base of the badlands and traverses the northeast edge of the valley between the two units of the SJWA. The San Jacinto Fault has shown significant movement in historic times. In 1923, an earthquake measuring 6.3 on the Richter scale struck the area. A second fault, the Casa Lorna, lies in the center of the San Jacinto Valley and extends as far north as Mystic Lake bed. The two faults run parallel to one another with the Casa Lorna Fault crossing the San Jacinto River channel approximately 3 miles east of Davis Road.

Upland areas within the Davis Unit are dominated by the Bernasconi Hills to the west and a cluster of hills located in the southeast section of the Davis Unit. At the base of these hills are alluvial slopes that extend to the historic San Jacinto River floodplain (1,430 feet) and Mystic Lake. The floodplain is a deep alluvial mantle known as the Paloma surface. The alluvium varies in depth from 300 to 600 feet, except in the eastern portion of the Davis Unit where bedrock can be as low as 10,000 feet under the valley floor. This difference is a consequence of seismic activity resulting in the formation of a "pull-apart valley."

Major geologic features in the Potrero Unit include Potrero Creek, which flows in a southwesterly direction toward the San Jacinto River, and unnamed tributaries to Potrero Creek. Potrero Creek flows through Massacre Canyon, a 500-feet-deep canyon on the southwestern edge of the Potrero Unit. Gilman Hot Springs, an active hot springs that lies along the San Jacinto Fault and is heated by volcanic activity (Singer 2008), lies 0.25 mile to the south of the Potrero Unit. The foothills of the San Jacinto Mountains comprise the upland portions of the Potrero Unit with areas north of Potrero Creek, as well as tributary valleys to the south of the creek, and are mainly comprised of non-marine Plio-Pleistocene sedimentary rock, whereas hillside areas south of Potrero Creek are comprised of granitic and metamorphic formations.

4.1.2 Current and Previous Land Use

The regional ecological setting frames the breakdown of management units. While the entire SJWA is within the Southern California Mountain and Valley Ecological Section, the Davis Unit is within the Perris Valley and Hills subsection, and the Potrero Unit is in the San Jacinto Foothills–Cahuilla Mountains subsection (see Figure 2-4, Regional Ecological Setting, in Chapter 2, Project Description). The SJWA is further divided into 26 management subunits by the California Department of Fish and Wildlife (CDFW) based on geographic features and management objectives (Figure 2-5). Management subunits in the Davis Unit are labeled D1 through D15. Management subunits in the Potrero Unit are labeled P1 through P11 (Table 2-2, in Chapter 2, Project Description).

Figure 4-1 Existing Site Characteristics – Regional Overview

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Figure 4-2 Existing Site Characteristics – Vicinity Overview

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The management setting includes all existing management efforts occurring on the SJWA, as well as existing agreements and easements that influence management decisions. Also included is a discussion of existing management efforts related to remnant hazards on the Potrero Unit due to past land uses on that site. To discuss the diverse array of management activities, this section is organized as follows:

- Management Subunits
- Agriculture
- Public Recreation

In addition, previous land uses are discussed below in Section 4.1.2.4.

4.1.2.1 Management Subunits

An arrangement of management subunits has been created for the SJWA LMP to more easily reference and manage the diverse array of resources and management activities on the SJWA. These management subunits are unique to the SJWA LMP and therefore will not be found in older documents related to SJWA, but will be used in the future by staff at SJWA. Management subunits and named roadways are delineated on Figures 4-3A and 4-3B, Ownership and Existing Roads. The following is a description of these management subunits in terms of geographic features, roads, general plant community cover types, intensive public uses, particular concentrations of special-status species and cultural resources. Additional detail is provided regarding all of these subjects in Chapter 2 (Project Description) and Chapter 5 (Impacts Analysis).

Davis Unit

Management Subunit D1

This subunit is in the north–central portion of the Davis Unit and provides access to the SJWA from the north via Davis Road at Theodore Street and Alessandro Boulevard. Davis Road is an all-purpose roadway that functions as a road and multi-use trail. West of Davis Road, hillsides support native shrub communities, and public use is currently limited to hiking and seasonal small game hunting. Also west of Davis Road are gentle slopes supporting annual grassland that is actively managed for and occupied by Stephens' kangaroo rat (SKR; *Dipodomys stephensi*). East of Davis Road within management Subunit D1, former agricultural lands support annual grassland with a substantial proportion of ruderal species.

Native upland Riversidian sage scrub is limited to an approximately 18-acre restoration area where the habitat was reestablished. Species recorded in this area include burrowing owl (*Athene cunicularia*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), white-tailed kite (*Elanus*

leucurus), horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), red-tailed hawk (*Buteo jamaicensis*), and deer mouse (*Peromyscus maniculatus*). Similar to the west side of Davis Road, this area supports hiking and seasonal small game hunting.

Management Subunit D2

This subunit extends along the northern boundary of the Davis Unit from Davis Road east to Gilman Springs Road. Lands consist of former agricultural fields; the western half of the subunit (approximately 288 acres) was formerly leased for agricultural production. Agricultural and forage crops in this subunit could support nesting birds in adjacent wetlands in D4. Within the eastern area, a small ephemeral drainage exists running from north to south. Sheet flow across the site from the north provides seasonal water to Mystic Lake. Habitat conditions are generally poor, with high broad-leaved non-native forb cover (e.g., mustard) across the site; however, a historical (early 1990s) SKR occurrence is recorded in the eastern portion of this subarea. Other species records indicate use by raptors (ferruginous hawk (*Buteo regalis*) and northern harrier (*Circus cyaneus*)) and grassland species such as horned lark, loggerhead shrike, and western meadowlark (*Sturnella neglecta*). No other significant biological resources are recorded in this area. Although the area is open to hiking, there are no formal trails in this area. In addition, seasonal small game hunting occurs in this area.

Management Subunit D3

Management subunit D3 includes Mystic Lake in the eastern portion of the Davis Unit. The lake dominates the area functioning either as open water or dried ~~lake bed~~ lakebed depending on rain patterns over the previous few years. Other general vegetation communities surrounding the lake in the subunit include annual grassland, alkali ephemeral wetlands, and former agricultural lands (in the south only). The northwestern corner of the subunit supports an approximately 30-acre riparian restoration area consisting of large willow trees supported partially by irrigation flooding.

Lands in the northern part of the subunit were purchased specifically as SKR mitigation and support a historical (early 1990s) occurrence record of the species. Two occurrences of San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) (federally listed endangered plant) and Coulter's goldfields (a common alkali plant species) are recorded both on the western and northeastern edges of the lake. An incidental observation of bald eagle (*Haliaeetus leucocephalus*) is recorded in the southern part of Mystic Lake. Other species recorded include typical grassland bird species as noted for Subunit D2, and the tricolored blackbird.

Public uses in Subunit D3 include small game hunting across the north edge of the lake, and open hiking throughout the subunit. When not open for hunting, the area functions as a large closed zone, that include game species associated with hunting in other portions of the SJWA.

Figure 4-3A Ownership and Existing Roads – Davis Unit

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Figure 4-3B Ownership and Existing Roads – Potrero Unit

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Management Subunit D4

Set in the central portion of the Davis Unit, east of Davis Road and west of Mystic Lake, management Subunit D4 includes the principal waterfowl hunting facilities within the CDFW-owned portion of the SJWA. The area is accessed from West Contour Road (also referred to as Headquarters' Road), which run east from Davis Road.

The northernmost waterfowl area includes multiple blinds. This northern waterfowl area is created by a series of basins supporting a mosaic of open water, marsh, and riparian habitats. The basins are flooded and drained seasonally by CDFW using reclaimed water.

Between the northern and central hunting areas is part of the historic path of the San Jacinto River, currently supporting annual grassland and alkali scrub communities with no public facilities other than trail access on two existing roads that allow access from north to south in this area. CDFW has two established agricultural food plot areas in this location where crops are grown and left in place as forage for both game and non-game waterfowl species.

The central waterfowl area includes Ponds 1–4 and hunt areas A–D, G1–G2, and U–Z. Ponds 1–4 represent the original waterfowl facilities on the property and are in a rectangular configuration, while the other waterfowl areas are basins surrounding the four original ponds. The newest waterfowl ponds, F1–F7 and W1–W12, are south of West Contour Road/Headquarters' Road.

These waterfowl areas are utilized for a variety of public recreation activities including waterfowl hunting, bird watching, mountain biking, equestrian riding, and photography. An approximately 5-mile auto-tour loop is also available from the SJWA Headquarters around the subunit.

Besides managed open water, riparian, and marsh habitats within the waterfowl ponds/basins, the subunit supports grasslands and alkali scrub habitats between the managed ponds/basins. Disturbed uplands in the area include dirt roads and cleared parking areas.

The subunit has two records of state/federally listed species; an occurrence of least Bell's vireo *(Vireo bellii pusillus)* in the northeast corner of the subunit and an occurrence of San Jacinto Valley crownscale in the southwest corner of the subunit. Wetland and riparian species including downy woodpecker (*Picoides pubescens*), yellow warbler (*Dendroica petechia*), tree swallow (*Tachycineta bicolor*), black-crowned night-heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritus*), red-necked phalarope (*Phalaropus lobatus*), red-winged blackbird (*Agelaius phoeniceus*), savannah sparrow (*Passerculus sandwichensis*), tricolored blackbird (*Agelaius tricolor*), and white-faced ibis (*Plegadis chihi*) are recorded in the subunit. Raptors detected in the area include Cooper's hawk (*Accipiter cooperii*), white-tailed kite, northern harrier, and burrowing owl. Alkali plant species include Coulter's goldfields, smooth tarplant

(*Centromadia pungens* ssp. *laevis*), and vernal barley (*Hordeum intercedens*). Most species were in the northern, central, and southern portions of the subunit, outside of the waterfowl ponds.

Management Subunit D4 also contains an existing horse ranch that is a private in-holding of the SJWA occupying the western portion of the subunit. The horse ranch is a fully developed property with several structures and no extensive native habitat.

Management Subunit D5

This subunit includes disjointed northern and southern areas both bordering Gilman Springs Road in the east. The northern area is a small hilltop slightly raised above the eastern shore of Mystic Lake, while the southern area wraps around the southern edge of Mystic Lake and extends to the southeastern boundary of the Davis Unit along Bridge Street. The two areas are separated by an existing private dairy farm that is neither part of the SJWA nor a part of the draft LMP study area. Both northern and southern areas within the subunit are former agricultural areas; however, structures are limited to an abandoned concrete pad adjacent to Gilman Springs Road and a larger rectangular disturbance area both in the northern areas of the subunit, along a road that extends from Gilman Springs Road in the northeast toward Mystic Lake in the southwest.

No public facilities are currently located in this subunit. Upland small game hunting is allowed within the entire subunit. The entire subunit is open to hiking although trails are limited to an existing dirt road that parallels Bridge Street.

Existing vegetation consists mostly of annual grassland; however, some alkali wetland communities occur in the extreme northern and southern portions of the subunit and some riparian habitat exists along Gilman Springs Road in the northern portion of the subunit that are proposed to be managed resources under the draft LMP. SKR has been observed in the northern portion of this subunit. Other species recorded in this area are typical of grassland or are likely observations of birds that utilize Mystic Lake, including Bullock's oriole (*Icterus bullockii*), horned lark, loggerhead shrike, American avocet (*Recurvirostra americana*), American white pelican (*Pelecanus erythrorhynchos*), black-necked stilt (*Himantopus mexicanus*), great egret (*Ardea alba*), and savannah sparrow.

Management Subunit D6

This management subunit runs along the western boundary of the main Davis Unit, west of Davis Road at the foothills of the Bernasconi Hills. This area supports native upland communities (mainly coastal sage scrub and annual non-native grassland) and is seasonally open to small game hunting facilitated by several existing guzzlers located at the base of the hills. The area is open to hiking year-round.

SKR occurs in grasslands at the base of the hills in the northern portion of the subunit. California gnatcatcher (*Polioptila californica*) is the only other state or federally listed species recorded in the south-central portion of the subunit. Other species in the area are typical of coastal sage scrub and grassland habitats including American kestrel (*Falco sparverius*), Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*), canyon wren (*Catherpes mexicanus*), rock wren (*Salpinctes obsoletus*), rufous-crowned sparrow (*Aimophila ruficeps*), sage sparrow (*Amphispiza belli*), white-crowned sparrow (*Zonotrichia leucophrys*), and game species such as California quail (*Callipepla californica*) and ring-necked pheasant (*Phasianus colchicus*). Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) has been trapped in this area. Several raptors and wetland birds have been detected, presumably flying overhead and potentially using habitats throughout the area and not necessarily just within the subunit; these include Cooper's hawk, great horned owl (*Bubo virginianus*), sharp-shinned hawk (*Accipiter striatus*), golden eagle (*Aquila chrysaetos*), red-tailed hawk, turkey vulture (*Cathartes aura*), common yellowthroat (*Geothlypis trichas*), great blue heron (*Ardea herodias*), red-winged blackbird, and savannah sparrow.

Management Subunit D7

Management Subunit D7 occupies the central portion of the Davis Unit, following the historic San Jacinto River channel. East of Davis Road, the subunit is narrowly defined along the channel that still supports native alkali and riparian habitat. A manufactured pond is located immediately south of West Contour Road/Headquarters' Road; it is not open to hunting but rather featured as a brood pond and wildlife viewing area. West of Davis Road, the subunit is more broadly defined but still includes alkali and riparian habitat along the historic San Jacinto River channel. In the adjacent uplands are annual grasslands and alkali scrub habitats; west of the river channel the grasslands covering approximately 20% of the area are utilized by CDFW for planting and non-irrigated production of grain/food crops mainly for upland game; and east of the river channel the land is generally unused with the exception of a 30-acre alkali habitat area (shown in Figure 5.3-2A2 in Section 5.3, Biological Resources), adjacent to Davis Road as well as a narrow strip of land (approximately 10 feet wide) that is cultivated for upland grain/food crops. This alkali area was restored approximately 12 years ago but not as part of a LMP formal alkali management activity.

The portion of the subunit west of Davis Road is open to small game hunting during the hunting seasons and the entire subunit is open to hiking, bird watching, equestrian use, and other forms of recreation throughout the year. Existing trails occur along a dirt road on the western boundary of the subunit and a short secondary road extending from Davis Road.

San Jacinto Valley crownscale and spreading navarretia (*Navarretia fossalis*) (federally listed threatened) are recorded both east and west of Davis Road where the San Jacinto River crosses Davis Road, and in the southern portion of the subunit. Thread-leaved brodiaea (*Brodiaea filifolia*)

(state-listed endangered/federally listed threatened) is also recorded in the southern portion of the subunit. This area was originally purchased as mitigation for the Metropolitan Water District Inland Feeder Pipeline project for the thread-leaved brodiaea and is also federally designated critical habitat for this species. Other alkali plants recorded in these areas include Coulter's goldfields, smooth tarplant, south coast saltscale (*Atriplex pacifica*), Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*), and vernal barley.

Numerous riparian wildlife species are recorded in this subunit including black-headed grosbeak (*Pheucticus melanocephalus*), blue grosbeak (*Guiraca caerulea*), Bullock's oriole, Cassin's kingbird (*Tyrannus vociferans*), western wood-pewee (*Contopus sordidulus*), and yellow warbler. Upland species recorded in the area are typical of the SJWA, including burrowing owl, Bewick's wren, horned lark, and loggerhead shrike. Several wetlands species are also recorded in the area including belted kingfisher (*Ceryle alcyon*), black-crowned night-heron, Brewer's blackbird (*Euphagus cyanocephalus*), common gallinule (*Gallinula galeata*), marsh wren (*Cistothorus palustris*), great blue heron, tricolored blackbird, and white-faced ibis. Game species recorded in this area include California quail, ring-necked pheasant, American coot (*Fulica americana*), and mallard (*Anas platyrhynchos*).

Management Subunit D8

This subunit consists of upland hills and the Headquarter facilities. The upland hills are largely closed to hunting except for special events, but the entire area can be accessed for hiking and supports upland scrub communities. The Headquarter facilities include the main office, residential housing, and garage/yard maintenance areas.

Species recorded in this area include San Jacinto Valley crownscale and Coulter's goldfields, both of which are associated with alkali scrub habitat located in the adjacent Subunit D4 (northern edge of D8). SKR occupies grasslands that wrap around the base of the hill within the subunit. Western spadefoot toads (*Spea hammondi*) are recorded in the hills in the western portion of the subunit. Other species records are typical for uplands in the SJWA including burrowing owl, loggerhead shrike, red-tailed hawk, and California quail.

Management Subunit D9

Management Subunit D9 is completely on private lands but represents part of the SJWA through existing easements with the two private land owners, Ramona Hunt Club in the north and Mystic Lake Duck Club in the south (see Figure 4-3A, Ownership and Existing Roads, for location of easements). Access to the two areas is from Davis Road along both the West Contour Road and South Contour Road. Subunit D9 is primarily occupied by waterfowl ponds, with the exception of a narrow sliver of disturbed land along the northern boundary.

San Jacinto Valley crownscale is recorded from 1995 in a waterfowl pond in the south-central portion of Subunit D9. Other alkali species have been recorded more recently in and around pond areas including Coulter's goldfields and vernal barley. Burrowing owl, golden eagle, loggerhead shrike, turkey vulture, and northern harrier have been recorded along the eastern boundary of the subunit.

Management Subunit D10

Management Subunit D10 is southwest of Mystic Lake and includes the Ramona Hunt Club, 21 Gun Club, and Four Winds Pheasant Club. Much of the lands within this subunit are privately owned (21 Gun Club, and Four Winds Pheasant Club), with the exception of the Ramona Hunt Club, and represent potential easement or acquisition areas. Access is through Ramona Hunt and Mystic Lake Duck Clubs from the north or from Bridge Street to the south. Lands throughout this area are largely disturbed with waterfowl ponds at Ramona Hunt Club and 21 Gun Club and food crops in Four Winds Pheasant Club. Adjacent areas mostly support annual grassland or other disturbed vegetation, with the exception of the eastern boundary of the management subunit that supports alkali ephemeral wetland communities.

San Jacinto Valley crownscale is recorded in the west–central portion of the subunit. Smooth tarplant is recorded the southern portion of the subunit. Burrowing owl is recorded in the northern portion of the subunit. Tricolored blackbirds were also documented on this Subunit.

Management Subunit D11

This subunit includes the southwestern shore of Mystic Lake and historic agricultural fields between Mystic Lake and Bridge Street. The area is comprised of disturbed grasslands and forb-dominated habitat with the exception of an approximately 8-acre rectangular reservoir in the west–central portion of the subunit. The area is open to small game hunting as well as hiking and other passive recreation. Species recorded in the area are typical for open grassland/agricultural habitats including peregrine falcon (*Falco mexicanus*), loggerhead shrike, northern harrier, Swainson's hawk (*Buteo swainsoni*), and song sparrow (*Melospiza melodia*). This Subunit is known to support nesting Tricolored blackbirds.

Management Subunit D12

This subunit includes two prominent peaks rising approximately 400 feet immediately east of Davis Road. The subunit supports small game hunting and upland scrub communities, with some annual grassland in the lower reaches. Ramona and Mystic Hunt clubs have facilities in the northwestern portion of Subunit D12. The area is open to small game hunting as well as hiking and other passive recreation. Species recorded in the area are typical for sage scrub and grassland communities but also includes species that likely were observed from high points in Subunit D12 but utilizing lower,

wetlands portions on the SJWA. These species include Cooper's hawk, Nuttall's woodpecker (*Picoides nuttallii*), spotted towhee (*Pipilo maculatus*), Bewick's wren, canyon wren, ferruginous hawk, greater roadrunner (*Geococcyx californianus*), horned lark, rufous-crowned sparrow, western bluebird (*Sialia mexicana*), American badger (*Taxidea taxus*), common yellowthroat, red-winged blackbird, and tricolored blackbird. Game species recorded in the subunit include California quail, ring-necked pheasant, American coot, and mallard.

Management Subunit D13

This subunit occurs in the southern portion of the Davis Unit, east of Davis Road, and includes the current San Jacinto River channel and historic agricultural fields to the north and south of the channel. These former fields currently support annual grassland and alkali ephemeral wetlands. Historic waterfowl ponds occur north of the river channel. Fields are seasonally flooded south of the river channel to support additional wetlands and are used as an upland and wetland hunting dog-training area. Access to the area is via South Contour Road in the north and Marvin Road in the south.

San Jacinto Valley crownscale, spreading navarretia, and thread-leaved brodiaea are recorded at several locations in this subunit, mostly along the north border of the subunit (brodiaea is only located in the western portion); San Jacinto Valley crownscale is also recorded in the southern portion of the subunit. Federally designated critical habitat for thread-leaved brodiaea is located in this area. Other alkali species recorded in this area include Coulter's goldfields, smooth tarplant, south coast saltscale, and vernal barley.

SKR is recorded in the north–central portion of the subunit. Other species recorded in the subunit include white-tailed kite, burrowing owl, horned lark, and white-faced ibis.

Management Subunit D14

Subunit D14 is the disjointed western portion of the Davis Unit, west of Lake Perris Dam. The area is bounded by Ramona Expressway to the south and west. Within the area, there is a mosaic of dirt roads, upland scrub, grassland, and isolated riparian habitats, and a maintenance yard area used by CDFW unstaffed lands crew. The southern portion of the subunit has large hills, but the remainder of the subunit is relatively flat with the exception of rock outcrops in the north–central portion of the subunit. Currently, there are no hunting, agricultural leases, or other activities in the subunit.

SKR and California gnatcatcher are recorded in this subunit. SKR occupies the northern portion of the subunit and gnatcatcher has been recorded in the central portion of the subunit. Other species recorded in this area are typical given the mix of habitats present and include blue grosbeak, Bullock's oriole, white-tailed kite, Bewick's wren, canyon wren, phainopepla (*Phainopepla nitens*), rufous-crowned sparrow, Dulzura kangaroo rat (*Dipodomys simulans*), San Diego black-

tailed jackrabbit (*Lepus californicus bennettii*), common yellowthroat, double-crested cormorant, and great blue heron.

Management Subunit D15

This subunit is primarily SKR habitat consisting of gently sloped grasslands at the foot of the Bernasconi Hills and west of the San Jacinto River. The area is accessed by West Contour Road. The area is open to seasonal upland small game hunting and has a small network of dirt roads that offer access throughout the subunit for passive trail use (i.e., hiking, walking, running, bird watching) and active trail use (i.e. non-motorized vehicles, cycling, equestrian riding). Active trail use is appropriate on the designated roads and pathways. ~~hiking, mountain biking, equestrian use, and other recreational activities that are available year around.~~

In addition to SKR, the area has records of Los Angeles pocket mouse, cactus mouse (*Peromyscus eremicus*), deer mouse, Dulzura kangaroo rat, and San Diego desert woodrat (*Neotoma lepida intermedia*). Bird species recorded in the area include sharp-shinned hawk, burrowing owl, grasshopper sparrow (*Ammodramus savannarum*), horned lark, loggerhead shrike, rock wren, rufous-crowned sparrow, common yellow throat, red-winged blackbird, and song sparrow. Western spadefoot toad ~~i~~was recorded in the southern portion of the subunit.

Potrero Unit

Management Subunit P1

This subunit is on the western edge of the site including the small portion of the Potrero Unit that is north of Lamb Canyon Road. The Main Road defines the southern boundary of the subunit. This area supports upland scrub communities and annual grasslands on relatively gentle slopes. Species recorded in this area are typical of upland scrub and grassland communities and include Bewick's wren, California towhee (*Pipilo crissalis*), horned lark, rock wren, rufous-crowned sparrow, sage sparrow, western meadowlark, and white-crowned sparrow. Golden eagle has been recorded in the southeastern corner of the subunit.

Management Subunit P2

This subunit is directly east of Subunit P1, but extends south of the Main Road to include Potrero Canyon. Hills in this area are more readily erodible, resulting in deep gullies generally running from north to south. The North Loop Road defines part of the eastern boundary of this subunit and bisects the subunit before connecting back to the Main Road. North of the Main Road, in the eastern portion of the subunit, two abandoned Lockheed Martin Corporation (LMC) facilities exist within this subunit. The westernmost facility, which partially extends into Subunit P4, consists of an approximately 0.5-acre concrete parking area and a single bunker-style building in the hillside.

The second facility, proceeding east, is a brick building shell with no remnant interior structure.

Vegetation communities in this subunit predominantly are upland scrub types but also include some grasslands, riparian, and chaparral in the north. South of the Main Road, Potrero Canyon supports extensive riparian communities adjacent to grasslands in the lower hills and upland scrub in the upper hills.

SKR is recorded in the east and central portions of this subunit, north of Potrero Creek. Least Bell's vireo is recorded from Potrero Creek in the central portion of the subunit. Other species include typical upland birds such as Bewick's wren, dark-eyed junco (*Junco hyemalis*), Lawrence's goldfinch (*Carduelis lawrencei*), grasshopper sparrow, oak titmouse (*Baeolophus inornatus*), rufous-crowned sparrow, western bluebird, and wrentit (*Chamaea fasciata*), and riparian and wetland species such as (barn owl (*Tyto alba*), blue grosbeak, Cassin's kingbird, northern flicker (*Colaptes auratus*), yellow warbler, Brewer's blackbird, common yellowthroat, and song sparrow. Englemann oak (*Quercus engelmannii*) has been recorded in a tributary to Potrero Creek in the central part of the subunit.

Management Subunit P3

This subunit, directly east of Subunit P2, includes the historical landing strip and the most prominent peak in the north portion of the Potrero Unit. Again, the Main Road defines the southern boundary of the subunit, and communities within the subunit are mainly upland scrub but with some relatively large patches of grassland and chaparral in the north.

Species recorded in the area are typical of scrub and grassland communities including horned lark, western meadowlark, rufous-crowned sparrow, California thrasher, and spotted towhee.

SKR is recorded from a single location in the western–central portion of the subunit, in the area of the historic landing strip.

A launch structure is located along the Main Road in the southeastern corner of this subunit. The approximately 30-foot-tall concrete vertical wall with some metal beams attached to it is surrounded by concrete paving.

Management Subunit P4

This subunit includes a valley in its center, tributary to Potrero Creek, and typical erodible hills in the surrounding area. Again, vegetation communities consist mainly of upland scrub with smaller portions of grassland, especially in the southern portion of the subunit, and chaparral mainly in the northern portion of the subunit. Species recorded in the area includes spotted towhee, loggerhead

shrike, merlin (*Falco columbarius*), wrentit, Dulzura kangaroo rat, and San Diego horned lizard (*Phrynosoma coronatum blainvillii*).

SKR is recorded from several locations in the southeastern portion of the subunit in the lower portion of the tributary valley. A dirt road offers access from the Main Road approximately halfway through the subunit, through the middle of this valley.

Management Subunit P5

This subunit includes the Main Road connection with Highland Springs Avenue along the eastern edge of the subunit and a much broader valley associated with Potrero Creek in the central portion of the subunit. Thus, a greater proportion of this area is occupied by grassland with surrounding hills occupied by upland scrub communities.

Numerous upland and riparian birds are recorded in the area including black-headed grosbeak, Bullock's oriole, northern flicker, spotted towhee, white-tailed kite, yellow warbler, burrowing owl, horned lark, phainopepla, rock wren, rufous-crowned sparrow, Dulzura kangaroo rat, common yellowthroat, and song sparrow. Smooth tarplant is recorded on the western tributary channel, just upstream of the confluence with Potrero Creek in this subunit.

SKR is recorded throughout the lower portion of the tributary valley in the western part of the subunit as well as adjacent to Potrero Creek in the southern part of the subunit, and along the Main Road in the eastern part of the subunit.

Two structures exist, one in the southwestern corner of the subunit and one in the northern part of the subunit; both are adjacent to the Main Road. The structure in the southwestern corner is an approximately 25-foot-tall brick warehouse with a garage and office. The northern structure is a series of bunkers that appear as mounds in the hillside.

Management Subunit P6

This subunit is bounded by the Highland Springs Avenue on the west and the boundary of the Potrero Unit on the north, east, and south. Roughly half of this area supports grassland, while the remaining area supports upland scrub communities. Species recorded in this subunit include California towhee, horned lark, California quail, and Parry's spineflower (*Chorizanthe parryi* var. *parryi*). SKR is recorded in two locations, one along the south-central boundary of the SJWA and one in the central portion of the subunit. There are no existing structures in this subunit.

Management Subunit P7

This subunit is south of the Main Road on the western edge of the Potrero Unit, adjacent to Gilman Springs Road. It is almost entirely made up of a southwest-facing slope extending up to 1,500 feet

from the valley floor. The outlet of Potrero Canyon runs through the center of the subunit. Communities are mainly upland scrub with small patches of grasslands. Species monitoring has not been conducted in this area due to the steepness of the area.

Management Subunit P8

Located east of Subunit P7, Subunit P8 supports a mosaic of upland scrub and chaparral communities. The South Access Road extends from the Main Road on Subunit P8 in the north and to the ridgeline in the south, an ascent of approximately 2,600 feet in elevation. Slopes in Subunit P8 are mainly north-facing. Similar to Subunit P7, there are few monitoring locations in this subunit. Gray fox (*Urocyon cinereoargenteus californicus*) was recorded at scent stations in the southern part of the subunit. A number of species are recorded in the northern part of the subunit, associated with Potrero Creek as listed for the adjacent Subunit P2.

Management Subunit P9

This subunit is a continuation of the north-facing slope of the southern hills of the Potrero Unit. Subunit P9 is largely inaccessible with no major roads going through it. The unit supports upland scrub and chaparral in relatively even proportions. There is one monitoring station in the central part of the subunit which reveals typical upland scrub community species including Bewick's wren, California towhee, Lawrence's goldfinch, red-tailed hawk, rufous-crowned sparrow, wrentit, black-chinned sparrow (*Spizella atrogularis*), mountain quail (*Oreortyx pictus*), and spotted towhee.

Management Subunit P10

This subunit contains Potrero Creek with its riparian corridor as well as a broad valley supporting annual grassland. The subunit includes a large conservation easement (560 acres) that exists to protect the site while ~~Lockheed Martin Corporation (~~LMC~~)~~ continues a perchlorate clean-up effort in the area, prior to final transfer of ownership to CDFW. Two roads extend south from the Main Road, offering access to either side of a significant tributary that enters from the south through Subunit P10. This tributary supports floodplain scrub communities; other upland scrub and chaparral communities occupy hills along the southern edge of Subunit P10.

East of the southern tributary and south of Potrero Creek the large grassland areas support SKR as well as western meadowlark, red-tailed hawk, loggerhead shrike, hooded oriole (*Icterus cucullatus*), rufous-crowned sparrow, black-chinned sparrow, rock wren, San Diego black-tailed jackrabbit, and one location of smooth tarplant. SKR is also recorded in several locations west of the southern tributary and south of Potrero Creek. Species recorded within the southern tributary itself include least Bell's vireo (from 1990), tricolored blackbird, gray fox, yellow warbler, spotted towhee, Nuttall's woodpecker, great horned owl, blue grosbeak, Cooper's hawk, and American coot. Potrero Creek within the subunit supports a diverse array of species including American

kestrel, barn owl, Bewick's wren, black-headed grosbeak, blue grosbeak, California quail, California thrasher, Lawrence's goldfinch, oak titmouse, downy woodpecker, Swainson's thrush (*Catharus ustulatus*), tricolored blackbird, and white-tailed kite. SKR is also recorded north of Potrero Creek, west of the confluence of the southern tributary.

Management Subunit P11

This subunit extends along the eastern edge of the Potrero Unit and supports mostly west-facing slopes with upland scrub communities and some small areas of grassland and chaparral. Access across this area is facilitated by a north–south road extending from the Main Road along the western edge of this subunit. A small portion (5+/- acres) of the LMC conservation easement, owned by LMC, is located on this subunit. The northern portion of the subunit includes Potrero Creek.

SKR is recorded along the border with Subunit P10 in the southern and western portions of Subunit P11. Other species recorded in this subunit include granite spiny lizard (*Sceloporus orcutti*), black-chinned sparrow, western meadowlark, California quail, rock wren, spotted towhee, phainopepla, and rufous-crowned sparrow.

4.1.2.2 Agriculture

Agricultural Leases

Agricultural leases previously existed on the SJWA and were located in Subunits D2 and D7 of the Davis Unit (Figure 2-13). For example, a lease with Bouris Ranch (Subunit D2) was for a 2-year period. Payment for the lease was provided by use of custom tractor work on the SJWA as directed by CDFW staff. Generally, the agricultural lease areas are farmed through dryland farming techniques, which require tilling and amendment of the soil in fall, planting of seed prior to the onset of winter rains, and harvest in the spring. Although not stipulated in the lease, the farmer generally leaves approximately 20% of the grain crop on the field.

CDFW-Operated Agriculture

CDFW operates food crop production in five existing areas on SJWA (Figure 2-13). Located in the Davis Unit, Subunits D2, D4, D7, and D11, these agricultural production areas are primarily for the purpose of providing cereal crops for birds and small game. The food plots in Subunits D4 and D11 are irrigated with recycled water and include crop production year round generally benefiting waterfowl. Food plots in Subunit D7 include a large area west of existing riparian habitat where land is farmed through dryland farming techniques with very limited soil disturbance. Upland habitat including safflower, sunflower, mixed grains and winter wheat, are planted in the late fall to supplement food availability mainly for small game species. A more intensive food plot production is conducted in a narrow strip of habitat east of the riparian habitat in Subunit D7.

4.1.2.3 Public Recreation

Passive Trail Use

The existing trail network on the Davis Unit is illustrated on Figure 2-15A. The existing trail network on the Potrero Unit is illustrated on Figure 2-15B. Although a variety of trail surfaces exist, all are suitable for passive trail use such as walking or running. Also, CDFW does not currently restrict off-trail use of the site by pedestrians. Information regarding the extent of passive trail use is not collected by CDFW; however, the Davis Unit is well-known to local trail groups and birding enthusiasts such as the Audubon Society and Sierra Club. An annual Christmas Bird Count is conducted within the wider Lake Perris/San Jacinto Valley area.

The Sunday closure to hunting (see Section 2.2.3.2.5 of this PEIR) is to provide passive trail users a weekend day during the 4-month (October-January) hunting season where hunting does not occur.

Active Trail Use

The existing trail network is suitable for active trail use such as mountain biking and horseback riding. Active trail users must remain on designated trails on the Davis Unit. Anecdotal evidence is that the Davis Unit is primarily used by equestrian riders and that mountain biking is relatively limited. Motorized vehicles are allowed on the road network.

The existing road network on the Potrero Unit is illustrated on Figure 4-3B, and it is expected that these roads would be used as trails in a similar fashion as existing roads/trails on the Davis Unit.

Waterfowl Hunting

Waterfowl hunting (mainly duck and geese) currently only occurs on the Davis Unit. Hunting opportunities are provided through the use of blinds located in seasonally flooded wetlands. The current waterfowl hunting areas are shown on Figure 2-9. There are five areas that are used for waterfowl hunting, totaling 1,130 acres; each of these areas is further divided into ponds with either a letter, number, or alphanumeric designation that identifies reservations of blinds for each hunter/group (see Figure 4-4).

Waterfowl hunting generally starts the third Saturday in October and extends to the last Sunday in January. Hunting occurs on Wednesdays and Saturdays only, with approximately 30 open days visited by a maximum of 6,000 hunters each year. Each day, 50 slots are open which can hold four hunters each. Youth hunting is allowed one additional Saturday following the close of the season. Youth hunters are 17 years old or younger and accompanied by a non-hunting adult 18 years of age or older. Hunting commences approximately 30 minutes before sunrise and concludes at sunset only shotguns are allowed as legal methods of take.

Figure 4-4 Waterfowl Ponds – Davis Unit

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Davis Subunit D4 includes 669 acres of existing waterfowl ponds within the three areas: northern, central, and southern. The northern area includes the two main reservoirs for storage and controlled release of reclaimed waters (E1 and E2) as well as hunting areas in a mosaic of open water, marsh, and riparian habitats (A1-A3, B1-B5, C1-C4, D1-D2, and E1-E4 ponds). This northern area also includes three parking lots and handicap-accessible blinds, viewing platform, and bathroom. The central ponds are the oldest ponds on the SJWA and include four rectangular ponds (1-4) and adjacent marsh areas with blinds, and a set of two relatively new ponds in the northeastern portion of the central area (G1-G2). Two parking lots are located adjacent to pond 1 and between ponds 3 and 4. The southern ponds (Walker ponds) are the newest, and support open water and marsh vegetation (F1-F7 and W1-W12).

An additional 460 acres of waterfowl hunting is provided on the private lands in Subunit D9 and extending into Subunits D10 and D13 where conservation easements are in place. These ponds are owned and operated by the private hunting clubs but managed in accordance with the conservation easement.

During the 4-month hunting season (October-January), passive trail users are not allowed in waterfowl areas that are being accessed for hunting on hunt days (2 days per week; currently Wednesday and Saturday).

Upland Small Game Hunting

Except for special events, which could occur within designated areas within Subunit P2 on the Potrero Unit, ~~U~~upland small game hunting ~~also~~ currently only occurs on the Davis Unit and occupies 6,478 acres of the site (Table 4-1; also, see Figure 2-12A).

Table 4-1
Upland Small Game Hunting Areas – Management Subunits

Unit	Subunit	Acreage
Davis	D1	816
	D2	715
	D3	279
	D4	4
	D5	772
	D6	609
	D7	845
	D10	71
	D11	433
	D12	489
	D13	839
	D15	605
	Total	**6,478**

Hunting occurs year-round for some species and is seasonally restricted for others, but generally occurs on Saturdays and Wednesdays, with the exception of pheasant that is also hunted on Mondays. As with waterfowl hunting, only shotguns are allowed, and hunting can commence 30 minutes before sunrise till sunset. Small game species hunted on the Davis Unit include:

- Black-tailed jackrabbit and ~~r~~Rock pigeon (*Columba livia*) hunted year-round;
- Cottontail rabbit (*Sylvilagus audubonii*) – July 1 to the last Sunday in January;
- Dove both Mourning Dove (*Zenaida macroura*) and White Wing Dove (*Zenaida asiatica*) (family *Columbidae*) – September 1 to September 15 and reopens for the second season on the second Saturday in November and the following 45 days;
- Quail (*Callipepla californica*), also known as the California valley quail or valley quail - traditionally from the second week in October to the last Sunday in January;
- Eurasian Collared Dove (*Streptopelia decaocto*) – open all year;
- Snipe (*Scolopacidae*) – second Saturday in October to the last Sunday in January;
- Crow (*Corvus brachyrhynchos*) – first Saturday in December to the second Sunday in April;
- Ring-necked pheasant (*Phasianus colchicus*) – second Saturday in November and running for six consecutive Mondays. CDFW currently limits the pheasant season and number of pheasant hunters (1,200 annually) on the SJWA due to low populations.

Upland game hunting opportunities are facilitated by use of guzzlers to sustain wildlife during the summer and fall months. Approximately 3,000 hunters hunt small game on the SJWA, Davis Unit each year with about 100 hunters on each of approximately 30 open days per year.

Hunting Dog Training and Trials

Hunting dog training currently occurs in one area on the Davis Unit (Figure 2-14) and includes both upland and wetland training (267 acres). Field trials and dog training are not allowed from March 1 through September 1 to avoid impacts to ground-nesting birds. Up to two events are held each month during the 6-month season. The events consist of release and retrieval of game species including ~~c~~Chukar (*Alectoris chukar*), Northern ~~b~~Bobwhite ~~quail~~ (*Colinus virginianus)*, pigeons, and rock pigeons.

4.1.2.4 Previous Land Use

The Potrero Unit was purchased by the Grand Central Rocket Company in the late 1950s/early 1960s and was used as a remote test facility for early space and defense programs. ~~Lockheed Martin Corporation (~~LMC~~)~~ acquired the property in ~~1963~~ 1960 and used the site until 1974 for solid rocket propellant ~~mixing~~ production and ballistics testing ~~operations~~. The site included nine operational areas that were used for various activities associated with ballistics testing, rocket motor assembly and testing, or propellant disposal:

- Area A - "Eastern Aerojet Range" (occupying the majority of Subunit P5) – Testing of trajectories, curves, and velocities of "dummy" aluminum bullets was conducted in this area (no live warheads were reportedly used). Several U-shaped revetments were also constructed for the storage of explosive materials and motors in this area. MEC investigations into the testing conducted in this area found both inert and live explosive 30mm projectiles were tested in this area. An MEC removal action was conducted. Periodic inspections to look for potential residual MEC exposed by erosion are routinely conducted on portions of the former range.
- Area B - "Rocket Motor Production Area" (occupying the northern portion of Subunit P10 and adjacent portion of Subunit P11) – Processing and mixing of rocket motor propellants were conducted in this area. Chemicals were stored, mixed, and poured into casings. If the propellant mixture was defective, it was washed off the casings, and the residue was taken to the "Burn Pit Area" for incineration. Perclorate and VOCs are present in the soil and the groundwater. The area represents a secondary source of impacts to ground water. A small soil excavation to remove impacted soil is proposed near the former mixing station. MEC investigations in this area found that a phalanx gun and a bazooka were tested in this area. Periodic inspections to find inert projectiles from the phalanx gun that are exposed by erosion are routinely conducted at the earthen target backstop that remains in the area.
- Area C - "Burn Pit Area" (occupying the southeastern portion of Subunit P10 and adjacent portion of Subunit P11) – This area was used to dispose of various hazardous materials including ammonium perchlorate. Pits were dug approximately 6 to 8 feet wide, 4 to 6 feet deep, and 50 to 100 feet long. Hazardous materials were placed in the pits, and then were saturated with diesel fuel and ignited. After burning, the trenches were visually inspected and filled with soil. A total of 20 to 40 pits were used in the area. Perchlorate and VOCs are present in the soil and groundwater. This area represents the primary source of impacts to groundwater. The impacts to groundwater will be contained by a groundwater extraction and treatment system proposed to be installed along Potrero Creek near the leading edge of the plume.
- Area D - "Ballistics Test Range" (occupying the south–central portion of Subunit P10 and adjacent portions of Subunit P9) – This range was used for test firing of large guns (155

millimeter (mm), 40 mm, and 37 mm). No live warheads were used, and the remains of rounds were collected after firing. A ballistics tunnel was also constructed and used in this area to photograph rounds fired through the tunnel, using high-speed strobe photographic equipment. Additional testing included rocket-assisted projectiles and incendiary bombs to observe shrapnel and penetration patterns. Munition and explosives of concern (MEC) investigations in this area found discarded MEC in the creek bed running through the area. An MEC removal action was conducted. Periodic inspections for potential residual MEC exposed by erosion are routinely conducted on portions of the former range.

- Area E - "Radioactive Waste Disposal Site" (occupying the southeastern portion of Subunit P2) – In 1971, low-level radioactive waste including Carbon-14, Sulfur-35, and Tritium were buried in one of four canyons, although the exact location is unknown. In 1990, the Radian Corporation located and removed the waste with testing indicating that concentrations were within naturally occurring ranges. No additional investigations were performed in this area and no additional remediation is proposed at this time.

- Area F - "Test Services Area" (occupying the northeastern and central–eastern portion of P2) – This area included a variety of testing facilities, workshops, and storage areas. The largest industrial x-ray machine in Southern California was operated at this site. A 13-foot-diameter spherical pressure vessel was used to simulate pressures at ocean depths and high altitudes. A test bay was used to fire large motors including the Apollo launch escape motor. Bunkers were utilized in the area for protection of personnel and instrumentation during testing. Perchlorate and VOCs are present in the soil and groundwater. This area represents a secondary source of impacts to groundwater. Two potential contingency remedial actions have been proposed for this area.

- Area G - "Helicopter Weapons Test Area" (occupying the northwestern portion of Subunit P9 and northeastern portion of Subunit P8) – This area included a hanger, helicopter landing pad, stationary ground-mounted gun platforms, and a mobile target suspended between two towers. Projectiles were fired from helicopters but did not include any live warheads. Inert projectiles remain at the range. Periodic inspections for projectiles exposed by erosion are routinely conducted along the creek bed.

- Area H - "Permitted Sanitary Landfill" (occupying a small area in the southwestern portion of Subunit P3) – This landfill was used to dispose of paper, scrap metal, concrete, and wood generated from routine daily operations of the site. PCBs and perchlorate were found during testing at the landfill. Belted 7.62mm machine gun ammunition was reportedly disposed of in the landfill. Periodic inspections for MEC exposed by erosion are routinely conducted at the landfill. The proposed remedy is to cap the landfill in place.

- Area I - "Western Aerojet Range" (occupying the western boundary of Subunit P3 and adjacent area in Subunit P2) – This range was used for an incendiary test of a 500-pound

bomb. The area also includes a level area that was utilized for ballistics testing. The area was leveled for ballistics testing. Inert 27.5 mm projectiles were tested on targets placed on the range. ~~appears to be suitable as an airstrip, but use of the site for that purpose was not confirmed by employees (Tetra Tech Inc. 2003)~~.

From 1975 to at least 1991, LMC leased portions of the property to various entities that used the site for various purposes. The International Union of Operating Engineers conducted surveying and heavy equipment training; a farmer used the site for sheep grazing and dryland farming, including barley production; General Dynamics conducted gun testing ~~(no live warheads were used)~~; and Structural Composites conducted vehicle roll-over tests and heat and puncture tests on pressurized fiberglass and plastic reinforced cylinders (Tetra Tech, Inc. 2003).

Environmental site testing began in 1983 with the installation of eight observation wells. In 1984 and 1985, an underground fuel storage tank was removed and a polychlorinated biphenyl (PCB) spill was cleaned up. The PCB spill was due to vandalism of transformers on the site. In 1986, LMC prepared a report that identified volatile organic compounds (VOCs) within groundwater, which precipitated a Consent Order to be issued by the Department of Toxic Substances Control (DTSC) in 1989. Remedial investigations identified a VOC soil vapor plume migrating from the "Burn Pit Area" and a groundwater VOC plume extending 2 miles downgradient from both the "Rocket Motor Production Area" and "Burn Pit Area" (Tetra Tech Inc. 2003).

Remediation began in 1992 with approximately 48,600 cubic yards of soil removed from the "Burn Pit Area" with confirmation samples conducted in accordance with regulatory requirements. Approximately 10,000 pounds of contaminants were estimated to have been removed through this effort (Tetra Tech, Inc. 2016). In addition, soil vapor extraction (SVE) was implemented at the "Burn Pit Area" to remove VOCs from the soil and prevent further groundwater contamination. A groundwater pump-and-treat protocol (P&T) was also implemented downgradient of the "Rocket Motor Production Area" and "Burn Pit Area." The P&T operation is designed to remove solvent impacted groundwater and re-inject the treated groundwater to upgradient and downgradient wells for hydraulic containment (Tetra Tech Inc. 2003). The SVE and P&T operations are the subject of an Operation and Maintenance Agreement between DTSC and LMC and are located within Subunit P10. The SVE system operated from 1994–1998 and was removed in 2005. The vapor extraction wells and the underground piping still remain. Operation of the P&T was halted at the request of the DTSC in 2003. The treatment system, extraction wells, and piping still remain at the site.~~is currently still in place in case monitoring indicates that the system needs to be reactivated~~.

The Phase 1 Environmental Site Assessment identified 54 items of Recognized Environmental Concerns located throughout the site, including buildings, motor casings, storage drums, vaults, pads, and testing areas, each of which has the potential to contain chemical hazards. The

assessment was based on review of historical uses and site inspections conducted in 2002 and 2003 (Tetra Tech Inc. 2003).

The Safety and Toxics Assessment includes identification of 154 safety hazards and 31 toxic items identified through a field investigation conducted in 2003. Safety hazards are nearly all associated with structures and debris within the former operational areas of the site. Examples of such hazards include concrete pads with protruding bolts, metal debris, open electrical vault, fallen utility wires, rusted metal drums, and barbed wire. Toxic items are also associated with the historical operations areas and include asbestos-containing materials, lead-based paints, PCBs, mercury switches, florescent bulbs, mold, and potential biological hazards such as hantavirus or valley fever. Detailed maps are included in the report providing the location of these hazards (Tetra Tech Inc. 2003).

From 2005 until 2010 investigations of MEC were conducted after two small belts of 20 millimeter linked practice ammunition were found in Area D. In 2006 all munitions debris collected during the investigations were tested and no depleted uranium was identified. Investigations were conducted in Areas A,B, C, D, F, G, H and I. Removal actions were completed in areas A and D. MEC clearance was completed in 2007 and additional investigations were completed in 2010. In 2011 a MEC awareness training program for site workers was implemented annually. Although MEC removal actions have been completed, hazards due to potential residual MEC may remain and are considered a concern (DTSC 2016).

In 2012 a feasibility study was developed with the following Objectives:

> Soil: Prevent human receptors from exposure to site chemicals of concern in the soil through ingestion, inhalation or dermal contact at concentrations greater then preliminary remedial goals. Prevent ecological receptors from exposure to site chemicals of concern in soil through ingestion and uptake at concentrations greater than preliminary remedial goals.
>
> Surface Water: Protect surface water resources in Potrero Creek by ensuring concentrations of chemicals of concern are below preliminary remedial goals that protect beneficial uses.
>
> Groundwater: Prevent human receptors from exposure to site chemicals of concern in groundwater by ingestion, dermal contact or inhalation at concentrations that exceed risk based preliminary remedial goals that protect beneficial uses. Protect groundwater resources outside the boundary of the current groundwater plume by limiting migration of site chemicals of concern at concentrations exceeding levels that protect beneficial uses.

In 2016 a Remedial Action Plan was developed that includes:

- Shallow excavation and disposal of impacted soil
- Monitored natural attenuation of impacted groundwater

- Hydraulic containment and treatment for regional groundwater plume
- Landfill capping
- Potential residual MEC mitigation
- Contingency soil and groundwater actions
- Institutional controls

The Environmental Compliance Assessment confirms that site cleanup efforts have conformed with environmental permitting requirements, however there are ~~in all the subunits with the exception of~~ ongoing remedial activities ~~related to the SVE and P&T systems~~ within subunit P10 (Tetra Tech Inc. 2003). Further, LMC completed a Remedial Action Plan in June 2016 that was approved by DTSC in July 2016. In addition, DTSC prepared an EIR on the Remedial Action Plan (Final EIR completed in May 2016). The Remedial Action Plan is in the process of being implemented by LMC on the Potrero Unit.

4.2 SURROUNDING LAND USES

Davis Unit

Existing land uses adjacent to the Davis Unit include constructed facilities such as the Lake Perris Dam, roadways, and power lines and undeveloped lands at the Lake Perris State Recreation Area to the west and north, rural farm lands and rural residential uses to the north and south, and vacant land to the east. Water and energy infrastructure is also generally located to the north and west and the San Jacinto River traverses the southern boundary of the unit. The Lake Perris State Recreation Area is bounded on three sides by low ridges of the Russell Mountains, Apuma Mountains, and Bernasconi Hills, and the area provides a multitude of recreational opportunities including hiking, biking, boating, camping, equestrian trails, and swimming. In addition, the majority of the eastern portion of the recreation area which shares a boundary with the Davis Unit is designated for seasonal upland game hunting. Agricultural production in the area surrounding the unit includes poultry/egg farms, dairy production, horse and goat breeding, flowers, vegetable seeds, and sod. The rugged, mountainous terrain of the Badlands area comprises the vacant lands located to the east of the Davis Unit. As the Badlands serves as a crucial wildlife corridor, more than 12,400 acres of area has been conserved and is recognized as the Badlands Conservation Area (County of Riverside 2015a). Lastly, part of the SJWA Davis Unit is within the historic floodplain of the San Jacinto River and is subject to periodic flooding. The resulting floodwater, known as Mystic Lake, has been known to inundate the area for months or years at a time.

Lands within the Davis Unit are located within the jurisdictional boundaries of the County of Riverside and City of Moreno Valley. For example, the portion of the Davis Unit located north of the Ramona Expressway is situated within the Reche Canyon/Badlands area of Riverside County.

According to the County of Riverside General Plan's Reche Canyon/Badlands Area Plan, areas located east of Davis Road are primarily designated for Conservation Habitat and Conservation use; however, isolated tracts located adjacent to Davis Road and Gilman Springs Road and actively engaged in agricultural production are designated for agricultural use (County of Riverside 2015a).

In 2002, the CDFW and the Wildlife Conservation Board acquired approximately 1,000 acres in the southeast corner of the City of Moreno Valley. Pursuant to the City of Moreno Valley Land Use Map (City of Moreno Valley 2017), ~~This~~ the northernmost portion of the ~~SJWA~~ Davis Unit is designated ~~for development pursuant to the City of Moreno Valley Land Use Map (City of Moreno Valley 2014).~~ primarily as Open Space, with an area in the northwest designated as Rural Residential (max 2.5 du/ac.), a large area through the central portion is designated Floodplain, with a small area located along the eastern edge designated Commercial. The ~~development allowed under~~ land use designation identified in the General Plan for land adjacent to the SJWA include~~s Residential (2 dwelling units per acre, 5 dwelling units per acre, and 10 dwelling units per acre),~~ Business Park/Light Industrial, Commercial, Open Space, and Public Facilities. While there is a piece of land designated for Rural R~~r~~esidential land use ~~designations occur~~ in the ~~northernmost~~ northwest portion and a small area designated Commercial along the eastern portion of the Davis Unit, th~~is~~ese areas ~~is~~ are currently undeveloped. A portion of the Rural Residential designated land is shown as private land on Figure 2-3. The CDFW assumes that land within the SJWA would ~~not~~ be ~~developed~~ managed consistent with the draft LMP.

Riverside County lands generally located south of the Ramona Expressway and the Davis Unit are governed by the County of Riverside General Plan's Lakeview/Nuevo Area Plan. In addition, the westernmost portion of the Davis Unit are governed by the City of Perris General Plan. According to the Lakeview/Nuevo Area Plan, land use designations adjacent to Ramona Expressway include Rural Mountainous, Agriculture, Conservation Habitat, Medium Density Residential, and Commercial Retail (County of Riverside 2015b). Existing uses include active agricultural operations (i.e., dairy farms, crop lands), the Amway Nutrilite distribution center, rural residences and ballfields, and a gas station. Lands located west of the Davis Unit and Ramona Expressway within the City of Perris are designated Villages of Avalon Specific Plan, May Ranch Specific Plan, and Residential 6,000 (City of Perris 2013). Existing land uses primarily consist of single-family residences but also include multifamily developments; neighborhood parks; and elementary, middle, and high schools.

Potrero Unit

The Potrero Unit of the SJWA is primarily located in the City of Beaumont with remaining SR-79 adjacent lands located within the County of Riverside General Plan's San Jacinto Valley Area Plan. Surrounding land uses include SR-79, agricultural uses, the Victory Ranch Baptist Camp, the County's Lamb Canyon Sanitary Landfill, undeveloped Badlands terrain to the west, and

undeveloped Badlands terrain, residences, recreation (golf course), commercial business, and Interstate 10 to the north. The Potrero Unit is also bordered on the east by vacant BLM land and on the southeast by the Soboba Indian Reservation. The reservation encompasses nearly 7,000 acres, 400 of which are devoted to residential use. In addition the reservation includes a casino, a golf course and club house. Undeveloped mountainous terrain is located to the east, and the community of Gilman Hot Springs, comprised of residential, institutional, recreational, agricultural (dairy production and cropland), and educational (i.e., Mount San Jacinto College) uses are located to the south. With the exception of the residences within Gilman Hot Springs, land uses adjacent to the Potrero Unit are almost entirely vacant land (residences farther to the north of the Potrero Unit are buffered from the Potrero Unit by mountainous terrain) (County of Riverside 2015c). According to the City of Beaumont's General Plan land use map, the Potrero Unit is designated for Recreation and Conservation use and the designation is intended for open space uses such as parks, trails, and golf courses (City of Beaumont 2007). City of Beaumont lands located immediately north of the Potrero Unit are designated for rural residential use.

The San Jacinto Valley Area Plan of Riverside County comprises the cities of Hemet and San Jacinto and the urbanized East Hemet and Valle Vista areas. The northern and eastern portions of the area plan adjacent to the Potrero Unit are largely rural and mountainous. As previously stated, a small portion of the Potrero Unit (portions of Subunits P1, P7, and P8) situated west and east of SR-79 and north of Gilman Hot Springs is located on County lands within the San Jacinto Valley Area Plan. This portion of the Potrero Unit is designated for Conservation and Rural Mountainous use (County of Riverside 2015b).

4.3 EXISTING AGREEMENTS, LEASES, EASEMENTS, ~~MEMORANDUM~~ MEMORANDA OF UNDERSTANDING~~S~~

CDFW has several agreements and easements that assist in managing the SJWA in accordance with CDFW's mission of fish, wildlife, and plant resource management for ecological health and public enjoyment. The following is a list of the existing agreements and easements for the Davis and Potrero Units between CDFW and various entities (Section 2.3.2, Agreements and Easements, of the draft LMP provides detailed descriptions):

1. Memorandum of Agreement (MOA) Regarding Mitigation of State Water Project Wildlife Losses in Southern California- On October 23, 1979 the California Department of Water Resources (DWR), California Department of Fish and Game, and the Metropolitan Water District of Southern California entered into an agreement that among other actions helped establish portions of the San Jacinto Wildlife Area. The Memorandum of Agreement designated existing State Water Project lands for wildlife mitigation and provided funding for land acquisition, both of which contributed to the establishment of the SJWA. The SJWA is managed pursuant to the 1979 Mitigation Agreement for the State Water Project,

the intent of which was to mitigate the direct loss of fish and wildlife habitat and public recreational opportunity resulting from construction of the State Water Project. The SJWA is a type "A" wildlife area representing the highest level of recreational use designation for State Wildlife Areas to ensure quality public recreational opportunities. Parts of the MOA are not relevant to SJWA management because they pertain to Lake Mathews or other areas; however, Provision #7 in the MOA states "that if DWR requires any of these lands for SWP [State Water Project] operations, DWR will replace such lands taken with other lands acceptable to DFG." In the 1983 Agreement for Transfer to the Department of Fish and Game of Mitigation Lands for the State Water Project in Southern California under Item 2 it states: " [s]uch mitigation must not interfere with the operation and maintenance of the State Water Project. If Water Resources requires any of these lands for project operations, Water Resources will replace such lands taken with other lands acceptable to Fish and Game."

2. Eastern Municipal Water District Agreement – On August 18, 1987, CDFW and the Eastern Municipal Water District (EMWD) entered into an agreement to complete a cooperative project for the construction and operation of a reclaimed water conveyance system consisting of approximately 53,000 feet of pipeline and appurtenant facilities to provide a water source for both the wildlife habitat on the SJWA and areas adjacent to the pipeline (the San Jacinto Wildlife Area Reclaimed Water Supply Project Agreement, referred to as the "Agreement"). The 11-mile pipeline, originating at EMWD's Hemet/San Jacinto Regional Water Reclamation Facility, was completed in January 1990. In return for partially funding the pipeline, CDFW received, at a reduced cost, an initial amount of 1,500 acre-feet of reclaimed water each year, increasing to a maximum of 4,500 acre-feet per year in 1999–2000 and lasting the duration of the initial term of the Agreement (CDFG and EMWD 1987). Based on historical records, the most water usage by CDFW was in 2015 (a drought year) in the amount of 3,493 acre-feet.

   Section F of the Agreement states that while the term of the Agreement is 25 years commencing with the date hereof (Agreement's original term ended in 2012), providing water for the SJWA is a long-term, mutually beneficial program for both EMWD and CDFW. The program would result in the production of valuable wildlife habitat that will support resident and migratory populations of wildlife and provide long-term benefits to the public. EMWD and CDFW realize that wildlife populations and public benefits will become dependent upon habitat supported by the reclaimed water delivery program. In recognition thereof, EMWD and CDFW consider this program to be a long-term commitment, to be extended beyond the initial term of this Agreement, and in good faith and consistent with their legal authority intend to periodically extend the Agreement with such amendments as are at the time deemed necessary. Since the expiration of the Agreement, there has been year-to-year extensions of the contract resulting in no lapse in

water availability to the SJWA. CDFW and EMWD plan to extend this Agreement each year indefinitely until after the draft LMP is approved, at which time an Agreement will be requested that covers a longer time period for the 4,500 acre feet per year of recycled water allocation.

3. Lockheed Martin Purchase and Sale Agreement – On December 31, 2003 CDFW purchased 8,552 acres of the 9,117 acre Potrero Canyon Unit from LMC. The balance of the property (565 acres) was retained by LMC. LMC deeded the remaining 565 acres to a conservation easement and provided CDFW with the option to purchase the 565 acres during the option term. The 565 acres is still in LMC ownership. The Purchase and Sale Agreement between LMC and CDFW includes access agreements for both parties to enter each other's property, which allows CDFW to access LMC's property and to monitor that LMC is conserving the property. Further, LMC has access to CDFW property to access their own property (565 acres) and to investigate and remediate any hazardous substances that may have been released on CDFW property. The access agreement states that the public is not included as part of the agreement to access LMC property. The Purchase and Sale Agreement requires that the state coordinate the development and implementation of the LMP in areas that may be impacted with hazardous substances at the Potrero Unit with LMC. The Purchase and Sale Agreement also requires CDFW to coordinate the use of water at the site with LMC and gives LMC authority to restrict water use under prescribed conditions. The Purchase and Sale Agreement also provides for the implementation of land use covenants/restrictions (LUC) in the event the department of toxic substances control (DTSC) requires restricted land use on either property as part of the fulfillment of the 1989 consent order issued by DTSC's predecessor (State of California Health and Welfare Agency).

4. Lockheed Martin Conservation Easement Deed – On December 31, 2003, LMC and the State of California Wildlife Conservation Board signed a Conservation Easement Deed, as well as an Option Agreement. The Conservation Easement, located in Potrero Subunit P10, is approximately 560 acres with approximately 5 acres included in Subunit P11, and provides occupied and potential habitat for the federal and state-listed endangered or threatened SKR, animal movement corridors including the Potrero Creek streambed, raptor nesting areas, wetlands, and waterways. The purpose of the Conservation Easement is to ensure the property will be retained in its natural condition in perpetuity. The property within the Optional Agreement is subject to ongoing environmental investigation, monitoring, cleanup, and remediation program efforts implemented by LMC and governed by the California DTSC under a Consent Order dated June 14, 1989, as amended. The Consent Order was entered into between LMC and DTSC and requires LMC to investigate and appropriately remediate any releases or threatened releases of hazardous substances to the air, soil, surface water, and groundwater at or from the Site. The Potrero Canyon

Remedial Action Plan (June 2016) prepared for the remediation project fulfills a requirement of the Consent Order.~~to perform remediation activities on the option property.~~

5. Utility Easements (Southern California Edison (SCE), Southern California Gas Company (SoCal Gas), Metropolitan Water District (MWD)) – CDFW maintains an easement with SCE on the west side of Davis Road to allow SCE to maintain the SCE high-voltage transmission line traversing the Davis Unit (Figure 2-15A). CDFW maintains an easement with SoCal Gas south of the Double Bar 'S' Horse Ranch to the Ramona Expressway to allow SoCal Gas to maintain the natural gas pipeline that traverses the Davis Unit. CDFW maintains an easement with MWD along the entire length of Davis Road to allow MWD to maintain the 12-foot-diameter (buried) water pipeline. These utility easements will remain in perpetuity unless changes in the alignment of the utilities would result in an amended easement.

6. Lake Perris State Recreation Area/Department of Water Resources – The California Department of Parks and Recreation (DPR) utilized an approximately 10-acre site within Subunit D14 as a headquarters area during the initial development of the Lake Perris State Recreation Area. The headquarters site is now used by DPR for equipment storage. CDFW and DPR currently jointly use the headquarters site, located west of Lake Perris Dam and east of Ramona Expressway pursuant to an informal cooperative arrangement.

7. Nonprofit Associations – State and Federal Grants – CDFW has undertaken partnerships with nonprofit associations (e.g., California Wildlife Foundation, California Waterfowl Association) to maintain existing infrastructure and implement new projects on the Davis Unit using state and federal grants (e.g., North American Wetlands Conservation Act of 1989, funds administered by the state Wildlife Conservation Board). CDFW will continue to partner with nonprofit associations and apply for state and federal grants to support new projects and maintenance activities in both the Davis and Potrero Units, including the National Fish and Wildlife Foundation Endowment.

8. Ramona Hunt Club Conservation Easement, Memorandum of Understanding (MOU), and Wildlife Management Plan – CDFW maintains a conservation agreement with the Ramona Hunt Club which allows this hunt club unlimited access to property located in Subunit D9 for permitted uses such as licensed pheasant and duck hunting, game bird breeding/holding, crop planting to attract waterfowl, fish farming and recreational fishing, membership RV parking on upland slopes containing existing structures (as of agreement date), construction of new buildings only if replacing a pre-existing and similar structure, and construction of new or modification of existing ponds.

   In June 2000, an MOU was executed between CDFG and Wildon Associates (the grantor of the conservation easement) regarding the management of the Ramona Hunt Club. The MOU included requirements for removal of certain structures as mitigation for those

structures being located on the property contrary to the 1988 Deed of Easement and outlined wildlife management plans for the property and provisions for an annual meeting to facilitate the wildlife management plan and other agreements. In March 2001, a wildlife management plan for the property was approved for implementation by CDFG and Ramona Hunt Club, with the approval of CUP3301. The wildlife management plan identifies three natural vegetation series: California annual grassland, bush–seepweed series, and bulrush–cattail series, and an active agricultural area on site and discusses wildlife resources and management objectives for each.

9. Ramona Duck Club Conservation Easement – CDFW maintains a conservation agreement with the Ramona Duck Club that allows continued use of the property by the duck club, which is located within Subunit D10, as a hunting club, including continued access for hunting as well as preservation and maintenance of managed wetlands, grassland, and wildlife-friendly farmland. The purposes of the easement are to ensure that the property will be preserved, protected and maintained forever as natural, restored or enhanced habitat and as an open space resource, and to prevent any unauthorized use of the property that will significantly impair or interfere with the conservation values of the property. This easement will confine the use of the property to activities involving the preservation, restoration or enhancement of native species and their habitats as well as uses and activities associated with the adjacent Ramona Hunt Club property (D9) as a hunting club. This easement, signed March 22, 2011, permanently terminates all development rights on the property.

10. Mystic Lake Duck Club Conservation Easement, MOU, and Conditional Use Permit – CDFW maintains a conservation agreement on a 224-acre property located in Subunit D9 with the Mystic Lake Duck Club that restricts and limits the use of the property to ensure it will be retained forever in a natural condition and to prevent any use of the property that will significantly impair or interfere with the conservation values of the property. The artificial wetlands on property are flooded each fall in anticipation of waterfowl hunting season (mid-October through January) and are maintained as either moist soil wetlands or semi-permanent wetlands. The conservation easement was recorded on September 6, 2011.

    In February 1994, an MOU was executed between CDFG and then-owners of the Mystic Lake Duck Club (Harold Hill and John Sooy) making available approximately 60 acres on the south end of the Mystic Lake Duck Club for spring–summer wetland habitat enhancement. In exchange for the wetland use of the property, CDFW supplies reclaimed water from its annual SJWA allocation from EMWD pursuant to the Agreement (not to exceed 150 acre-feet, from March 1 to July 15) to sustain the spring/summer wetland habitat. In August 2003, San Jacinto Partners, the new (and current) owners of the Mystic Lake Duck Club, entered into an MOU with CDFG to continue the wildlife habitat program previously established on the land. CDFW would also continue to assist with levee and

wetland management of the spring/summer wetland not to exceed 40 hours of equipment/personnel time each year. Additionally, the 2003 MOU provided for the refurbishment of an abandoned irrigation well on CDFW's Welch property (located within the northwest portion of Davis Subunit D13) for wetland habitat maintenance on the Mystic Lake Duck Club and adjoining SJWA lands. The installation of 1,800 feet of pipeline on CDFW lands extended the existing Welch property pipeline to reach the Mystic Lake Duck Club property boundary. CDFW use of the well is secondary to Mystic Lake Duck Club use during fall and winter months and primary during spring and summer months. The 2003 MOU had an initial term of 10 years, which ended in 2013. Since expiring in 2013, the MOU is being extended on an annual basis until final approval of the draft LMP. Once the LMP is approved the MOU will be re addressed for its potential use or nonuse on a long term basis.

11. California Waterfowl Association and Ducks Unlimited - CDFW works in cooperation with California Waterfowl Association and Ducks Unlimited (non-governmental organizations) for the purposes of cooperatively acquiring, developing, or restoring waterfowl habitat to maintain and increase waterfowl populations within Subunit D9. Although this cooperation is not specifically considered an easement or formal agreement, it has been included here because of the ongoing cooperation between CDFW and the non-governmental organizations.

    CDFW may enter into other agreements or MOUs as necessary to further ongoing cooperative relationships with agencies and other joint powers authorities such as the Regional Conservation Authority, Riverside County Habitat Conservation Agency, and the U.S. Fish and Wildlife Service. Ongoing coordination with these groups will support CDFW's mission and ensure long-term success of the SJWA.

4.4 ENVIRONMENTAL SENSITIVITIES

According to Section 5.3, Biological Resources, of this PEIR, approximately 58 special-status wildlife species have been observed within the SJWA. "Special status" includes federally listed endangered and threatened species, California species of concern, and state-listed threatened and endangered species. Numerous other special-status wildlife species were not observed on-site but were determined to have moderate to high potential to occur due to the presence of suitable habitat. Also, 14 special-status plant species have been observed on the SJWA, and numerous others were determined to have moderate to high potential to occur (see Section 5.3, Biological Resources, for details).

Fire History

Based on a review of fire perimeter data from the California Department of Forestry and Fire Protection's (CAL FIRE's) Fire and Resource Assessment Program (FRAP), nearly the entirety of the Potrero Unit has burned, with some portions of the Unit having burned up to nine times during the recorded fire history period from 1878 to 2014 (FRAP 2015)[1]. According to FRAP, the most recent recorded fire event on the Potrero Unit (the "Highland" Fire) occurred in June 2012. The fire spread to portions of Subunits P2, P7, P8, P9, and P10, and burned approximately 2,177 acres of SJWA lands and adjacent BLM-managed lands (FRAP 2015). While the Silver Fire in 2013 did not reach the Potrero Unit, the mapped extents of the approximately 20,000-acre fire event was located within 2,800 feet of Subunit P6. In addition to the Potrero Unit, the eastern and western portions of the Davis Unit have experienced fire over the recorded fire history period. For example, a 1962 fire event extended to portions of Subunits D2, D3, and D5 (approximately 8,238 acres of SJWA and adjacent non-CDFW managed lands were burned), and fire events in 1979 and 1995 extended to portions of Subunits D1 (1979) and D6 (1995 – Russell Fire). A fire event in 1958 also occurred and spread to portions of Subunit 14 (FRAP 2015).

In addition to mapped fires within the boundary of the SJWA, prescribed/broadcast burns are routinely conducted by California State Parks within the boundary of the Lake Perris State Recreation Area adjacent to the western edge of the Davis Unit. More specifically, prescribed/broadcast burns are conducted within the eastern upland game hunting area of the State Recreation Area. According to CAL FIRE, the most recent recorded prescribed burn in the State Recreation Area occurred in June 2017 and then previously in May 2013 and covered approximately 220 acres (FRAP 2015).

4.5 REGIONAL DEVELOPMENT PATTERNS AND LAND USE MANAGEMENT PLANS

As discussed in Section 4.2, the Davis Unit of the SJWA is primarily located on undeveloped County of Riverside lands within the sparsely developed Reche Canyon/Badlands Area Plan, and the northernmost portion of the unit is located in the City of Moreno Valley. The majority of the Potrero Unit is located within the City of Beaumont jurisdictional boundaries and the remaining area encompasses undeveloped County of Riverside lands situated in the San Jacinto Valley Area Plan. The Potrero Unit is also bordered on the east by vacant BLM land and on the southeast by the Soboba Indian Reservation. The City of Banning is located northeast of the Potrero Unit, and the western boundary of the San Bernardino National Forest is located approximately 4 miles to the east. Existing land uses in the area surrounding the SJWA includes habitat and resource conservation, agricultural uses including dairy production, croplands, and poultry/egg farms, rural

[1] Based on polygon geographic information system (GIS) data for CAL FIRE, USDA Forest Service Region 5, BLM, National Park Service, Contract Counties and other agencies fires measuring 10 acres and greater in size. The data cover fires from 1878 to 2014 and includes fires 10 acres and greater. Acreage of burn areas within the SJWA LMP Study Area may be less than 10 acres where fires extend beyond the limits of the study area.

residential, recreation (Lake Perris State Recreation Area), public facilities including the Lamb Canyon Sanitary Landfill, and undeveloped open space.

The following section identifies and discusses the adopted federal and regional/local plans governing land use in the region.

4.5.1 Federal Land Management Plans

BLM South Coast Resource Management Plan

In addition to public lands within the Badlands area, which is a mountain range in Riverside County that separates the cities of Moreno Valley and Beaumont located east of the Davis Unit and Gilman Springs Road, the Potrero Unit is bordered on the east by vacant BLM lands. Public lands managed by the BLM in the vicinity of the SJWA are governed by the South Coast Resource Management Plan (South Coast RMP). The South Coast RMP documents where and how the BLM plans to administer public lands within the approximately 300,000-acre South Coast Planning Area which includes public lands in portions of Riverside, San Bernardino, San Diego, Orange, and Los Angeles counties (BLM 1994). BLM lands near the Davis and Potrero Units are located in the Riverside–San Bernardino County Management Area for which the South Coast RMP has established the following resource condition objectives:

1. Emphasize protection and enhancement of sensitive species and open space values.
2. Improve management effectiveness within the management area through disposal of isolated parcels and consolidation of BLM public land ownership, including substantial acquisition within the management area.
3. Provide recreation opportunities which are compatible with sensitive species management objectives.
4. Allow mineral development and other uses while maximizing protection of sensitive resources.

Approximately 1,030 acres of BLM-managed lands located east of the Potrero Unit are managed for the preservation of SKR habitat and are designated as the Potrero Area of Critical Environmental Concern (ACEC). While grazing is permitted on the ACEC when found to be compatible with habitat management, the ACEC is a right-of-way avoidance area and is unavailable for mineral material sales (BLM 1994). The Badlands area is managed by the BLM for multi-species values (including SKR and California gnatcatcher) and open space. Lastly, public lands located near the Soboba Indian Reservation are managed by the BLM as a Special Recreation Management Area, and the area provides opportunities for equestrian use, hiking, backpacking, camping, picnicking, nature study, hunting, and motorized vehicle use (BLM 1994).

In August 2011, the BLM released the Draft RMP/Environmental Impact Statement (EIS) for the revised South Coast Planning Area land use plan, which described four alternatives (no action alternative, conservation alternative, public use alternative, and preferred alternative). The land use plan is being revised to address changes that have occurred in the region since completion of the 1994 South Coast RMP. Changes include accelerated population growth and demand for housing; a greater emphasis on local planning for conservation of sensitive habitat and open space; acquisition by BLM of over 13,000 acres to support conservation efforts of local governments; increased demand for water, energy, and energy-related transmission projects; and a heightened interest in fire management planning (BLM 2011). Under the preferred alternative (i.e., Alternative D) a portion of the Badlands located immediately south of SR-60 in the project area would be designated as an ACEC (BLM 2011). The Proposed RMP placed emphasis on the preferred alternative, and the alternative was anticipated to be presented as the Proposed RMP (BLM 2013). The BLM expected the Proposed RMP/Final EIS to be released in 2014 (BLM 2013); however, the Final EIS has yet to be released, and the BLM California State Director has yet to sign the Record of Decision.

Soboba Band of Luiseno Indians

The Soboba Band of Luiseno Indians is a federally recognized Indian tribe, possessing sovereign status and powers by virtue of such recognition (70 FR 71194–71198). The Soboba Reservation is located approximately 2 miles southeast of the Potrero Unit. The federal government has approved the Tribe's Constitution and the Tribe is governed by a five-member Tribal Council that is elected by the general membership. Of the approximate 900 Tribal members, 675 live on the reservation, with many others residing in the neighboring communities of San Jacinto and Hemet (U.S. Department of the Interior Bureau of Indian Affairs 2013).

Southern California National Forest 2005 Land Management Plan

In September 2005, the U.S. Forest Service (USFS) adopted an LMP for the Southern California National Forests, which include the Angeles, Los Padres, Cleveland, and San Bernardino National Forests (USFS 2005). The Southern California National Forests LMP (Appendix A of Part 1 Southern California National Forests Vision) addresses the priority goals for the USFS provided in the Forest Service Strategic Plan (2003):

- Goal 1- Reduce the risk from catastrophic wildland fire
- Goal 2 - Reduce the impacts from invasive species
- Goal 3 - Provide outdoor recreation opportunities
- Goal 4 - Help meet energy resource needs
- Goal 5 - Improve watershed conditions

Goal 6 - Mission related work in addition to that which supports the agency's goals

Part 2 of the Southern California National Forest LMP entails the forest-specific strategy for the San Bernardino National Forest (SBNF). The overarching management strategy for the forest emphasizes the concept of sustainable and suitable use to guarantee that future generations will continue to benefit from the many values forests provide. According to the Final Environmental Impact Statement (FEIS) for the Southern California National Forests LMP, implementing the actions described in the LMP could result in a high likelihood of maintaining the presence and viability of the biological resources within the SBNF. According to the FEIS, through implementation of management actions and strategies described in the SBNF LMP and consideration of all the impacts arising outside the national forests, the habitat quality trend on the Southern California National Forest System lands, including the SBNF, is anticipated to be stable in the long term (USFS 2005).

For management purposes, the SBNF is divided into a series of geographical units called "Places" and each Place has a unique landscape character, desired condition, and program/planning emphasis. The Potrero Unit is located closest to the SBNF Idyllwild Place, which occurs in the higher elevations of the San Jacinto Mountains and is characterized by steep canyons and jagged rocks. The desired condition of the Idyllwild Place is that it be maintained as a natural appearing landscape that functions as a recreation setting and wilderness gateway (USFS 2005). In addition to community protection from wildland fire, enhancement of habitat for threatened, endangered, proposed, candidate, and sensitive species such as mountain yellow-legged frog (*Rana mucosa*) and California spotted owl (*Strix occidentalis occidentalis*) is emphasized in all management activities (USFS 2005).

As a result of a Settlement Agreement approved January 3, 2011, for *California Resources Agency, et al. versus United States Department of Agriculture*, and *Center for Biological Diversity, et al. versus United States Department of Agriculture,* the Southern California National Forests amended the 2005 LMP. The LMP amendment revised land use zone allocations for select Inventoried Roadless Areas (IRAs) within the Angeles, Los Padres, Cleveland, and San Bernardino National Forests and amended LMP monitoring protocols. For the SBNF, the LMP amendment resulted in zoning changes for approximately 10,000 acres of forest land to protect the undeveloped character of the areas while also establishing flexibility to accommodate a range of uses (USFS 2014).

4.5.2 Regional Habitat Conservation Plans

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional plan that conserves endangered and threatened plant and animal species and associated habitats in western Riverside County. The MSHCP serves as a

Habitat Conservation Plan pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973 (ESA), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The MSHCP allows the participating jurisdictions to authorize "take" of plant and wildlife species identified within the Plan Area. The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) (hereafter "Wildlife Agencies") have the authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the Wildlife Agencies will grant "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP conservation area, in exchange for the assembly and management of a coordinated MSHCP conservation area.

The MSHCP was approved in June of 2003 by the County of Riverside; the city jurisdictions as well as other local and state public entities that subsequently signed onto the MSHCP are collectively referred to as "Permittees." The MSHCP is implemented by the Permittees and the Regional Conservation Authority (RCA), with permit compliance ensured by the Wildlife Agencies. The SJWA is an important part of the MSHCP Reserve. Generally, the MSHCP Reserve is made up of cores (i.e., large blocks of habitat) connected by linkages (more linear features) that allow for genetic transfer and movement of species throughout the Plan Area (Figure 5.3-7A). The overall management of the SJWA is coordinated with the long-term management goals that the MSHCP needs to accomplish to achieve a sustained MSHCP Reserve. CDFW issued the NCCP permit in June 2004 approving the MSHCP, butand is not a Permittee or Participating Special Entity (PSE) under the MSHCP. However, pursuant to CEQA, CDFW would continue to demonstrate consistency with the MSHCP, an adopted Habitat Conservation Plan, in the context of Issue BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. See Section 5.3.6.7.

The MSHCP Planning Area encompasses approximately 1.26 million acres or about 2,000 square miles in western Riverside County. The Plan Area, larger than the State of Delaware, includes all of the unincorporated territory west of the crest of the San Jacinto Mountains to the Orange County line, as well as the cities of Temecula, Murrieta, Menifee, Wildomar, Lake Elsinore, Canyon Lake, Norco, Corona, Eastvale, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto.

The MSHCP calls for the acquisition of 153,000 acres of new conservation land (Additional Reserve Lands or ARL) to augment and enhance 347,000 acres of land presently conserved in the public domain (Public/Quasi-Public (PQP) Lands). Ultimately, the MSHCP goal is to form a 500,000-acre self-sustaining habitat reserve in western Riverside County that protects, recovers, and sustains 146 Covered Species (MSHCP Reserve). To provide the habitat necessary to protect and allow for the future viability of the 146 species covered under the MSHCP, the areas that are

not a part of the PQP Lands were overlaid with "Criteria Cells." It is from the area overlaid with Criteria Cells that the ARL (i.e., 153,000 acres) will be compiled, and ultimately the combination of the PQP Lands and ARL will form the 500,000-acre MSHCP Reserve (Figure 5.3-7B.1 and Figures 5.3-7B.2). The SJWA occurs within 4 Area Plans (Lakeview/Nuevo, Reche Canyon/Badlands, San Jacinto Valley, and the Pass), which are organized by the applicable SJWA Unit (Figure 5.3-7B.1 and Figures 5.3-7B.2).

SJWA Davis Unit is within the Existing Core H of the MSHCP which includes Lake Perris State Recreation Area. Existing Core H "provides live-in habitat for certain species, contains soils suitable for some Narrow Endemic Plant Species, supports vernal pool complexes and may provide a connection to Proposed Core 3 in the Badlands and the middle reach of the San Jacinto River. Planning Species for which Habitat is provided within Existing Core H include bobcat, Los Angeles pocket mouse, Stephens' kangaroo rat, smooth tarplant, San Jacinto Valley crownscale, spreading navarretia, California Orcutt grass, vernal barley and thread-leaved brodiaea. Maintenance of habitat quality, floodplain process along the San Jacinto River, and Conservation of vernal pool complexes are important for these species. Existing Core H likely provides for Live-In Habitat for small rodents and common mammals, including bobcat and San Diego black-tailed jackrabbit" (MSHCP, p.3-38).

The Potrero Unit is within the Proposed Core 3 (Badlands/Potrero) of the MSHCP. Proposed Core 3 is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris/Mystic Lake), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. Proposed Core 3 also functions as a linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of Proposed Core 3. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest MSHCP Core Areas. In addition, Proposed Core 3 is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of Proposed Core 3. Proposed Core 3 has a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing agricultural use. Within the core, important Live-In and Movement Habitat is provided for Bell's sparrow, loggerhead shrike, cactus wren, Stephens' kangaroo rat, southern California rufous-crowned sparrow, and mountain lion, which have key populations in the Badlands (RCTLMA 2007, Section 3.2.3).

Stephens' Kangaroo Rat Habitat Conservation Plan

In October 1988, the Stephens' kangaroo rat (SKR) was listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS). Under the Endangered Species Act (ESA), both the SKR and its habitat were protected from any type of disturbance resulting in "take" of the species. The net effect was to freeze new development on more than 22,000 acres throughout western

Riverside County. The Riverside County Habitat Conservation Agency (RCHCA) was formed in 1990 for the purpose of planning, acquiring, and managing habitat for the SKR and other endangered, threatened, and candidate species. The RCHCA is a Joint Powers Agreement agency comprised of the Cities of Corona, Hemet, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Perris, Riverside, Temecula, Wildomar, and the County of Riverside.

To address impacts of the SKR listing, the RCHCA prepared a Short-Term HCP. This HCP, approved by the USFWS and CDFW in August 1990, was intended as an interim conservation program designed to afford protection to the SKR while a plan providing for the establishment of permanent preserves could be developed. In 1996, a longer term SKR HCP was prepared by the RCHCA for the USFWS, and in agreement with the CDFW, to establish permanent preserves. The SKR HCP was approved in 1996 and developed in accordance with CESA and ESA. The SJWA is located within the SKR HCP area.

The 2007 RCHCA Stephens' Kangaroo Rat Habitat Management Plan (HMP) provided the RCHCA with a plan for effective management of the SKR populations and habitat on RCHCA-owned parcels that can be implemented and monitored consistent with the SKR HCP. The plan represents current management practices for SKR, compliant with the SKR HCP and the MSHCP. The SKR HMP included a summary evaluation of management strategies, and found, in the context of the SJWA LMP Study Area, that the most appropriate techniques for management of SKR habitat include grazing, burning, and mowing. CDFW is a permittee in the SKR HCP and as such, management of SKR on the SJWA must be consistent with the SKR HCP and HMP.

There are two parcels on the Davis Unit that were purchased for SKR mitigation and are to be managed for SKR. One is located in D3 and includes the northern portion of Mystic Lake. There is an endowment for the management of SKR for this parcel. However, management for SKR has not been implemented fully due to the low earnings of the endowment. There is another parcel acquired for mitigation at the southern end of D6 and D15. The portion in D15 is occupied with SKR and has been mowed periodically for SKR management.

The Potrero Unit was purchased in 2003 from the Lockheed Martin Corporation, for $25.5 million. In 2013, an endowment of $1.5 million was invested with the National Fish and Wildlife Foundation, which will be used for SKR management. There are currently not enough funds to be responsibly withdrawn. However, the frequency of wildfire at the Potrero Unit has eliminated the need for management at this time.

4.5.3 Development Accommodated by County and City General Plans

Each city and county in California is required to adopt a general plan to guide land use within its jurisdiction in accordance with Section 65300 of the California Government Code. Land use on

property immediately surrounding the SJWA is guided by the Riverside County General Plan, the City of Moreno Valley General Plan, the City of Beaumont General Plan, and the City of Perris General Plan.

Riverside County

The Davis Unit of the SJWA is primarily located within an area identified as the Reche Canyon/Badlands Area Plan in the Riverside County General Plan. The Area Plan contains policies to guide land use and development consistent with the largely rural and rugged character of the area. The area features a mixture of open space resources (especially in its mountain and canyon reaches), and a combination of Agriculture, Conservation, Open Space, and Rural Residential land use designations provide an array of rural living, habitat, and recreation opportunities (County of Riverside 2015a). Areas to the immediate east and west of the Davis Unit are unlikely to be developed due to the rugged, rocky terrain of the Badlands (and the Conservation lands use designation applied to much of the area) and the rocky mountainous terrain surrounding Lake Perris. Unincorporated County lands located south of the Davis Unit are governed by the Lakeview/Nuevo Area Plan. The area displays a rural/agricultural character as typified by tracts of rural residential development and small commercial centers surrounded by agricultural farms and operations to the north, west, and east and mountainous terrain to the south. Land use designations south of the Davis Unit and adjacent to Ramona Expressway include Rural Mountainous (single-family residential uses on 10-acre minimum plots), Agriculture, Conservation Habitat, Medium Density Residential (2–5 dwelling units/acre), and Commercial Retail.

While the majority of the Potrero Unit is located within the City of Beaumont's jurisdictional boundaries, a small portion of the unit is located on unincorporated Riverside County lands in an area governed by the San Jacinto Valley Area Plan. Furthermore, unincorporated county lands located northwest of the Potrero Unit are also governed by the Pass Area Plan and lands to the east are governed by the Pass Area Plan and the Riverside Extended Mountain Area Plan. The San Jacinto Valley Area encompasses the cities of Hemet and San Jacinto, and the East Hemet and Valle Vista communities. While the Valle Vista/East Hemet area is largely urbanized, the western and southern portion of the plan area is largely rural, mountainous, and agricultural, including agricultural operations north and south of the San Jacinto River. Land use designations of the San Jacinto Valley Area Plan in the vicinity of the Potrero Unit include Conservation, Rural Mountainous, Open Space Rural, and Public Facilities. Lands designated for community development (i.e., residential and commercial uses) tend to be concentrated to the south of the Potrero Unit, and more specifically, in the central portion of the planning area. Lands within the ridge and valley terrain of the Pass Area are generally designated for either Conservation or Rural Mountainous use (County of Riverside 2015d). The Riverside Extended Mountain Area Plan is comprised of several small unincorporated mountain and desert communities that are surrounded by Open Space (Conservation Habitat and Open Space Rural) and Rural

Mountainous land use designations. In addition, a patchwork of agricultural lands is located in the southwestern corner of the plan area.

As stated in the General Plan Vision Statement (Chapter 2) and the Land Use Element (Chapter 3), the County of Riverside is moving away from a growth pattern of random sprawl toward a pattern of concentrated growth and increased job creation. The intent of the new growth patterns and the new mobility systems is to accommodate the transportation demands associated with future growth and to provide mobility options that help reduce the need to utilize the automobile. The circulation system is designed to fit into the fabric of the land use patterns and accommodate the open space systems (County of Riverside 2015a).

City of Moreno Valley

The northernmost portion of the Davis Unit is located within the jurisdictional boundary of the City of Moreno Valley. According to the City's General Plan, ~~development allowed~~ the land use designation for development in the~~is~~ area includes Business Park/Light Industrial, Commercial, ~~Residential (2, 5, and 10 dwelling units per acre),~~ Open Space, and Public Facilities. However, while there is a piece of land in the northwest portion designated for Rural Residential and a small area designated Commercial on the eastern portion of the Davis Unit ~~residential land use designations occur in the northernmost portion of the Davis Unit,~~ this area is currently undeveloped. A portion of the Rural Residential designated land is shown as private land on Figure 2-3. The City of Moreno Valley General Plan also identifies the ~~Gilman Springs Road corridor for~~ area north of the SJWA for Business Park/Light Industrial use (two existing large industrial distribution centers are located in the area, south of SR-60 and north of Eucalyptus Avenue). Residential land use designations from 2 – 10 dwelling units per acre occur west of Theodore Street and north and south of SR-60 (City of Moreno Valley ~~2014~~ 2017).

City of Beaumont

According to the City of Beaumont's General Plan land use map, the Potrero Unit is designated for Recreation and Conservation use, and the area located immediately north of the Potrero Unit is designated for rural residential use (City of Beaumont 2007). Rural residential designations generally extend to the north toward the I-10 corridor; however, industrial, single-family residential, community commercial, and commercial industrial uses also dot the I-10 corridor. The majority of vacant land located within the City of Beaumont and north of I-10 is designated for single-family residential development.

City of Perris

As previously stated in Section 4.2, lands located west of the Davis Unit and Ramona Expressway are governed by the City of Perris General Plan and are largely single-family residential Specific

Plan Areas but also support occasional multi-family developments; neighborhood parks; and elementary, middle, and high schools (City of Perris 2013). The majority of lands located further west of the Davis Unit but east of I-215 are situated within designated Specific Plan Areas and are developed with industrial warehouses and distribution centers, rural residences, and occasional schools and commercial businesses.

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5.1 AIR QUALITY

5.1.1 Introduction

This section addresses potential air quality impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.1.2 provides a description of the existing conditions for air quality in the project study area, and Section 5.1.3 describes the regulatory setting. Section 5.1.4 describes the methodology used for the evaluation of air quality. Section 5.1.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts of implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.1.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.1.7. The level of significance after mitigation is provided in Section 5.1.8, and Section 5.1.9 lists the references cited in this section.

Notice of Preparation (NOP) comments related to air quality include a request from the SCAQMD to identify any potential air quality impacts from all phases of implementation of the LMP, to quantify criteria pollutants emissions, and that CDFW should use the CalEEMod land use emissions software. A copy of the NOP and comments received is included in Appendix A.

The analysis included in this section is based on information provided by the California Department of Fish and Wildlife (CDFW), the County of Riverside, the Cities of Moreno Valley and Beaumont, the South Coast Air Quality Management District (SCAQMD), and modeling of vehicle and LMP-specific emissions using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1, and the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model Version 8.1.0. Emissions calculations for the proposed LMP activities and operational activities from the CalEEMod modeling program are found in Appendix 5.1-A.

5.1.2 Existing Conditions

Climate and Topography

The SJWA is located within the South Coast Air Basin (SCAB) which is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

The general region lies in the semi-permanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is

interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area's natural physical characteristics (i.e., weather and topography), as well as man-made influences (i.e., development patterns and lifestyle). Factors such as wind speed, wind direction, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the SCAB. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The SCAB's combination of topography, low mean mixing height, abundant sunshine, and emissions from one of the largest urban areas in the United States has historically resulted in some of the worst air pollution in the nation.

The SJWA area's climate is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from an annual high of approximately 95 degrees Fahrenheit (°F) in August to a low of 42°F in December. Annual precipitation averages about 11.32 inches, falling mostly from December through March (U.S. Climate Data 2017).

During spring and early summer, air pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO), particulate matter, and nitrogen dioxide (NO_2) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen (NO_x) to form photochemical smog.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The closest off-site sensitive receptor locations to the SJWA include residential land uses to the south, approximately 105 feet from the Davis Subunit D14 boundary; a single residential unit located 50 feet to the north of the Potrero Subunit P6 boundary; and the Church of Scientology located approximately 280 feet from the Potrero

Subunit P7 boundary. Off-site sensitive receptors are located sufficient distances away from prospective areas of construction activities. The closest construction activity which would occur near on-site sensitive receptors consist of the installation of new trailers, new access gate and check-in station within Subunit P5, approximately 1,350 feet to the west of the single residential unit. Moreover, the two double-wide trailers used to house staff, located within the Davis Unit (soon to be replaced with three manufactured trailers) are considered to be sensitive receptors. On-site sensitive receptors are located approximately 656 feet from proposed construction activities.

Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), NO_2, CO, sulfur dioxide (SO_2), particulate matter equal to or less than 10 microns in aerodynamic diameter (PM_{10}), particulate matter equal to or less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$), and lead (Pb). These pollutants are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROGs), and NO_x react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, is automobile exhaust. Meteorology and terrain play major roles in O_3 formation and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and

[1] The descriptions of each of the criteria air pollutants and associated health effects are based on the Environmental Protection Agency (EPA) Six Common Air Pollutants (EPA 2016a) and the California Air Resources Board (CARB) Glossary of Air Pollutant Terms (CARB 2016a) published information.

chronic pulmonary fibrosis and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished lung function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOC. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as Pb, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered toxic air contaminants (TACs). There are no separate health standards for VOCs as a group.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute or

chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

The California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter) as a TAC in August 1998. Diesel particulate matter is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. Diesel particulate matter is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with diesel particulate matter (CARB 2000). To reduce the cancer risk associated with diesel particulate matter, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

5.1.3 Applicable Regulations, Plans, and Policies

Federal

Clean Air Act

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle

emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions. NAAQS are established for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3 year periods, depending on the pollutant. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames. Construction and operational emissions would fall under the CAA.

State

California Clean Air Act

In California, the task of air quality management and regulation has been legislatively granted to the CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 5.1-1, Ambient Air Quality Standards.

Table 5.1-1
Ambient Air Quality Standards

Pollutant	Average Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³) [f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Lead[j,k]	30-day Average	1.5 μg/m³	—	—
	Calendar Quarter	—	1.5 μg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m³	
Hydrogen sulfide	1-hour	0.03 ppm (42 μg/m³)	—	—
Vinyl chloride[j]	24-hour	0.01 ppm (26 μg/m³)	—	—
Sulfates	24-hour	25 μg/m³	—	—
Visibility reducing particles	8-hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: ppm = parts per million by volume; μg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected

number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter (μg/m^3) is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25° Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the primary and secondary NAAQS for O_3 were lowered from 0.075 ppm to 0.070 ppm.

[g] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

A TAC is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Federal laws use the term hazardous air pollutants (HAPs) to refer to the same types of compounds that are referred to as TACs under state law. California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill (AB) 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588).

AB 1807 sets forth a formal procedure for CARB and Office of Environmental Health Hazard Assessment (OEHHA) to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC.

Pursuant to AB 2588, existing facilities that emit air pollutants above specified levels were required to: (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3) notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

Idling of Commercial Heavy Duty Trucks (13 CCR 2485)

In July 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM prohibits idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds. The ATCM contains an exception that allows trucks to idle while queuing or involved in operational activities. This measure pertains to the reduction of diesel particulate matter (the primary TAC associated with construction activities) and criteria pollutant emissions from off-road equipment and diesel-fueled vehicles.

In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.)

In July 2007, CARB adopted an ATCM for in-use off-road diesel vehicles. This regulation required that specific fleet average requirements are met for NO_x emissions and for particulate matter emissions. Where average requirements cannot be met, BACT requirements apply. The regulation also included several recordkeeping and reporting requirements. In response to AB 8 2X, the regulations were revised in July 2009 (effective December 3, 2009) to allow a partial postponement of the compliance schedule in 2011 and 2012 for existing fleets. On December 17, 2010, CARB adopted additional revisions to further delay the deadlines reflecting reductions in diesel emissions due to the poor economy and overestimates of diesel emissions in California. The revisions delayed the first compliance date until no earlier than January 1, 2014, for large fleets, with final compliance by January 1, 2023. The compliance dates for medium fleets would be delayed until an initial date of January 1, 2017, and final compliance date of January 1, 2023. The compliance dates for small fleets would be delayed until an initial date of January 1, 2019, and final compliance date of January 1, 2028. Correspondingly, the fleet average targets were made more stringent in future compliance years. The revisions would also accelerate the phase-out of equipment with older equipment added to existing large and medium fleets over time, requiring the addition of Tier 2 or higher engines starting on March 1, 2011, with some exceptions: Tier 2 or higher engines on January 1, 2013, without exception; and Tier 3 or higher engines on January 1, 2018 (January 1, 2023, for small fleets).

On October 28, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulation. The amendments included revisions to the applicability section and additions and revisions to the definition. The initial date for requiring the addition of Tier 2 or higher engines for large and medium fleets, with some exceptions, was revised to January 1, 2012. New provisions would allow removal of emission control devices for safety or visibility purposes. The regulation was amended to combine the particulate matter and NO_x fleet average targets under one, instead of two, sections. The amended fleet average targets are based on the fleet's NO_x fleet average, and the previous section regarding particulate matter performance requirements was deleted completely. The BACT requirements, if a fleet cannot comply with the fleet average requirements, were restructured and clarified. Other amendments to the regulations included minor administrative changes to the regulatory text.

In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025)

On December 12, 2008, CARB adopted an ATCM to reduce NO_x and particulate matter emissions from most in-use on-road diesel trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The original ATCM regulation required fleets of on-road trucks to limit their NO_x and particulate matter emissions through a combination of exhaust retrofit equipment and new vehicles. The regulation limited particulate matter emissions for most fleets by 2011, and limited NO_x emissions for most fleets by 2013. The regulation did not require any vehicle to be replaced before 2012, and never required all vehicles in a fleet be replaced. In December 2009, the CARB Governing Board directed staff to evaluate amendments that would provide additional flexibility for fleets adversely affected by the poor California economy. On December 17, 2010, CARB revised this ATCM to delay its implementation along with limited relaxation of its requirements. Starting on January 1, 2015, lighter trucks with a GVWR of 14,001 to 26,000 pounds with 20-year-old or older engines would need to be replaced with newer trucks (2010 model year emissions equivalent as defined in the regulation). Trucks with a GVWR greater than 26,000 pounds with 1995 model year or older engines must be replaced as of January 1, 2015. Trucks with 1996–2006 model year engines must install a Level 3 (85% control) diesel particulate filter starting on January 1, 2012, to January 1, 2014, depending on the model year, and then must be replaced after 8 years. Trucks with 2007–2009 model year engines have no requirements until 2023, at which time they must be replaced with 2010 model year emissions equivalent engines as defined in the regulation. Trucks with 2010 model year engines would meet the final compliance requirements. The ATCM provides a phase-in option under which a fleet operator would equip a percentage of trucks in the fleet with diesel particulate filters, starting at 30% as of January 1, 2012, with 100% by January 1, 2016. Under each option, delayed compliance is granted to fleet operators who have or will comply with requirements before the required deadlines.

On September 19, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulations, including revisions to the compliance schedule for vehicles with a GVWR of 26,000 pounds or less to clarify that all vehicles must be equipped with 2010 model year emissions equivalent engines by 2023. The amendments included revised and additional credits for fleets that have downsized; implement early particulate matter retrofits; incorporate hybrid vehicles, alternative-fueled vehicles, and vehicles with heavy-duty pilot ignition engines; and implement early addition of newer vehicles. The amendments included provisions for additional flexibility, such as for low-usage construction trucks, and revisions to previous exemptions, delays, and extensions. Other amendments to the regulations included minor administrative changes to the regulatory text, including recordkeeping and reporting requirements related to other revisions.

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Local

Chapter 1, section 1.4.1 of this PEIR describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the SJWA area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

South Coast Air Quality Management District

While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the SJWA is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain the CAAQS and NAAQS in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The SCAQMD's governing board adopted the 2003 AQMP on August 1, 2003. The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard, provides a basis for a maintenance plan for CO for the future, and updates the maintenance plan for the federal NO_2 standard that the SCAB has met since 1992 (SCAQMD 2003). On March 10, 2009, the EPA issued a final rule partially approving and partially disapproving the 2003 AQMP. On February 2, 2011, the U.S. Court of Appeals for the Ninth Circuit ruled that EPA's partial approval was arbitrary and capricious. The court further ruled that the EPA should have ordered California to submit a

revised attainment plan for the SCAB after it disapproved the 2003 AQMP and that the EPA should have required transportation control measures.

The SCAQMD's governing board adopted the 2007 AQMP on June 1, 2007. The 2007 AQMP includes the same updates as the 2003 AQMP and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. As part of the 2007 AQMP, the SCAQMD requested that the EPA "bump up" the O_3 nonattainment status from severe to extreme to allow additional time for the SCAB to achieve attainment with the federal standard. The additional time would provide for implementation of state and federal measures that apply to sources over which the SCAQMD does not have control. The 2007 AQMP has been approved by CARB; however, on November 22, 2010, the EPA issued a proposed rule to approve in part and disapprove in part the portions related to attainment of the federal $PM_{2.5}$ standard. The EPA, however, approved the re-designation of the SCAB to an extreme O_3 non-attainment area, effective June 4, 2010.

On December 7, 2012, the SCAQMD's governing board adopted the Final 2012 AQMP (SCAQMD 2013), which was designed to meet applicable federal and state requirements for O_3 and particulate matter. The Final 2012 AQMP demonstrated attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the SCAB through adoption of all feasible measures. The 2012 AQMP also updates the EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act Section 182(e)(5) long-term measures for NO_x and VOC reductions. Based on general plans for cities and counties in the SCAB, demographic growth forecasts for various socioeconomic categories (i.e., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for their 2012 Regional Transportation Plan were used in the 2012 AQMP. In addition, emissions reductions resulting from SCAQMD regulations adopted by June 2012 and CARB regulations adopted by August 2011 are included in the baseline. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. The Final 2012 AQMP was approved by CARB on January 25, 2013, and was reviewed by the EPA with a final ruling on April 14, 2016.

The most recent adopted AQMP is the 2016 AQMP (SCAQMD 2017), which was adopted by the SCAQMD governing board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases (GHGs) and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017). Because mobile sources are the principal contributor to the SCAB's air quality challenges, the SCAQMD has been and will continue to be closely engaged

with CARB and the EPA, who have primary responsibility for these sources. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. These "win-win" scenarios are key to implementation of this 2016 AQMP with broad support from a wide range of stakeholders. The SCAQMD 2016 AQMP applies the updated SCAG growth forecasts assumed in the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG 2016).

Applicable Rules

SCAQMD rules and regulations are provided as guidance to address emissions that would result from construction and operations on the SJWA. The following rules are included:

- **Rule 201 – Permit to Construct:** This rule establishes an orderly procedure for the review of new and modified sources of air pollution through the issuance of permits. Rule 201 specifies that any facility installing non-exempt equipment that causes or controls the emissions of air pollutants must first obtain a permit to construct from SCAQMD.
- **Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources. This rule prohibits visible emissions dark or darker than Ringlemann No.1 for periods greater than 3 minutes in any hour.
- **Rule 402 – Nuisance:** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.
- **Rule 403 – Fugitive Dust:** This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.
- **Rule 431.2 - Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of SO_x and particulates during combustion and to enable the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the district. The rule also affects diesel fuel supplied for mobile source applications.
- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions

from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities:** This rule establishes work practice requirements to limit asbestos emissions from building demolition and renovation, including the removal and disturbance of asbestos-containing materials (ACM).

Western Riverside Council of Governments

Riverside County and the City of Moreno Valley are members of the Western Riverside Council of Governments (WRCOG). WRCOG is the regional planning agency whose purpose is to unify western Riverside County. WRCOG has 16 member cities that together with the Riverside County Board of Supervisors and the Eastern and Western Municipal Water Districts have seats on the WRCOG Executive Committee who sets policy for the organization. WRCOG has formed the Clean Cities Coalition and the Regional Air Quality Task Force, which draw members from local jurisdictions, industry, SCAQMD, and environmental groups who are dedicated to achieving air quality goals for the region.

County of Riverside General Plan

The Air Quality Element of the Riverside County General Plan (Riverside County 2015) includes the following goals and policies related to air quality:

Policy AQ 2.2: Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3: Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.

Policy AQ 4.1: Encourage the use of building materials/methods which reduce emissions.

Policy AQ 4.5: Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features;
- Operating procedures;
- Preventive maintenance;
- Operator training; and
- Emergency response planning

Policy AQ 4.6: Require stationary air pollution sources to comply with applicable air district rules and controls measures.

Policy AQ 4.7: To the greatest extent possible, require every project to mitigate any of its anticipated emissions which will exceed allowable emissions as established by the SCAQMD, Mojave Desert Air Quality Management District (MDAQMD), Sheriff's Outreach Community Advisory Board (SOCAB), EPA and CARB.

Policy AQ 4.9: Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Policy AQ 4.10: Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.

Policy AQ 15.1: Identify and monitor sources, enforcing existing regulations, and promote stronger controls to reduce particulate matter.

Policy AQ 17.1: Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.

Policy AQ 17.4: Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.

Policy AQ 17.5: Adopt incentives and/or procedures to limit dust from agricultural lands and operations, where applicable.

Policy AQ 17.6: Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) includes goals, objectives, and policies related to air quality. Of particular relevance to CDFW is Policy 6.7.5 from Chapter 6 which requires that grading activities comply with SCAQMD Rule 403 regarding the control of fugitive.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) includes goals, objectives, and policies. Of particular relevance to CDFW is the Resource Management Element Policy 9 which requires that projects implement feasible fugitive dust reduction techniques to be utilized during construction activities such as regularly watering down the construction area.

Ambient Air Quality

South Coast Air Basin Attainment Designation

An area is designated "in attainment" when it is in compliance with the NAAQS or CAAQS. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare with a margin of safety. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/ attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a non-attainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The criteria pollutants of primary concern considered in this air quality assessment include O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Although there are no ambient standards for VOCs or NO_x, they are important because they are precursors to O_3.

The attainment classifications for the criteria pollutants in the SCAB are outlined in Table 5.1-2.

Table 5.1-2
South Coast Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	*State Standards*
Ozone (O_3) – 1 hour	No Federal Standard	**Nonattainment**
Ozone (O_3) – 8 hour	**Extreme Nonattainment**	**Nonattainment**
Nitrogen Dioxide (NO_2)	Unclassifiable/Attainment	Attainment
Carbon Monoxide (CO)	Attainment/Maintenance	Attainment
Sulfur Dioxide (SO_2)[a]	Not Designated (a)	Attainment
Coarse Particulate Matter (PM_{10})	Attainment/Maintenance	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	**Serious Nonattainment**	**Nonattainment**
Lead (Pb)	Nonattainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified

Table 5.1-2
South Coast Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	*State Standards*
Vinyl Chloride	No Federal Standard	No designation

Sources: EPA 2016b (federal); CARB 2016c (state).
[a] Federal designations for SO_2 are on hold by EPA; EPA expects to make the designations by December 2017 (EPA 2016d).
Notes: Attainment = meets the standards; Attainment/Maintenance = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to meet the standard despite a lack of monitoring data.

Air Quality Monitoring Data

The local ambient air quality in the SJWA is monitored by SCAQMD and CARB. CARB monitors ambient air quality at approximately 250 air quality monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

The following three air quality monitoring stations are the closest to the SJWA within Riverside County: Perris (237 ½ North D Street), Lake Elsinore (506 West Flint Street), and Rubidoux (5888 Mission Boulevard). Data was examined for each of the three air quality monitoring sites and the maximum air pollutant average was selected to represent the maximum for the entire county. The data collected at these stations are considered representative of the air quality experienced in the SJWA vicinity. Air quality data from 2014 through 2016 for the monitoring stations are provided in Table 5.1-3.

Table 5.1-3
Local Ambient Air Quality Data

Pollutant	Averaging Time	2014	2015	2016	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	1 hour	0.117 ppm	0.124 ppm	0.131 ppm	0.09 ppm (State)	Perris[a]
	8 hours	0.094 ppm	0.103 ppm	0.099 ppm	0.070 ppm (State/National)	
NO_2	1 hour	0.045 ppm	0.047 ppm	0.051 ppm	0.100 ppm (National)	Lake Elsinore[b]
	Annual	N/A	0.008 ppm	0.008 ppm	0.030 ppm (State)	
CO	1 hour	1.9 ppm	0.8 ppm	1.2 ppm	20 ppm (State)	Lake Elsinore[b]
	8 hours	1.4 ppm	0.6 ppm	0.6 ppm	9.0 ppm (State)	
SO_2	1 hour	0.056 ppm	0.019 ppm	0.056 ppm	0.075 ppm (State)	Rubidoux[c]
	24 hours	0.013 ppm	0.009 ppm	0.012 ppm	0.04 ppm (State)	
	Annual	0.000 ppm	0.000 ppm	0.000 ppm	0.030 ppm (National)	
PM_{10}	24 hours	82.0 µg/m^3	178.0 µg/m^3	N/A	50 µg/m^3 (State)	Perris[a]
	Annual	33.4 µg/m^3	31.4 µg/m^3	N/A	20 µg/m^3 (State)	

Table 5.1-3
Local Ambient Air Quality Data

Pollutant	Averaging Time	2014	2015	2016	Most Stringent Ambient Air Quality Standard	Monitoring Station
$PM_{2.5}$	24 hours	48.9 µg/m³	54.7 µg/m³	39.1 µg/m³	35 µg/m³ (National)	Rubidoux[c]
	Annual	N/A	11.8 µg/m³	N/A	12 µg/m³ (National)	

Sources: CARB 2017; EPA 2017.

Notes: ppm = parts per million; µg/m3 = micrograms per cubic meter; O_3 = ozone; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; N/A = not available; CO = carbon monoxide; SO_2 = sulfur dioxide.

Data were taken from CARB iADAM (http://www.arb.ca.gov/adam) or EPA AirData (http://www.epa.gov/airdata/) and represent the highest concentrations experienced over a given year. Exceedances of federal and state standards are only shown for ozone and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed either federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

[a] Perris Monitoring Station is located at 237 ½ North D Street, Perris, California.

[b] Lake Elsinore Monitoring Station is located at 506 West Flint Street, Lake Elsinore, California.

[c] Rubidoux Monitoring Station is located at 5888 Mission Boulevard, Rubidoux, California.

The number of days exceeding the ambient air quality standards is shown in Table 5.1-4.

Table 5.1-4
Local Frequency of Air Quality Standard Violations

Year	Number of Days Exceeding Standard					
	State 1-Hour O_3	*State 8-Hour O_3*	*National 8-Hour O_3*	*State 24-Hour PM_{10} [a]*	*National 24-Hour PM_{10} [a]*	*National 24-Hour $PM_{2.5}$[a]*
2014	16	63	59	36.4 (6)	0.0 (0)	N/A (5)
2015	25	50	49	25.7 (4)	6.6 (1)	10.3 (9)
2016	23	56	55	N/A (N/A)	N/A (0)	N/A (2)

Source: CARB 2017.

Notes: O_3 = ozone; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = insufficient data available to determine the value.

Exceedances shown are the total exceedances in Riverside County as measured by the following monitoring stations: Perris, Lake Elsinore, and Rubidoux.

Exceedances of national and state standards are only shown for O_3 and particulate matter. All other criteria pollutants did not exceed either national or state standards during the years shown.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

5.1.4 Methodology

Draft LMP Construction Activities

Implementation of the draft LMP would include numerous construction-related activities which consist of the following:

- Demolition/removal of two existing trailers (1,200 square feet and 1,300 square feet), installation of three 1,300 square foot manufactured homes, a domestic water system, and three 1,200 square foot shade structures located within Davis Subunit D8.
- Construction of a new water system, two residences (manufactured homes), an office, a workshop, and a warehouse at Potrero Subunit P5.
- Construction of a new power system at Potrero Subunit P6.
- Development of a water storage reservoir requiring up to 3 feet of cut to achieve the desired reservoir depth which would result in approximately 631,000 cubic yards of soil located within Davis Subunits D1and D2. Soil as a result of the water storage reservoir would remain on site and would be used for the construction of levees to be used as water management structures.
- Development of new road, access, and trail infrastructure including 5 miles of new trails around Mystic Lake and improvements to the auto-tour loop road within the Davis Unit.
- Construction of new hunting blinds and new water infrastructure required for the additional agriculture uses within the Davis Unit.

Operational Activities

The draft LMP includes nine proposed maintenance tasks which may include the following operational activities: Vegetation management; grazing; invasive species control/vegetation management; roads, access, and trail infrastructure maintenance; water infrastructure maintenance; agriculture; and administrative facilities and equipment maintenance. Several of the operational activities would necessitate the use of diesel construction equipment while most activities would solely consist of staff generated vehicle trips.

Construction Timing and Duration

Construction activities are anticipated to occur within the short-term (1 to 5 years or 5 to 10 years) after adoption of the draft LMP. Durations for each construction activity would range from 1 week to 3 months.

To provide a conservative analysis of construction and operational activities, representative draft LMP activities were identified based on information from California Department of Fish and Wildlife (CDFW). Information regarding a typical construction scenario, including anticipated phasing and phase duration, construction equipment, worker trips, vendor truck tips (including water trucks), and haul truck trips, was generated for each of these representative activities where information was not provided.

These representative activities are intended to represent a maximum, or worst-case, scenario associated with construction activities. Specifications for each of the proposed construction activities will vary depending on the subject site characteristics and specific site improvement needs. Not all proposed construction activities were modeled. The four representative construction activities were chosen based on the intensity and duration which would be required. The modeled and estimated maximum daily emissions included herein would represent a conservative assessment of air quality impacts associated with anticipated construction activities.

Pollutant emissions associated with construction and operational activities were quantified using CalEEMod and the Road Construction Emissions Model. LMP-specific information was assumed in CalEEMod based on information provided by CDFW. Default values provided in CalEEMod were used where detailed draft LMP information was not available.

Worker trip characteristics consist of workers traveling from home to the work site and returning home was provided by CDFW for each of the constructionactivities, which range from 20 to 50 one-way trips per worker per day depending on the construction activity undertaken. Vendor trips were assumed to range from a total of 5 to 500 one-way trips. Demolition activities would result in an updated haul trip length of 25 miles as provided by CDFW. The CalEEMod default values for off-site construction worker trip length of 19.8 miles and vendor trip length of 7.9 miles was assumed in the analysis. For the operational activities performed within the SJWA, worker and haul trip lengths were updated to a trip length of approximately 10 miles to account for travel occurring within the Davis and Potrero Units.

Operational emissions resulting from additional visitors to the SJWA were calculated based on the projected increase in vehicle trips. CDFW anticipates an increase in visitor trips the following five areas:

- 500 more hunters and fisherman per year are expected which would result in approximately 34 trips per day during the 30 day hunting season,
- 500 more bird watchers and wildlife viewers per year are expected which would result in approximately 4 trips per day from February through October,
- School trips would account for an 10 additional trips per year,

- 250 more dog trainers per year are expected which would result in approximately 3 trips per day occurring primarily within the 180 day season from September to February, and
- 100 more equestrian users per year are expected resulting in approximately 1 trip per day which would primarily occur between February through October.

Representative Construction Activities

The representative construction activities selected for this air quality analysis are described in this subsection. Table 5.1-5 presents a summary of the representative construction activities analyzed herein.

Table 5.1-5
Representative Construction Activities Summary

Representative Project	Description of Construction Project
A	Construction of a water storage reservoir and a 16,000-foot-long, 12-foot-high levee within Davis Subunits D1 and D2,
B	Construction of a water system, two 1,440 square foot residences, a 1,440 square foot office, a workshop, and warehouse at Potrero Subunit P5
C	Demolition of two double-wide trailers and development of three 1,300 square foot manufactured homes, domestic water system, and three 1,200 square-foot shade structures within the Davis Unit
D	Construction of new road, access, and trail infrastructure within the Davis Unit

Source: Sewell 2016.

Details and construction assumptions for each representative construction activity are provided below.

Representative Construction Activity A: Water Storage Reservoir and Levee Construction

Development of the water storage project by CDFW in the Davis Unit could require up to 3 feet of cut to achieve the desired reservoir depth which would result in approximately 631,000 cubic yards of soil. CDFW intends to use the soil from the water storage project for construction of the levee; as such, soil import or export would not be required for the site, and soil hauling trips would not occur. Construction scenario details for Representative Construction Activity A are provided in Table 5.1-6.

Table 5.1-6
Representative Construction Activity A – Construction Scenario

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Water Storage Reservoir and Levee Construction	42	50	16	0	Graders	1
					Bulldozer (Rubber Tired Dozers)	1
					Backhoe (Tractors/Loaders/Backhoes)	1
					Earthmover Tractors (Tractors/Loaders/Backhoes)	2
Pipeline Work	23	50	16	0	Graders	1
					Bulldozer (Rubber Tired Dozers)	1
					Backhoe (Tractors/Loaders/Backhoes)	1
					Earthmover Tractors (Tractors/Loaders/Backhoes)	2

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Construction Activity B: Construction at Potrero Unit

Future development within the Potrero Unit would include two new residences and an office which would each be 1,440-square-foot double-wide trailers. Additionally, CDFW plans to develop a workshop and warehouse within the site. Construction scenario details for Representative Construction Activity B are provided in Table 5.1-7.

Table 5.1-7
Representative Construction Activity B – Construction Scenario

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Rough Grading	2	24	0	0	Graders	1
					Tractors/Loaders/Backhoes	1
Infrastructure Improvements and Building Construction	52	24	2	0	Tractors/Loaders/Backhoes	1
Power System Installation	10	24	2	0	Tractors/Loaders/Backhoes	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Construction Activity C: Construction at Davis Unit

Construction activities that would occur in Davis Subunit D8 includes demolition/removal of the two existing double-wide trailers (one approximately 1,200 square feet and the other approximately 1,300 square feet). These trailers would be replaced with three, approximately 1,300-square-foot new manufactured homes, a domestic water system, and three new 1,200-square-foot shade structures. Construction scenario details for Representative Construction Activity C are provided in Table 5.1-8.

Table 5.1-8
Representative Construction Activity C – Construction Scenario

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Demolition	5	20	0	10	Construction Equipment (Concrete/Industrial Saws)	1
					Construction Equipment Tractors/Loaders/Backhoes	1
Grading	5	20	0	0	Tractors/Loaders/Backhoes	1
Building Construction	17	20	3	0	Tractors/Loaders/Backhoes	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Construction Activity D: Construction at Davis Unit

The Davis Unit would require the construction of a new road, access, and trail infrastructure. Approximately 5 miles of new trails would be constructed around Mystic Lake (proposed feature). A new parking and access area would be constructed off Gilman Springs Road. Existing roadways would also see improvements such as graveling and elevating the auto-tour loop road which provides primary visitor access to the SJWA. Construction scenario details for Representative Construction Activity D are provided in Table 5.1-9.

Table 5.1-9
Representative Construction Activity D – Construction Scenario

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Grubbing/Land Clearing	3	24	0	30	Graders	1

Table 5.1-9
Representative Construction Activity D – Construction Scenario

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Grading/Excavation	9	24	0	90	Graders	1
					Tractors (Tractors/Loaders/Backhoes)	1
					Backhoes (Tractors/Loaders/Backhoes)	1
Sub-Grade	8	24	0	80	Graders	1
					Tractors (Tractors/Loaders/Backhoes)	1
					Backhoes (Tractors/Loaders/Backhoes)	1

Source: Sewell 2016.
Notes: Days of construction is an estimation based on the assumption of 20 work days per month.
Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Operational Activities

The representative operational activities selected for this air quality analysis are described in this subsection. Table 5.1-10 presents a summary of the representative proposed operational activities analyzed herein.

Table 5.1-10
Representative Operational Activity Summary

Representative Activity	Description of Operational Activity
A	Task 1: An additional 1,910 acres of active Stephens Kangaroo Rat (SKR) habitat management is identified which may require habitat manipulations including mowing, grazing, disking, herbicide application, or prescribed fire to maintain optimum grassland habitat values within the Davis Unit. Habitat manipulations would be expected to be approximately 300 acres per year.
B	Task 1: An additional 638 acres of active SKR management is identified which may require habitat manipulations including mowing, grazing, disking, herbicide application, or prescribed fire to maintain optimum grassland habitat values within the Potrero Unit. Annual habitat manipulations would be expected to average 125 acres. An additional 600 acres within Potrero Subunit P10, may be added to the active management area in the future.
C	Task 4: Expansion of food crop planting by 400 acres.
D	Task 6: Road, access, and trail infrastructure maintenance.

CDFW lists various habitat/species maintenance tasks for wetlands, riparian, alkali, SKR, and upland areas are either currently being implemented or would be implemented through management actions. Both current and future tasks can be seen in Table 2-1 of the Project Description (see Chapter 2).

Details and assumptions for representative operational activities are provided below.

Representative Operational Activity A: SKR Management at Davis Unit (Task 1)

Future SKR management areas would require habitat manipulations such as mowing, grazing, disking, herbicide application, or prescribed fire. The additional 1,910 acres identified for potential active SKR management habitat in the Davis Unit is managed on a 5-year cycle, with an annual average of approximately 300 acres managed per year. Operational activities undertaken within the SKR management areas would necessitate the use of off-road equipment for the following maintenance activities: vegetation management, grazing, and invasive species control/vegetation management. SKR habitat management typically would occur from March through June. Further operational details that is required for SKR management activities within the Davis Unit are provided in Table 5.1-11.

Table 5.1-11
Representative Operational Activity A

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Vegetation Management	88	2	0	0	Tractors (Tractors/Loaders/Backhoes)	1
					Mowers (Industrial Saws)	1
Grazing	88	2	0	0	Tractors (Tractors/Loaders/Backhoes)	1
Invasive Species Control	88	2	0	2	Backhoe (Tractors/Loaders/Backhoes)	1
					Dozer/Front-end Loader (Tractors/Loaders/Backhoes)	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Operational Activity B: SKR Management at Potrero Unit (Task 1)

Future SKR management areas would require habitat manipulations such as mowing, grazing, disking, herbicide application, or prescribed fire. The additional 638 acres identified for potential active SKR management areas and a potential 600 acres recommended within Potrero Subunit P10 would be managed on a 5-year cycle, with an annual average of approximately 125 acres managed per year. Operational activities undertaken within the SKR management areas would necessitate the use of off-road equipment for the following maintenance activities: vegetation management, grazing, and invasive species control/vegetation management. SKR habitat management typically would

occur from March through June. Further operational details that is required for SKR management activities within the Potrero Unit are provided in Table 5.1-12.

Table 5.1-12
Representative Operational Activity B

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Vegetation Management	88	2	0	0	Tractors (Tractors/Loaders/Backhoes)	1
					Mowers (Industrial Saws)	1
Grazing	88	2	0	0	Tractors (Tractors/Loaders/Backhoes)	1
Invasive Species Control	88	2	0	2	Backhoe (Tractors/Loaders/Backhoes)	1
					Dozer/Front-end Loader (Tractors/Loaders/Backhoes)	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Operational Activity C: Crop Management at Davis Unit (Task 4)

Proposed wildlife food crop planting area to be implemented by CDFW has the potential to expand by 400 acres of active production. Operational activities undertaken within the agriculture areas would necessitate the use of off-road equipment. Crop management typically would occur from March through July. Further operational details that is required for crop management activities within the Davis Unit are provided in Table 5.1-13.

Table 5.1-13
Representative Operational Activity C

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Crop Management	109	6	0	0	Tractors (Tractors/Loaders/Backhoes)	1
					Mowers (Industrial Saws)	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Representative Operational Activity D: Trail/Road Maintenance at Davis Unit (Task 6)

As previously discussed for Representative Construction Activity D, the Davis Unit would require the development of new road, access, and trail infrastructure. Approximately 5 miles of new trails would be constructed around Mystic Lake (proposed feature) and a new parking and access area would be constructed off Gilman Springs Road. Maintenance activities undertaken to the proposed road, access, and trail infrastructure would necessitate the use of construction equipment. Management of area roads, access, and trail areas typically would occur year round from January through December. Further details are provided in Table 5.1-14.

Table 5.1-14
Representative Operational Activity D

Construction Phase	Days	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment	Quantity
Trail/Road Maintenance	260	6	0	0	Dozer/Front-end Loader (Tractors/Loaders/Backhoes)	1
					Backhoe (Tractors/Loaders/Backhoes)	1

Source: Sewell 2016.
Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Lastly, this Program EIR (PEIR) evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed SJWA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to

Fish and Game Code Section 1602, 2081, 2800 et seq., or be reviewed by CDFW as a responsible agency under CEQA Guidelines Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.1.5 Standards of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Air quality impacts would be considered significant if a proposed project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district (AQMD) or air pollution control district (APCD) may be relied upon to determine whether the project would have a significant impact on air quality. The SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993, 2015), as revised in March 2015, sets forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality (SCAQMD 2015). Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 5.1-15, SCAQMD Air Quality Significance Thresholds, are exceeded.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3 (see Table 5.1-1), which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 5.1-15. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see the previous discussion of O_3 and its sources), and the

effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 5.1-15
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
Pollutant	*Construction*
VOCs	75 lb/day
NO_x	100 lb/day
CO	550 lb/day
SO_x	150 lb/day
PM_{10}	150 lb/day
$PM_{2.5}$	55 lb/day
Lead[a]	3 lb/day
Toxic Air Contaminants	
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Chronic & acute hazard index ≥ 1.0 (project increment)
Ambient Air Quality for Criteria Pollutants[b]	
NO_2 1-hour average Annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)
Ambient Air Quality for Criteria Pollutants[b]	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: • 20 ppm (state) and 35 ppm (federal) • 9.0 ppm (state/federal)
PM_{10} 24-hour average Annual average	 10.4 μg/m³ (construction)[d] 1.0 μg/m³
$PM_{2.5}$ 24-hour average	10.4 μg/m³ (construction)[d]

Source: SCAQMD 2015.
Notes: SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; lb/day = pounds per day; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; μg/m³ = micrograms per cubic meter.
[a] The phasing out of leaded gasoline started in 1976; gasoline no longer contains lead.
[b] TACs include carcinogens and non-carcinogens.
[c] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
[d] Ambient air quality threshold based on SCAQMD Rule 403.

In addition to the emission-based thresholds listed in Table 5.1-15, the SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of where construction activities would occur. Such an evaluation is referred to as a localized significance threshold (LST) analysis. For sites of 5 acres or less, SCAQMD LST Methodology (SCAQMD 2008) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e.,

the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling.

While the LST methodology document says "applicable at the project-specific level and generally are not applicable to regional projects such as local General Plans unless specific projects are identified in the General Plans," this assessment analyzes potential LST impacts associated with representative project construction activities under the draft LMP that are close to sensitive receptors. The LST Methodology is not designed to evaluate localized impacts from mobile sources (such as material delivery and haul trucks) traveling over roadways (SCAQMD 2008); however, it could be used to determine potential impacts associated with construction activities that occur within a localized area.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

a. Source-Receptor Area (SRA) in which the project is located.
b. Size of the project site.
c. Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

There are three SRAs identified in Riverside County where the proposed activities may occur. According to the SRA/City Table provided by the SCAQMD, the Davis Unit portion of the SJWA is located within Perris Valley area (SRA 24) while the Potrero Unit is located within the Hemet/San Jacinto Valley area (SRA 28) and Banning Airport area (SRA 29). While the southwestern most area of the Davis Unit is located near residences, construction activities would not be located near sensitive receptors (e.g., residences, hospitals, schools). Closest on-site sensitive receptors to potential construction activities within the Davis Unit include the two residential trailers located within the Davis Subunit D8, which would eventually be replaced by three manufactured homes situated in a similar configuration. Because staff currently occupy the two double-wide trailers, they would be considered sensitive receptors. The closest off-site sensitive receptors includes a single residential unit located adjacent to the Potrero Subunit P6 northern boundary. The values from the SCAQMD lookup tables for Riverside County SRAs for 1-acre project sites and a distance of 200 meters, or 656 feet, closest distance of sensitive receptors to proposed construction activities, are shown in Table 5.1-16, LSTs for Riverside County Source-Receptor Areas.

Table 5.1-16
LSTs for Riverside County Source-Receptor Areas

Pollutant	Thresholds (pounds/day)
	1-Acre Project Site, 200 meters (656 feet)
SRA 24 (Perris Valley)	
NO_2	335
CO	4,359
PM_{10}	67
$PM_{2.5}$	20
SRA 28 (Hemet/San Jacinto Valley)	
NO_2	460
CO	5,501
PM_{10}	67
$PM_{2.5}$	20
SRA 29 (Banning Airport)	
NO_2	299
CO	6,154
PM_{10}	129
$PM_{2.5}$	36

Source: SCAQMD 2008, Appendix C.
Notes: LST = localized significance threshold; SRA = Source-Receptor Area; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 200 meters (656 feet).

5.1.6 Impact Analysis and Mitigation

Issue AIR-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. Specifically, the SCAQMD recommends that environmental documents should discuss the project's consistency with the current AQMP (2016 AQMP), including several of the underlying key assumptions for the air quality plans, such as the number and location of population, housing units, and employment from the SCAG growth projections and plans, as well as consistency with a local government's air quality element or air quality-related policies in other general plan elements, if the local government has adopted such policies.

In general, projects are considered consistent with, and would not conflict with or obstruct implementation of the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP. The 2016 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use

and development. Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) were developed by the SCAG for its 2016 RTP/SCS based on general plans for cities and counties in the SCAB. The 2016 AQMP relies on the land use and population projections provided by SCAG, which is generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

If the project is inconsistent, the SCAQMD recommends that local governments should consider project modifications or inclusion of mitigation to eliminate the inconsistency. The SCAQMD CEQA Air Quality Handbook states, "It is important to note that even if a project is found consistent it could still have a significant impact on air quality under CEQA. For example, if the analysis demonstrates a project is consistent with the regional air plans and local Air Quality Element that does not mean that the project could not also have a significant effect on air quality by exceeding the significance thresholds" (SCAQMD 2015). There are two key indicators of consistency with the AQMP:

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP; and
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

The SJWA traverses multiple jurisdictions with distinct general plan land use designations and zoning designations, however, proposed construction and operational activities are related to making improvements to the SJWA. The draft LMP would not propose to change existing land uses or applicable policies as designated in the general plans of the affected jurisdictions. In addition, it is not anticipated that implementation of the draft LMP would require a change in land use designations. Therefore, the draft LMP would not conflict with SCAG's growth projections anticipated in the 2016 AQMP because the draft LMP would not introduce a land use or zoning conflict with the county's or cities' existing land use designations for the SJWA.

Implementation of the draft LMP would not directly introduce substantial population growth in the area. While the draft LMP would increase the amount of traffic to the surrounding area due to the transport of construction workers, supplies, and equipment, these activities would be temporary. Furthermore, proposed long-term operational activities would require the need for minimal additional staffing (14 permanent and 6 seasonal staff) in addition to increasing visitation to the SJWA by approximately 1,360 trips per year, which includes 500 more hunters and fisherman per year, 500 more bird watchers and wildlife viewers per year, 10 additional school field trips per year, 250 more dog trainers per year, and 100 more equestrian users per year. Based on the proposed construction and operational activities, the LMP is not anticipated to

generate growth to the region not accounted for in the 2016 SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) .

To address the criterion regarding the draft LMP's potential to result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the AAQS or interim emission reductions in the AQMP, an air quality modeling analysis that identified the change in air quality was performed. The SCAB is a nonattainment area for O_3, NO_2, PM_{10}, and $PM_{2.5}$ under the NAAQS or CAAQS. Because activities under the draft LMP could contribute to an increase in fugitive dust emissions this is considered a **potentially significant impact (Class II)**. However, after implementation of MM-AIR-1a, which requires that construction activities not overlap with development of the water storage project and levee, and MM-AIR-1b, which specifies methods that would help reduce fugitive dust emissions and demonstrate compliance with SCAQMD Rule 403, the draft LMP was determined to not result in a net increase of VOC, NO_x, PM_{10}, or $PM_{2.5}$ emissions that would exceed the SCAQMD thresholds; therefore, it is not anticipated to contribute to the frequency or severity of existing air quality violations or delay timely attainment of the AAQS or interim emission reductions in the 2016 AQMP.

Because implementation of the draft LMP would not generate substantial population and employment growth that was not accounted for in the SCAG 2016 RTP/SCS and construction or operational activities would not generate emissions that would exceed the SCAQMD thresholds, impacts relating to the draft LMP's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

MM-AIR-1a Construction Schedule. Based on the substantial earthwork required for construction of the water storage reservoir and levee located within the Davis Unit, the CDFW will require contractors to develop grading plans such that other earthwork activities associated with other representative activities, would not coincide with the grading schedule of the water storage reservoir and levee. This will ensure the daily maximum PM_{10} emissions threshold is not exceeded.

MM-AIR-1b Fugitive Dust Control. CDFW will require construction activities adhere to South Coast Air Quality Management District Rule 403, which includes a variety of measures intended to reduce fugitive dust emissions. The following measures will be implemented during maintenance activities, as needed, to reduce the potential for fugitive dust emissions during grading, excavation, and construction activities:

- The areas disturbed at any one time by clearing, grading, earth-moving, or excavation operations will be minimized to prevent excessive amounts of dust.

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earth-moving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth-moving, and excavation operations will be curtailed to the degree necessary to prevent fugitive dust created by construction activities and operations from being a nuisance or hazard, either on site or off site.
- During all construction activities, construction contractors will sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers will be compliant with SCAQMD Rule 1186.1.

Issue AIR-2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The draft LMP includes a few construction and operational activities which would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from construction equipment at proposed construction sites, as well as from on-road vehicles (workers and trucks). Chapter 2, Project Description, describes planned improvements to the SJWA, all of which requires some level of construction activity. Planned improvements would generally occur over short-term (1 to 5 years or 5 to 10 years) and could vary substantially from day to day, depending on the level and type of activity, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Pollutant emissions associated with construction and operational activities were quantified using CalEEMod and the Road Construction Emissions Model. Default values provided by the program were used where detailed draft LMP information was not available. A detailed depiction of the construction schedule including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles, is included Tables 5.1-5 through 5.1-9 for proposed

construction activities and Tables 5.1-10 through 5.1-14 for proposed operational activities for each representative activity described in Chapter 2, Project Description, Section 2.3.1.

Construction and operational activities must adhere to SCAQMD Rules 401 (Visible Emissions), 403 (Fugitive Dust), and 431.2 (Sulfur Content of Liquid Fuels) during construction-related activities, which would assist in minimizing activity-generated fugitive dust emissions and combustion pollutants.

For the purpose of this air quality analysis, all proposed construction and operational activities are compared to the SCAQMD construction and operational thresholds for criteria air pollutants to determine the draft LMP's potential to result in significant impacts to air quality.

Construction Emissions

Table 5.1-17 presents the estimated maximum unmitigated daily construction emissions generated during construction of the four representative proposed construction projects in 2018.

Table 5.1-17
Proposed Construction Activities Estimated Maximum Daily Construction Emissions

Activity	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Representative Construction Activity A: Development of Water Storage Reservoir and Levee	2.84	29.71	16.15	0.03	83.75	10.78
Representative Construction Activity B: Development at Potrero Unit	0.93	9.85	5.44	0.01	35.39	3.97
Representative Construction Activity C: Development at Davis Unit	0.95	7.28	7.43	0.01	43.48	4.78
Representative Construction Activity D: Development of New Roads, Access, and Trail Infrastructure	3.64	31.15	27.71	0.07	16.84	4.58
Maximum daily emissions	**3.64**	**31.15**	**27.71**	**0.07**	**83.75**	**10.78**
SCAQMD pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix 5.1-A for complete results.
Year 2018 was conservatively assumed to represent the year of construction.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by Rule 403.

As shown in Table 5.1-17, estimated maximum daily construction emissions for individual representative activities would not exceed the SCAQMD construction thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Maximum daily emissions were estimated for 2018 to represent the first

year of anticipated construction. Maximum daily construction emissions in 2019 or later, compared to modeled emissions for 2018, would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Representative activities were chosen based on the intensity of the activity undertaken, if multiple construction activities were to occur simultaneously, there would be an increased likelihood for the SCAQMD significance threshold for PM_{10} to be exceeded. Construction activities of the proposed water storage reservoir and levee are anticipated to occur over 3 months, the longest of the construction activities analyzed. Durations for each of the other proposed construction activities would vary from 1 to 3 months. Construction activities may occur concurrently with another construction activity; however, it is unknown to the extent which it may occur. Although it is unlikely that construction activities discussed in Table 5.1-5 would proceed concurrently due to funding considerations and because construction phasing specifics are unknown as of this time, the increase in air emissions would be considered a **potentially significant impact (Class II)** because concurrent construction activities could result in PM_{10} emissions that exceeds the SCAQMD significance threshold. MM-AIR-1a and MM-AIR-1b has been included to ensure that daily construction emissions would be minimized. As required by MM-AIR-1a, CDFW shall require contractors to develop grading plans to limit the possibility of other earthwork activities overlapping with development of the water storage reservoir and levee. As specified in MM-AIR-1b, best management practices would be implemented during earth-moving activities to reduce fugitive dust emissions and demonstrate compliance with SCAQMD Rule 403. With implementation of MM-AIR-1a and MM-AIR-1b, it was determined that the SCAQMD threshold for PM_{10} would not be exceeded and impacts would be reduced to less than significant.

Operational Emissions

Table 5.1-18 presents estimated maximum daily operational emissions resulting from proposed operational activities and from vehicle emissions generated from the increase in visitors to the SJWA.

Table 5.1-18
Estimated Maximum Daily Operational Emissions

Activity	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Routine Maintenance Activity						
Representative Operational Activity A: SKR Management at Davis Unit	1.66	14.49	13.72	0.02	20.05	2.87
Representative Operational B: SKR Management at Potrero Unit	1.66	14.49	13.72	0.02	20.05	2.87

Table 5.1-18
Estimated Maximum Daily Operational Emissions

Activity	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Representative Operational C: Crop Management at Davis Unit	0.81	6.56	6.27	0.01	6.22	1.02
Representative Operational D: Road, Access, and Trail Maintenance	0.56	5.29	4.89	0.01	6.13	0.92
Mobile Sources from Additional Visitors	3.39	4.59	40.98	0.01	0.04	0.15
Total	***8.08***	***45.42***	***79.58***	***0.07***	***52.49***	***7.83***
SCAQMD pollutant threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix 5.1-A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by Rule 403.

As shown in Table 5.1-18, representative operational activities and mobile emissions would not exceed the SCAQMD thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. While the draft LMP proposes additional operational activities, emissions generated would primarily be attributed to an incremental increase in minimal staff vehicle trips and manual labor and an increase in visitation to the SJWA. Therefore, activities not represented within the table would provide a slight contribution to operational emissions. Additionally, depending on when the proposed operational activities would occur, maximum daily operational emissions could be less than estimated due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Representative operational activities proposed are not expected to exceed the SCAQMD thresholds. As such, impacts would be less than significant.

MM-AIR-2 Implement MM-AIR-1a and MM-AIR-1b.

Issue AIR-3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors)?

Refer to Section 5.1.7, Cumulative Impacts and Mitigation for this discussion.

Issue AIR-4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction LST Analysis

It was conservatively assumed that the closest off-site sensitive receptor (single residential unit) that could potentially be affected by construction activities was assumed to be located at a distance of about 411 meters (1,350 feet) to the east of proposed construction activities at Subunit P5. Additionally, on-site sensitive receptors (two double-wide trailers used for staff within Subunit D8) could also be potentially be affected by construction activities and was assumed to be located at a distance of about 200 meters (656 feet). The localized significance thresholds (LSTs) that are applied assumed the most stringent LST threshold within the Riverside County Source-Receptor Areas (SRAs), as presented in Table 5.1-16.

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during proposed construction activities. As indicated in the discussion of the thresholds of significance, the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the construction site. Individual proposed construction activities would be temporary in nature. Representative projected construction activities are estimated to range in duration from 1 week to 3 months. The intensity of the construction activities, including the number of equipment operating in a day, truck trips, and worker trips, would vary depending on the construction activity undertaken. Distance to nearby sensitive receptors would also vary depending on the locations of construction activity.

Construction activities would result in temporary sources of fugitive dust and construction vehicle emissions. Off-site emissions from haul trucks, vendor trucks, and worker vehicle trips are not included in the LST analysis. The maximum allowable daily emissions that would satisfy the most stringent SCAQMD localized significance criteria for SRAs located within the SJWA, as shown in Table 5.1-16, are compared to the maximum daily on-site construction emissions and presented in Table 5.1-19.

Table 5.1-19 presents the estimated maximum unmitigated daily on-site construction emissions generated during construction of additional trails, access, and roads which represents the closest construction activities to sensitive receptors. While the maximum daily construction emissions would occur during construction of the water storage reservoir and levee, the approximate location where these activities are to be undertaken exceed the SCAQMD screening distance of 500 meters or 1,640 feet. Therefore, on-site emissions generated from proposed trail, access, and road construction are compared with the most stringent SCAQMD localized significance criteria. As shown in Table 5.1-19, maximum daily on-site construction emissions would not exceed

the most stringent LST thresholds. As such, construction impacts on ambient air quality at sensitive receptor locations would be **less than significant (Class III)**.

Table 5.1-19
Localized Significance Thresholds Analysis for Construction Activities

Pollutant	Construction Emissions (pound/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	27.88	335	No
CO	31.19	4,359	No
PM_{10}	16.85	67	No
$PM_{2.5}$	4.58	20	No

Source: SCAQMD 2008.
Notes: NO_x = oxides of nitrogen; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; lb/day = pounds per day.
See Appendix 5.1-A for detailed results.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 200 meters.
Year 2018 was conservatively assumed to represent the year of construction.
The PM_{10} and $PM_{2.5}$ estimates reflect control of fugitive dust required by Rule 403.

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (level of service E or worse). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Construction activities and improvements associated with the draft LMP would be temporary and would not be a source of daily, long-term mobile-source emissions. In regards to long-term operations, implementation of the draft LMP would result in a minimal incremental increase in project-generated traffic attributed to employment of additional staff and from trips associated with visitors to the SJWA. Accordingly, operational activities would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions, the potential for CO hotspots in the SCAB is steadily decreasing. Maximum background CO levels in Riverside County, as shown in Table 5.1-3, are around 5 percent of the 1-hour and 8-hour CAAQS and would be expected to improve further due to reductions in motor vehicle emissions. Based on these considerations, implementation of the draft LMP would result in a **less-than-significant impact (Class III)** to air quality with regard to potential CO hotspots.

Asbestos

Naturally Occurring Asbestos

Asbestos is listed as a TAC by CARB and as a HAP by the EPA. It occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma.

The SJWA is not in an area known likely to contain any naturally occurring asbestos (USGS 2011); therefore, the potential of exposing sensitive receptors to airborne naturally occurring asbestos is a **less-than-significant impact (Class III)**.

Asbestos-Containing Material

In the initial Asbestos National Emission Standards for Hazardous Air Pollutants rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed (friable) and those materials that were unlikely to result in significant fiber release (non-friable). The EPA has since determined that severely damaged, otherwise non-friable materials can release significant amounts of asbestos fibers. Asbestos has been banned from many building materials under the Toxic Substances Control Act, the Clean Air Act, and the Consumer Product Safety Act. However, most uses of asbestos for building material are not banned. Therefore, the potential source of asbestos exposure from construction activities includes demolition of the existing residential units.

SCAQMD's Rule 1403 specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, includes the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos-containing waste materials (ACWM). The regulation further states that the SCAQMD shall be notified of the intent to conduct any demolition or renovation activity.

Compliance with SCAQMD, federal, and state regulations during demolition activities would reduce the potential of ACM exposure to a **less-than-significant impact (Class III)**.

Prescribed Burning Impacts

Prescribed burning is the intentional use of fire to reduce wildfire hazards, clear downed trees, control plant diseases, improve rangeland and wildlife habitats, and restore natural ecosystems. Prescribed burning, however, produces smoke which can be a nuisance and adversely affect the health of nearby residents and businesses. Smoke from burning wood and other vegetation contains a hazardous mixture of chemical substances such as CO, NO_x, VOCs, dioxins, polycyclic aromatic hydrocarbons (PAHs) and particulate matter. Some of the VOCs and PAHs are irritating, toxic, or carcinogenic. The chemical makeup and total amount of these pollutants produced from burning depends on how the vegetation is burned. Smoke from prescribed burning contains PM_{10} and $PM_{2.5}$ which can cause numerous negative human health effects. In addition, smoke generated by the burning of wood are composed of various tars, gases, soot, and ashes. Ground-level ozone is another air pollutant of concern, which is a secondary product of biomass burning formed through the oxidation of non-methane hydrocarbons and other VOCs in the presence of elevated levels of NO_x.

Implementation of the draft LMP would include prescribed burning to reduce potential wildfire risks. Prescribed burning activities are likely to produce short-term elevations in regional pollutant levels. The SCAQMD requires planning and management protocols for prescribed burning activities be implemented prior to, during, or following execution of prescribed burning to reduce the potential for elevated levels of pollution that may result from these activities. In addition, potential pollutant levels produced by such activities would be less and are of a shorter duration than the levels of pollution likely to be created in the event of a wildfire. Currently, habitat management practices within the Davis Unit includes the occasional occurrence of prescribed burning. Additional land within the Davis and Potrero Units that would undergo prescribed burning would also be subject to regulations and restrictions set forth by the California Department of Forestry and Fire Protection and SCAQMD. After the SCAQMD approves all the burn planning requirements, including the burn permit and Smoke Management Plan (SMP), the CDFW would need to notify the public about the planned timing and specifics of the prescribed burn to be granted final authorization by the SCAQMD. The draft LMP would be required to comply with the SCAQMD regulations pertaining to prescribed burning, which would minimize emissions generated by each burn. Therefore, impacts from prescribed burning would be **less than significant (Class III)**.

Toxic Air Contaminants

TACs are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health (see Section 5.1.2, Existing Conditions). The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks. The nearest sensitive receptors relative to approximate locations of proposed construction activities

within the Davis Unit are two double-wide trailers used for staff, located within Subunit D8. It is anticipated that construction activities would be concentrated in areas that would be a substantial distance (about 200 meters/or 656 feet) away from these sensitive receptors.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. "Incremental cancer risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Construction activities would not require the extensive use of heavy-duty construction equipment, which is subject to a CARB ATCM for in-use diesel construction equipment to reduce diesel particulate emissions, and it would not involve extensive use of diesel trucks. Most of the construction activities would be short-term in duration with each occurring 1 to 3 months to complete. Additional operational activities are not expected to generate substantial emissions of criteria air pollutants or TACs. Since TACs generated by long-term operational activities would be reduced in contrast with short-term construction activities, future emissions are expected to result in lower emissions overtime as each construction activity is completed. Thus, construction and operational activities would not result in a long-term (i.e., 70-year) source of TAC emissions. As such, impacts related to exposure of sensitive receptors to project-related TAC emission impacts during construction and operations would be **less than significant (Class III)**.

Health Impacts of Herbicide Application

While there are no established SCAQMD significance thresholds for herbicides, application of herbicides (fusillade) could result in adverse effects to sensitive receptors due to chemical drift. The potential for chemical drift is dependent on several factors, which include the proximity to populated areas, droplet size, wind flow, equipment used, and height of application above ground. Ground-based application of herbicide is not expected to result in air quality impacts since the application would occur only within application areas identified for agriculture uses and because fusillade has a very low volatility.

Although application of herbicide would involve use of workers and equipment such as a tractors, no adverse health effects would be expected in humans at the airborne levels below the occupational exposure limit. Additionally, the Occupational Health and Safety Administration (OSHA) is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Impacts from exposure to airborne pesticides could include skin or eye irritation or respiratory problems (similar to those that result from smog), if the chemicals were to drift to populated areas. While the SJWA has land dedicated for agriculture uses, the draft LMP proposes additional acreage. The closest proposed agriculture area (Subunit D4) to sensitive receptors (staff residences within Subunit D8) would be approximately 0.92 mile, a sufficient distance from sensitive receptors allowing for the application of herbicides to dissipate. For these reasons, the impact would be less than significant (Class III).

Health Impacts of Criteria Air Pollutants

Construction would generate criteria air pollutant emissions; however, these activities would not exceed the SCAQMD mass-emission thresholds. As presented in Table 5.1-1, the SCAB is a nonattainment area for O_3, NO_2, PM_{10}, and $PM_{2.5}$ under the NAAQS or CAAQS. The potential health effects associated with pollutants are presented in Section 5.1.2, Existing Conditions, under "Pollutants and Effects."

VOCs and NO_x (precursors to O_3): Because implementation of the draft LMP involves construction activities that would primarily be completed within a short duration (each construction activity would take 1 to 3 months) and would not result in NO_x or VOC emissions that would exceed the SCAQMD thresholds, it can be concluded that the draft LMP would not substantially contribute to regional O_3 concentrations and associated health impacts.

NO_2: In addition to O_3, NO_x contributes to potential exceedances of the NAAQS and CAAQS for NO_2. However, as shown in Table 5.1-3, Local Ambient Air Quality Data, the existing NO_2 concentrations are below the NAAQS and CAAQS. Thus, it is not expected that construction NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects, which are primarily associated with respiratory irritation.

CO: The associated CO hotspots were discussed previously as a less-than-significant impact. Thus, the CO emissions as a result of implementation of the draft LMP would not contribute to the health effects associated with this pollutant.

PM_{10} and $PM_{2.5}$: Implementation of the draft LMP would not generate emissions of $PM_{2.5}$; however, concurrent construction activities could exceed the PM_{10} SCAQMD threshold. Therefore, health impacts would be considered **potentially significant (Class II)**. Mitigation measures MM-AIR-1a and MM-AIR-1b would be implemented by the by the draft LMP to reduce fugitive dust emissions.

The majority of the construction activities proposed by implementation of the draft LMP would occur over a short duration; however, future, additional ongoing operational activities would also occur. While it is unknown how many of the construction activities would occur concurrently, implementing MM-AIR-1a and MM-AIR-1b would help reduce fugitive dust emissions. Additionally, operational activities proposed are not expected to exceed the SCAQMD thresholds (discussed under Issue AIR-2). Because construction activities could create substantial localized PM_{10} impacts, implementation of the draft LMP would result in a potentially significant contribution to the adverse health impacts associated with those pollutants. Compliance with mitigation measures would reduce impacts to less than significant.

MM-AIR-4 Implement MM-AIR-1a and MM-AIR-1b.

Issue AQ-5 Would the project create objectionable odors affecting a substantial number of people?

It is possible that odors could be released during construction activities of the SJWA. Objectionable odors would be generated from vehicles and equipment exhaust emissions during construction. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and application of architectural coatings. Such odors would disperse rapidly from the area and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses typically associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. While implementation of the draft LMP does include an increase in land that is dedicated for agricultural uses, these activities would occur in areas situated away from residences and other occupied facilities. Odors generated from operational activities of the draft LMP would primarily consist of maintenance equipment and vehicle exhaust generated by staff or visitors traveling within the SJWA. Additionally, chemicals used for maintenance and cleaning on site would be used in small quantities and would not be used in concentrations substantial enough to significantly impact areas surrounding the SJWA. To the extent that objectionable odors would be emitted by operational activities, they would be localized within the SJWA. Moreover, the closest on-site sensitive receptors are located approximately 656 feet away from operational activities that may expel objectionable odors as a result of construction equipment (maintenance to roads), a sufficient distance away from operational activities, therefore expelled odors would dissipate. Additionally, such activities would be localized to a specific location for short durations and would be temporary. Therefore, draft LMP operational activities would result in an odor impact that is **less than significant (Class III)**.

5.1.7 Cumulative Impacts and Mitigation

In considering cumulative impacts from implementation of the draft LMP, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality. The basis for analyzing the project's cumulative considerable contribution is if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively

considerable contribution" to the cumulative air quality impact) as well as consistency with the SCAQMD 2016 AQMP, which addresses the cumulative emissions in the SCAB.

The SCAB is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under the NAAQS or CAAQS. The nonattainment status in the SCAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (e.g., VOC and NO_x for O_3,) potentially contribute to poor air quality. Construction activities associated with implementation of the draft LMP would generate emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ associated with construction and long-term operational emissions. However, as indicated in Table 5.1-17 and Table 5.1-18, which presents maximum daily construction and operational emissions, respectively, construction emissions from individual construction and operational activities would not exceed SCAQMD significance thresholds. However, as discussed in Issue AIR-2, concurrent construction activity could result in the exceedance of PM_{10} emissions. Implementing MM-AIR-1a and MM-AIR-1b would assist in minimizing project-generated fugitive dust emissions. MM-AIR-1a requires that construction of the water storage project and levee not overlap with earthwork activities associated with other construction activities. MM-AIR-1b specifies best management practices that would be implemented during earthmoving activities to reduce fugitive dust emissions and demonstrate compliance with SCAQMD Rule 403. As discussed in Issue AIR-1, the analysis of the draft LMP's potential to conflict with or obstruct implementation of the applicable air quality plan, it was determined implementation of the draft LMP would not conflict with the SCAQMD 2016 AQMP.

Cumulative localized impacts would potentially occur if a construction activity were to occur concurrently with another off-site project. Construction schedules for potential future off-site projects near the SJWA are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative. However, future activities under the draft LMP would be subject to CEQA and would require project-specific air quality analysis and, where necessary, mitigation if the SCAQMD thresholds were exceeded. Section 15145 of CEQA Guidelines states that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact. This discussion is nonetheless provided in an effort to show good faith analysis and comply with CEQA's information disclosure requirements. Air pollutant emissions associated with construction activity of future draft LMP activities would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future activities would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. In addition, future off-site projects would be subject to CEQA, which would require an air quality analysis (if not exempt), and would be required to implement mitigation if the project would exceed the SCAQMD thresholds.

Because implementation of the draft LMP could exceed the PM_{10} SCAQMD threshold, it could conflict with the SCAQMD 2016 AQMP, which addresses the cumulative emissions in the SCAB (see discussion under Issue AIR-1). Based on the considerations presented above, the construction and operational emissions associated with implementation of the draft LMP could be cumulatively considerable for nonattainment pollutants. Potential cumulative air quality impacts resulting from implementation of the draft LMP would be potentially significant (Class II). Compliance with mitigation measures MM-AIR-1a and MM-AIR-1b would reduce the LMP's contribution and the cumulative contribution would be less than significant.

5.1.8 Level of Significance After Mitigation

With implementation of MM-AIR-1a and MM-AIR-1b, Issue AIR-1, AIR-2, AIR-3, and AIR-4 impacts would be reduced to less than significant.

5.1.9 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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5.2 GREENHOUSE GASES

5.2.1 Introduction

This section addresses potential greenhouse gas (GHG) impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.2.2 provides a description of the existing conditions for GHGs of the draft LMP, and Section 5.2.3 describes the regulatory setting. Section 5.2.4 describes the methodology used for the evaluation of GHGs. Section 5.2.5 provides the standards of significance criteria and the impact analysis. An analysis of cumulative impacts of implementation of the draft LMP are provided in Section 5.2.6, and an analysis of significance after mitigation is provided in Section 5.2.7. Section 5.2.8 lists the references cited in this section.

Comments received in response to the Notice of Preparation (NOP) included a request that GHG emissions be quantified and mitigation measures included. A copy of the NOP and comment letters received is included in Appendix A.

The analysis included in this section is based on information provided by the California Department of Fish and Wildlife (CDFW), the County of Riverside, the Cities of Moreno Valley and Beaumont, the South Coast Air Quality Management District (SCAQMD), and modeling of vehicle and project-specific emissions using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1. Emissions calculations for the proposed construction and operational activities from the CalEEMod modeling program are found in Appendix 5.1-A.

5.2.2 Existing Conditions

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by the Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a three-fold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect

is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that in general, climate changes prior to the Industrial Revolution in the 1700's can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change (IPCC 2013, EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further under, Potential Effects of Climate Change.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, fluorinated gases (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3)), chlorofluorocarbons (CFCs), and hydrochlorofluorocarbons (HCFCs), in addition to water vapor. Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Some industrial gases are also GHGs which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[1]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans,

[1] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and EPA's Glossary of Climate Change Terms (2016a).

volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of coal, oil, natural gas, and wood.

Methane. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are also TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, the CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016b). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to

another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2E).

The California Emissions Estimator Model (CalEEMod) (version 2016.3.1) assumes that the GWP for CH_4 is 21 (which means that emissions of 1 MT of CH_4 are equivalent to emissions of 21 MT of CO_2), and the GWP for N_2O is 310, based on the IPCC Second Assessment Report (1995). The IPCC has released subsequent assessment reports with updated GWPs, and statewide documents are beginning to transition to the use of the GWPs in the IPCC Fourth Assessment Report. GWP used in EPA's 2016 Inventory of U.S Greenhouse Gas Emissions and Sinks and CARB's California 2016 GHG emissions inventory are based on the IPCC Fourth Assessment Report (IPCC 2007), which includes 1 for CO_2, 25 for CH_4 (a slight increase), and 298 for N_2O (a slight decrease). Nonetheless, because the primary project-related GHG emissions are from CO_2, the use of the revised GWPs would not substantially change the overall project-generated GHG emissions. As such, for the purposes of this analysis, it is appropriate to use the hardwired GWP values in CalEEMod from the IPCC Second Assessment Report.

Sources of Greenhouse Gas Emissions

According to the 2016 GHG inventory data compiled by CARB for the California Greenhouse Gas Inventory for 2000–2014, California emitted 441.5 MMT CO_2E of GHGs in 2014, including emissions resulting from out-of-state electrical generation (CARB 2016b). The sources of GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture, and other sources, which include commercial and residential activities. These primary contributors to California's GHG emissions and their relative contributions in 2014 are presented in Table 5.2-1.

Table 5.2-1
GHG Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	Percent of Total[a]
Transportation	159.53	36%
Industrial uses	93.32	21%
Electricity generation[b]	88.24	20%
Residential and commercial uses	38.34	9%
Agriculture	36.11	8%
High GWP substances	17.15	4%
Recycling and waste	8.85	2%
Total	**441.54**	**100%**

Source: CARB 2016b.
Notes: GHG = greenhouse gas; MMT CO_2E = million metric tons of carbon dioxide equivalent per year.
[a] Percentage of total has been rounded.
[b] Includes emissions associated with imported electricity, which account for 36.51 MMT CO_2E annually.

During the 2000 to 2014 period, per-capita GHG emissions in California have continued to drop from a peak in 2001 of 13.9 MT per person to 11.4 MT per person in 2014, representing an 18% decrease. In addition, total GHG emissions in 2014 were 2.8 MMT CO_2E less than 2013 emissions.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could take place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010a).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more

frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central, and most notably, Southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by over 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (CNRA 2014), is provided below.

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs).

Energy. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise.

Forestry. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions.

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and

severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first Century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries.

Transportation. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also impact negatively groundwater reserves and result in increased overdraft and subsidence. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

5.2.3 Regulatory Framework

Federal

Massachusetts v. EPA

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act (CAA):

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
    1. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
    2. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued EO 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

1. ***Climate Action Plan.*** In June 2013, President Obama issued a national Climate Action Plan (Plan) that consisted of a wide variety of executive actions and had three pillars: (1) cut carbon in America, (2) prepare the U.S. for impacts of climate change, and (3) lead international efforts to combat global climate change and prepare for its impacts (EOP 2013). The Plan outlines 75 goals within the three main pillars: cut carbon in America, prepare the U.S. for impacts of climate change, and lead international efforts.

2. The Center for Climate and Energy Solutions one-year review of progress in implementation of the Plan (C2ES 2014) found that the administration made at least some progress on most of the Plan's 75 goals, and many of the specific tasks outlined had been completed. Notable areas of progress included steps to limit carbon pollution from power plants; improve energy efficiency; reduce CH_4 and HFC emissions; help communities and industry become more resilient to climate change impacts; and end U.S. lending for coal-fired power plants overseas.

U.N. Framework Convention on Climate Change Pledge

On March 31, 2015, the State Department submitted the U.S. target to cut net GHG emissions to the United Nations Framework Convention on Climate Change (UNFCCC). The submission, referred to as an Intended Nationally Determined Contribution (INDC), is a formal statement of the U.S. target, announced in China last year, to reduce our emissions by 26–28% below 2005 levels by 2025, and to make best efforts to reduce by 28% (C2ES 2016). The target reflects a planning process that examined opportunities under existing regulatory authorities to reduce emissions in 2025 of all GHGs from all sources in every economic sector. Several U.S. laws, as well as existing and proposed regulations thereunder, are relevant to the implementation of the U.S. target, including the CAA (42 U.S.C. 7401 et seq.), the Energy Policy Act (42 U.S.C. 13201 et seq.), and the Energy Independence and Security Act (42 U.S.C. 17001 et seq.).

Clean Power Plan and New Source Performance Standards for Electric Generating Units

On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA Administrator to review the Clean Power Plan to determine whether it is consistent with current executive policies concerning GHG emissions, climate change and energy.

State

Executive Order (EO) S-3-05

EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

AB 32 and CARB's Climate Change Scoping Plan

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*) in accordance with Health and Safety Code Section 38561. The *Scoping Plan* establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%

3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the *Scoping Plan,* CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

More recently, in 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (*First Update*). The stated purpose of the *First Update* is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing [which focuses on infill development to reduce vehicle trips], fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

Based on CARB's research efforts presented in the *First Update*, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050." Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions.

On January 20, 2017, CARB released The *2017 Climate Change Scoping Plan Update (Second Update)* for public review and comment (CARB 2017). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The *Second Update* incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the *Second Update*, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016a). When discussing project-level GHG emissions reduction actions and thresholds, the *Second Update* states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA." It is expected that the *Second Update* will be considered by CARB's Governing Board in late June 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2E. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

California Code of Regulations Title 24, Part 6

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2013 Title 24 standards became effective on July 1, 2014. Buildings constructed in accordance with the 2013 standards were estimated to use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards (CEC 2012).

The 2016 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2017. The 2015 Title 24 standards will further reduce energy used and associated GHG emissions. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015).

The draft LMP would be required to comply with 2016 Title 24 standards because its building construction phase would commence after January 1, 2017. This analysis does not quantify the increased energy efficiency and corresponding GHG emissions savings associated with the more stringent 2016 Title 24 standards, which results in a conservative assessment of GHG emission savings because the 2016 Title 24 standards have been documented to reduce energy usage (e.g., for lighting, heating, cooling, ventilation, and water heating) and associated GHG emissions. Instead, the draft LMP's GHG emissions estimates conservatively are in accordance with CalEEMod's default assumption that the 2013 Title 24 standards are the operative standards. This "pool" of required 2016 Title 24 GHG savings, while not quantified for thedraft LMP, nonetheless will occur and represent GHG additional reductions beyond those required by the recommended mitigation measures.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance

- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030.[2] As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a zero net energy code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

AB 1493

In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

[2] See, e.g., CPUC, California's Zero Net Energy Policies and Initiatives, Sept. 18, 2013, available at http://www.cpuc.ca.gov/NR/rdonlyres/C27FC108-A1FD-4D67-AA59- 7EA82011B257/0/3.pdf. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

EO S-1-07

Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375

SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the Sustainable Communities Strategy is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

In 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a SCS will be the responsibility of the metropolitan planning organizations. SCAG prepared its RTP/SCS, which was adopted by the SCAG Regional Council in April 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035 (SCAG 2012). On June 4, 2012, the CARB executive officer issued an executive order accepting SCAG's quantification of GHG reductions and the determination that implementation of the SCS would achieve the GHG emission reduction targets established by CARB. On April 4, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS which builds upon the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction by 2020 and a 18% reduction by 2040 (SCAG 2016).

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12

EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 939 and AB 341

In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery

(CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

Increasing the amount of commercial solid waste that is recycled, reused, or composted will reduce GHG emissions primarily by 1) reducing the energy requirements associated with the extraction, harvest, and processing of raw materials; and 2) using recyclable materials that require less energy than raw materials to manufacture finished products (CalRecycle 2015). Increased diversion of organic materials (green and food waste) will also reduce GHG emissions (CO_2 and CH_4) resulting from decomposition in landfills by redirecting this material to processes that use the solid waste material to produce vehicle fuels, heat, electricity, or compost.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the SJWA. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

Southern California Association of Governments

SB 375 requires metropolitan planning organizations to prepare an SCS in their RTP. The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012 (SCAG 2012), and the 2016–2040 RTP/SCS (2016 RTP/SCS) was adopted in April 2016. Both the 2012 and 2016 RTP/SCSs establish a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2012 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. Consistent with SB 375 direction, the 2012 and 2016 RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with SB 375 but provide incentives for consistency for governments and developers. Because the current SCAQMD AQMP (2016 AQMP) is based on the SCAG 2016 RTP/SCS demographic growth forecasts for various socioeconomic categories (e.g. population, housing, employment by industry) developed by SCAG for their 2016–2040 RTP/SCS, the SCAG 2016 RTP/SCS is discussed in Section 5.2.6.

County of Riverside Climate Action Plan

In 2015, the County of Riverside developed a Climate Action Plan (CAP) that serves as a comprehensive strategy guide to reduce GHG emissions in the unincorporated communities of Riverside County. The County's CAP includes GHG inventories of community-wide and municipal sources based on the most recent data available for the year 2008. As provided in the County's CAP, projects that exceed a screening threshold of 3,000 MT Carbon dioxide Equivalent (CO_2E)are required to garner at least 100 points worth of reduction quantities from the Screening Tables in Appendix F of the CAP to determine a project's consistency with the County's GHG Technical Report.

City of Beaumont Sustainable Beaumont

In 2015, the City of Beaumont adopted the Sustainable Beaumont (Plan), which demonstrates how the City has been involved on issues relating to environmental sustainability. The Plan sets out a series of goals for the City that are grounded in the principles of environmental soundness and sustainable development and provides GHG reduction measures in the following areas, residential and commercial land uses, water efficiency, transportation, solid waste and clean energy. Additionally, the Plan also provides screening tables for developers to fill out during applications of new development projects. The Plan's screening tables provide various measures including energy efficiency improvements, renewable energy options, water conservation measures, and other options that provide predictable GHG reductions. Each measure within the screening tables includes point values based upon the GHG reduction that option will provide to a development projects. If a project implements a variety of measures totaling 100 points or more, the project is determined to have provided a fair-share contribution of GHG reductions, and therefore, are considered consistent with the Plan.

City of Moreno Valley Energy Efficiency and Climate Action Strategy

On October 9, 2012, the Moreno Valley City Council approved an Energy Efficiency and Climate Action Strategy (CAS) and related GHG analysis. The City's CAS identifies potential programs and policies to reduce overall City energy consumption and increase the use of renewable energy. The majority of the policies are directed at municipal operations of the City, but the document also contains recommended policies for the community at large (including private development projects). These recommended policies include but are not limited to: energy efficiency, water use reduction, trip reduction, solid waste diversion, and educational policies. The overall goal of the CAS is to ensure that the City is consistent with and would not otherwise conflict with the provisions of AB 32.

County of Riverside General Plan

The Air Quality Element of the Riverside County General Plan (Riverside County 2015) includes the following goals and policies applicable to the reduction of greenhouse gases :

Policy AQ 4.4: Require residential building construction to comply with energy use guidelines detailed in Part 6 (California Energy Code) and/or Part 11 (California Green Building Standards Code) of Title 24 of the California Code of Regulations.

Policy AQ 5.1: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 19.3: Require new development projects subject to County discretionary approval to achieve the greenhouse gas reduction targets established in the CAP either through:

a. Garnishing 100 points through the Implementation Measures found in the County's CAP; or

b. Requiring quantification of project specific GHG emissions and reduction of GHG emissions to, at minimum, the applicable GHG reduction threshold established in the CAP.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) includes goals, objectives, and policies related to climate change. Of particular relevance is the Conservation Element which includes the following policy pertaining to reducing GHG emissions. This policy is designed to reduce GHGs generated by wastewater treatment plants by encouraging the use of other sources of water for irrigation that require less energy.

Policy 7.3.2: Encourage the use of reclaimed wastewater, stored rainwater, or other legally acceptable non-potable water supply for irrigation.

5.2.4 Methodology

CalEEMod version 2016.3.1 was used to calculate the annual GHG emissions based on the construction and operational scenarios described in the Methodology section included in Section 5.1, Air Quality.

This PEIR evaluates the potential short-term (during construction), long-term (post-construction/operation/management), direct, indirect, and cumulative environmental impacts of the proposed SWJA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Fish and Game Code Section 1600 et seq. or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.2.5 Standards of Significance

The amended CEQA Guidelines, which became effective on March 18, 2010, state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards". CEQA Guidelines Section 15064.4(b) provides that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In addition, CEQA Guidelines Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence". Similarly, the revisions to Appendix G, Environmental Checklist Form, of the CEQA Guidelines (which is often used as a basis for lead agencies' selection of significance thresholds), do not prescribe specific thresholds. Rather, the CEQA Guidelines establish two new CEQA thresholds related to GHGs, and these will therefore be used to discuss significance of project impacts:

1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the draft LMP, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. Thus, GHG impacts are recognized exclusively as cumulative impacts; there are no noncumulative GHG emission impacts from a climate change perspective (CAPCOA 2008).

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009c). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Office of Planning and Research's (OPR's) Technical Advisory titled CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence

of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence".

To address Impact GHG-1, this PEIR uses the SCAQMD recommended (not adopted) numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects. In October 2008, SCAQMD presented to the Governing Board the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (SCAQMD 2008). The guidance document explored various approaches for establishing a significance threshold for GHG emissions; however, the document was not adopted or approved by the Governing Board.

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. In December 2008, the SCAQMD adopted an interim 10,000 MT CO_2E per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2E per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2E per year), commercial projects (1,400 MT CO_2E per year), and mixed-use projects (3,000 MT CO_2E per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2E per year would be used for all

non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2E per service population for project level analyses and 6.6 MT CO_2E per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The SCAQMD recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies" (SCAQMD 2008).

Although the draft LMP does not fall into a specific land use category mentioned above (i.e., residential, commercial, mixed-use, industrial), construction GHG emissions would be amortized over a 30-year period and compared to Tier 3, Option 2 of the SCAQMD recommendations of a threshold of 3,000 MT CO_2E per year for all residential and commercial projects.

To address Impact GHG-2, a qualitative analysis evaluating the program's consistency with SCAG's 2016-2040 RTP/SCS and consistency with EO S-3-05 and SB 32 was performed.

Issue GHG-1 Would project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The draft LMP would result in construction GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor trucks, and worker vehicles. The SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies" (SCAQMD 2008). Thus, the total construction GHG emissions were calculated and amortized over 30 years. Annualized construction emissions over 30 years were then added to the estimated operational emissions and compared with the GHG significance threshold of 3,000 MT CO_2E to determine the significance of GHG emissions associated with implementation of the draft LMP.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 5.1, Air Quality.

Representative Construction Activities

Table 5.2-2 presents annual construction emissions for each representative construction activity analyzed from on-site and off-site emission sources. As discussed within Section 5.1, construction activities are anticipated to occur within the short-term (1 to 5 years or 5 to 10 years) after adoption of the draft LMP. Durations for each activity would range from 1 week to 3 months. The representative construction activities presented herein involves the most intensive work undertaken.

Table 5.2-2
Representative Construction Activities Estimated Annual GHG Emissions

Project Element	CO_2	CH_4	N_2O	CO_2E
	Metric Tons			
Representative Construction Activity A: Water Storage Reservoir and Levee Construction	101.66	0.02	0.00	102.26
Representative Construction Activity B: Construction at Potrero Unit	18.76	0.00	0.00	18.84
Representative Construction Activity C: Construction at Davis Unit	9.86	0.00	0.00	9.90
Representative Construction Activity D: Construction at Davis Unit (construction of new road, access, and trail infrastructure)	66.43	0.01	0.00	66.95
Total	**196.71**	**0.03**	**0.00**	**197.95**

Notes: See Appendix 5.1-A for complete results.
Emission factors for 2018 were used in CalEEMod to estimate construction emissions.
CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.

Table 5.2-2 presents estimated annual construction emissions in 2018 from on-site and off-site emission sources. As presented in Table 5.2-2, Representative Construction Activity A, which includes water storage reservoir and levee construction, was estimated to result in the greatest emissions of the construction activities analyzed. Construction of the representative construction activities would result in approximately 198 MT CO_2E in 2018. Total project-generated construction GHG emissions were estimated over a 30-year implementation period and amortized to determine the average annual GHG emissions. Construction activities amortized over a 30-year period is estimated to result in a total of 7 MT CO_2E.

Representative Operational Activities

Construction assumptions for Representative Operational Activities A through D are presented in Section 5.1, Air Quality.

Table 5.2-3 presents estimated total annual construction emissions resulting from representative operational activities. Emission factors for 2018 were used in CalEEMod to conservatively estimate operational emissions during the first anticipated year for which operations would occur. The annual frequency of each activity analyzed was determined by CDFW staff to estimate the total annual activity proposed under the draft LMP which is described in Section 5.1. Representative Operational Activity A, SKR Management at Davis Unit and Representative Operational Activity B, SKR Management at Potrero Unit would be managed on a 5-year cycle, therefore GHG emissions for each activity were annualized. Furthermore, as discussed in Section 5.1, the draft LMP would result in an increase in visitors to the SJWA consisting of the following: fishermen and hunters, bird watchers and wildlife viewers, dog trainers, equestrian users, and school field trips.

Table 5.2-3
Representative Operational Activities Estimated Annual GHG Emissions

Activity Element	CO_2	CH_4	N_2O	CO_2E
	Metric Tons			
Representative Construction Activity A: SKR Management at Davis Unit	78.51*	0.00	0.00	78.94*
Representative Construction Activity B: SKR Management at Potrero Unit	78.51*	0.02	0.00	78.94*
Representative Construction Activity C: Crop Management at Davis Unit	46.97	0.01	0.00	47.15
Representative Construction Activity D: Trail/Road Maintenance at Davis Unit	79.02	0.02	0.00	79.60
Mobile Sources from Additional Visitors	11.05	0.00	0.00	11.64
Total	**294.06**	**0.05**	**0.00**	**296.27**

Notes: *The numbers are the same because the same equipment and phasing of construction was assumed based on information provided by CDFW. See Appendix 5.1-A for complete results.
Emission factors for 2017 were used in CalEEMod to estimate operational emissions.
CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.

As presented in Table 5.2-3, estimated project-generated operational GHG emissions would be approximately 296 MT CO_2E per year as a result of draft LMP operations. Representative Operational Activity D, Trail and Road Maintenance, was estimated to result in the greatest emissions of the operational activities analyzed.

Combined Construction and Operational Activities

Table 5.2-4 presents estimated total annual construction emissions from Representative Construction and Operational activities in 2018. Total project-generated construction GHG emissions were estimated over a 30-year implementation period and amortized to determine the average annual GHG emissions, which is then compared to the SCAQMD operational GHG emissions threshold of 3,000 MT CO_2E utilized in this analysis to determine the potential significance of project-generated GHG emissions.

Table 5.2-4
Combined Construction and Operational Annual Emissions

Project Element	MT CO_2E
Representative Construction Activities– Amortized Emissions	6.60
Representative Operational Activities	296.27
Combined total	**302.87**

Notes: See Appendix 5.1-A for complete results.
Emission factors for 2017 were used in CalEEMod to conservatively estimate construction and operational emissions.
MT CO_2E = metric tons carbon dioxide equivalent

As shown in Table 5.2-4, combined construction and operational activities is estimated to result in a combined total of approximately 303 MT CO_2E per year. Estimated average annual construction emissions would not exceed the SCAQMD thresholds of 3,000 MT CO_2E. Therefore, impacts from all representative construction and operational activities that could occur under the draft LMP related to GHG emissions would be **less than significant (Class III)**.

Issue GHG-2 Would the project conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?

The County of Riverside has adopted a Climate Action Plan (CAP), furthermore, both the City of Beaumont's *Sustainable Beaumont* (Plan) and the City of Moreno Valley's *Energy Efficiency and Climate Action Strategy* (CAS) have been adopted.

The County's CAP includes GHG inventories of community-wide and municipal sources based on the most recent data available for the year 2008. As provided in the County's CAP, projects that exceed a screening threshold of 3,000 MT CO_2E are required to garner at least 100 points worth of reduction quantities from the Screening Tables in Appendix F of the CAP to determine a project's consistency with the County's GHG Technical Report. As discussed under Issue GHG-1, construction and operational activities are estimated to result in a combined total of approximately 303 MT CO_2E per year, which would be significantly below the County's screening threshold of 3,000 MT CO_2E. Because the draft LMP would result GHG emissions substantially less than the County's threshold, it would be consistent with the County's CAP.

The City of Beaumont's Plan provides a comprehensive strategy that demonstrates that the City will achieve the AB 32 2020 targets through compliance with regulation and the implementation of the General Plan policies at the community and municipal level. The Plan outlines numerous GHG reduction measures which will help the City meet its GHG reduction targets. Each reduction measure includes a goal, which describes the overarching objective related to increasing energy efficiency or decreasing energy consumption, and one or more policies, which indicated the level of commitment that the City has in achieving its goal. Each policy includes the

energy and GHG reduction potential in 2020 and 2030. The CAP also provides co-benefits which would improve the following areas in addition to reducing GHG emissions: increased energy efficiency/reduced demand, water conservation, improved public health, improved air quality, increased renewable energy, increased non-motorized transportation, sustainability education and awareness, enhanced land use/community design, and increased resiliency. The draft LMP involves numerous improvement construction and maintenance activities, entailing the use of construction equipment and worker vehicles trips, which Plan measures would not apply to. Moreover, in regards to long-term operations, the increase in visitors to the SJWA would be minor. As such, the draft LMP would not conflict with the goals and policies of the City's Plan.

The City of Moreno Valley's CAS identifies potential programs and policies to reduce citywide energy consumption and increase the use of renewable energy. The overall goal of the CAS is to ensure that the City is consistent with and would not otherwise conflict with the provisions of AB 32. The CAS provides various reduction measures suggested as policies and includes the cost effectiveness of implementation. Most of the policies within the CAS are directed at municipal operations of the City, but the document also contains recommended policies for the community at large which includes development projects. The recommended policies include but are not limited to: energy efficiency, water use reduction, trip reduction, solid waste diversion, and educational policies, most of which would not be applicable to the draft LMP. Therefore, the draft LMP would not conflict with the City's CAS.

Consistency with SCAG's 2016-2040 RTP/SCS

At the regional level, SCAG has adopted the 2016–2040 RTP/SCS for the purpose of reducing GHG emissions attributable to passenger vehicles in the South Coast Air Basin (SCAB). While the RTP/SCS does not regulate land use or supersede the exercise of land use authority by SCAG's member jurisdictions (i.e., the county and cities therein), the RTP/SCS is a relevant regional reference document for purposes of evaluating the connection of land use and transportation patterns and the corresponding GHG emissions. The RTP/SCS is not directly applicable to the draft LMP because the underlying purpose of the RTP/SCS is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region, as stipulated under SB 375. The draft LMP involves implementation of improvement and maintenance activities and would not result in regional growth. As such, the draft LMP would not conflict with the goals and policies of the RTP/SCS.

Consistency with EO S-3-05 and SB 32

- **EO S-3-05.** This executive order establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

- **SB 32.** This bill establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030.

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words CARB forecasts that compliance with the current Scoping Plan puts the State on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown. The second update to the Scoping Plan reaffirms that the state is on the path toward achieving the 2050 objective of reducing GHG emissions to 80% below 1990 after the adoption of SB 32 and AB 197 in 2016 (CARB 2017).

Additionally, the draft LMP would not interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 because—as evidenced previously—the draft LMP's combined construction and operational GHG emissions of 303 MT CO_2E would be minimal, substantially lower than the applied SCAQMD significance threshold of 3,000 MT CO_2E. Thus, the draft LMP would not conflict with the State's trajectory toward meeting future GHG reduction targets, impacts would therefore be less than significant.

Based on the preceding considerations, implementation of the draft LMP would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the draft LMP would result in a **less-than-significant impact (Class III)**.

5.2.6 Cumulative Impacts and Mitigation

The cumulative nature of climate change and the draft LMP's potential to contribute to climate change impacts associated with GHG emissions is evaluated in Section 5.2.5, Standards of Significance and Impact Analysis. As explained in Section 5.2.5, GHG impacts are recognized exclusively as cumulative impacts and there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). The supporting documentation for the 2010 CEQA amendments indicates that the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact, and an environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009). To reduce cumulative GHG emissions, various statewide regulatory measures focusing on different GHG emission sources have been implemented that will ultimately reduce GHG emissions associated with the program and other future new development projects. Examples include the Low Carbon Fuel Standard, which set GHG standards for passenger vehicles, and the cap-and-trade program. Regional measures have been adopted by various agencies (e.g., cities, counties, metropolitan planning organizations) throughout the state to support and enhance the effectiveness of the statewide efforts. Although many of the statewide and regional plans, policies, and regulations would not be specifically applicable to reductions in GHG emissions from the draft LMP and would vary in applicability to off-site (non-project-related) cumulative projects, to the extent required by law, the draft LMP and other cumulative projects would be required to comply with applicable existing regulations and future regulations adopted in furtherance of statewide and regional goals.

To evaluate whether the draft LMP would generate GHG emissions that are cumulatively considerable, GHG emissions associated with the amortized (i.e., annualized over 30 years) construction and operational activities were compared to an annual bright-line significance threshold. As discussed in Section 5.2.5, Standards of Significance, the threshold applied in the GHG emissions analysis was the recommended SCAQMD operational threshold of 3,000 MT CO_2E per year for all residential and commercial projects (SCAQMD 2010), although the draft LMP does not fall into each of the previously specified land use categories. Construction activities would occur within the short-term (1 to 5 years or 5 to 10 years), however, to generate a GHG emissions estimate, it was assumed that the most intensive construction activities would occur within 2018, the earliest year which construction could occur. Project-generated construction GHG emissions were estimated to result in a total of 198 MT CO_2E. Project-generated construction emissions amortized over 30 years in addition to operational emissions would be approximately 303 MT CO_2E per year, which would not exceed the 3,000 MT CO_2E per year threshold used in this analysis to determine the potential significance of GHG emissions under CEQA. As the estimated GHG emissions would not exceed the recommended SCAQMD threshold, the draft LMP would not result in cumulatively considerable emissions.

5.2.7 Level of Significance After Mitigation

GHG impacts are less than significant and no mitigation measures are required.

5.2.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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5.3 BIOLOGICAL RESOURCES

5.3.1 Introduction

Section 5.3, Biological Resources, addresses potential biological impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.3.1 provides an introduction. Section 5.3.2 provides a description of the existing conditions for biological resources in the SJWA study area (study area), and Section 5.3.3 describes the regulatory setting. Section 5.3.4 describes the methodology used for the evaluation of biological resources. Section 5.3.5 provides the standards of significance criteria used for the impact analysis. Section 5.3.6 provides an analysis of potential impacts to biological resources resulting from implementation of the draft LMP, and mitigation measures for identified significant impacts, and Section 5.3.7 provides an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts. Section 5.3.8 provides the level of significance after mitigation, and Section 5.3.9 lists the references cited in this section.

Numerous comment letters were received in response to the Notice of Preparation (NOP) that raised concerns associated with potential impacts to plant and wildlife that could occur with implementation of the draft LMP. Comments included issues relative to invasive species control, water supply, species management, alkali restoration, compatibility of recreational uses with biological resources protection, and consistency with the Western Riverside County Multiple Species Habitat Conservation Plan. A copy of the NOP and comment letters received is included in Appendix A.

5.3.2 Existing Conditions

There are approximately 10,996 acres of land in the Davis Unit and 9,130 acres of land in the Potrero Unit, collectively referred to as the SJWA (Figures 2-1 and 2-2 in the draft LMP). The following discussion summarizes the existing biological resources present within the study area and includes a description of the vegetation communities, special-status species, wildlife corridors and movement, and potentially jurisdictional waters, including wetlands. The biological resources data were obtained directly from the draft LMP with some additional data from other sources, which are described herein.

5.3.2.1 Physical Setting

The SJWA is located in the San Jacinto Valley, an inland coastal valley of Southern California situated south of the east–west trending Transverse Ranges and west of the north–south trending Peninsular Ranges and the adjacent foothills of the San Jacinto Mountains. The more low-lying Santa Ana Mountains lie to the west and physically separate the inland San Jacinto Valley from the Pacific Ocean. Coastal influences largely affect the San Jacinto Valley as a result of this

geographic setting. Northeast of the SJWA, the San Gorgonio Pass allows the valley to be influenced by the adjacent Colorado Desert region. The resultant mix of coastal and desert influences provides for rich biodiversity.

The SJWA consists of three noncontiguous areas—two of the areas are associated with the Davis Unit and one is the Potrero Unit. These are further discussed below. An overview of the biogeographic region of each unit is provided in Figure 5.3-1.

Davis Unit

Geographic Setting

The Davis Unit is located in the San Jacinto Valley, approximately 18 miles southeast of downtown Riverside. Lake Perris State Recreation Area shares a boundary along the western edge of the Davis Unit. A small portion of the northern edge of the Davis Unit is located within the City of Moreno Valley, which lies north and east of the Davis Unit. The Cities of Hemet and San Jacinto are located to the east, and the unincorporated rural communities of Lakeview and Nuevo are located south of the Davis Unit. Elevation on the Davis Unit ranges from approximately 1,403 to 2,526 feet above mean sea level (amsl) (427 to 770 meters).

The latitude and longitude of the approximate center of the Davis Unit is 33°52'25"N and 117°06'35"W. The Universal Transverse Mercator (UTM) coordinates for the approximate center are the following: UTM Easting (meters) 489854 and UTM Northing (meters) 3748148. The Davis Unit includes all or parts of Sections 16 through 22 of Township 3 South, Range 2 West; Sections 13, 33, and 36 of Township 3 South, Range 3 West; Sections 2 through 7 of Township 4 South, Range 2 West; and Sections 1, 3, 4, 9, 10, 11, and 12 of Township 4 South, Range 3 West, within the Perris, Sunnymead, El Casco, and Lakeview 7.5-minute quadrangles, as mapped by the U.S. Geological Survey (USGS).

Climate

The climate of the San Jacinto Valley is characterized by hot, dry summers and moderate winters. The yearly average temperature for the area is 17 degrees Celsius (°C) (62 degrees Fahrenheit (°F)). Summer temperatures often exceed 38°C (100°F); temperatures of 49°C (120°F) have been recorded during the summer months. The lowest temperature recorded in the area was −14°C (7°F). The valley receives approximately 10–12 inches of rainfall annually. Most of the precipitation occurs during colder winter storms typically occurring from December through March.

Figure 5.3-1 Biogeographic Setting

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Soils

The Davis Unit is dominated by alkaline and loamy soils but also includes large areas of rockland and water. Soils are shown on Figure 2-2 of the draft LMP. The San Jacinto River floodplain within the unit consists of mostly alkali soils of the following series: Chino, Domino, Grangeville, Traver, Waukena, and Willows. The central portion of the floodplain on the Davis Unit, west of Mystic Lake and along Davis Road, supports Willows soils. The southern portion near Bridge Street contains a mosaic of Chino, Grangeville, Traver, and Waukena soils. The area north of Mystic Lake supports Traver and Willows soils; the area between Bridge Street and Davis Road contains all of these soil types as well as Domino soils. These soil types are all developed in granitic alluvium on alluvial fans and floodplains (Knecht 1971). These soil types provide habitat for alkali-endemic plant species, several of which are considered special-status species that are discussed in later sections of this document. In addition, the Willows type includes clay soils, which are also known to support several special-status plant species.

Although ephemeral, the Mystic Lake bed is mapped as water with respect to soil type; the soil type within the lake bed is not identified by the soil survey.

The upland soils on the Davis Unit are dominated by the San Emigdio and Hanford soils, with large areas also classified as Rockland. In grasslands and agriculture along Gilman Springs Road and the northern portion of the Davis Unit, soils include Chino, San Emigdio, San Timoteo, and Metz types. All four types are developed in alluvium. Chino soils are developed in granitic alluvium and can have some alkaline characteristics, Metz and San Timoteo soils are developed from weakly calcareous sandstone and shale, and San Emigdio are developed from weakly consolidated sedimentary formations. Most soils in this area are sands and loams (Knecht 1971).

The hills west of Davis Road consist of Cieneba, Gorgonio, Greenfield, Hanford, Placentia, Ramona, and Vista soils, as well as Rockland and Terrace escarpments, and are mostly sandy loams. Cieneba soils are derived from coarse-grained igneous rock. Gorgonio, Greenfield, Hanford, Placentia, and Ramona soils are all developed in alluvium from granitic material and Vista soils are derived from material weathered from decomposed granite and other closely related rocks. Rockland refers to areas of granite boulders and rock outcrops, and Terrace escarpments refer to areas of alluvial terraces (Knecht 1971).

The hill east of Davis Road and south of the headquarters is mostly classified as Rockland, with some Hanford sandy loam soils along the base of the slope (Knecht 1971).

The areas west of Lake Perris Dam include Exeter, Gorgonio, Greenfield, Hanford, Monserate, Pachappa, Ramona, and Rockland soils. Most of these soils are sandy loams, and all are derived from granitic alluvium (Knecht 1971).

Hydrology

The SJWA is within the San Jacinto Hydrologic Unit (HU No. 802.00). The Davis Unit is crossed by both the Perris hydrologic area (HA; HA No. 802.10) and the San Jacinto hydrologic area (HA 802.15) (Santa Ana RWQCB 2008). The hydrologic subareas (HSA) that encompass the SJWA include the following:

- The Davis Subunits D1 through D13 are wholly or partially within the Gilman Hot Springs subarea (HSA No. 802.21).
- The Davis Subunits D6, D7, D12, D14, D15 are wholly or partially within the Lakeview subarea (HSA No. 802.14).
- The Davis Subunit D14 is within the Perris subarea (HSA No. 802.11).

The main features occurring within the Davis Unit include the historic and current San Jacinto River, Mystic Lake, and waterfowl ponds. Historically, the San Jacinto River was diverted from its original path which traveled to Mystic Lake and through the wildlife area to the current path along the southern edge of the wildlife area. During moderate to high flow events the San Jacinto River jumps from the current channel back into its historic channel and fills Mystic Lake. During extreme events Mystic Lake will overtop and flow back into the downstream historic channel. This can result in flooding of much of the wildlife area including buildings. The two branches of the historic and current channels of the San Jacinto River come back together near Davis Road and then continue downstream towards Ramona Expressway.

Potrero Unit

Geographic Setting

The Potrero Unit is located within the foothills of the San Jacinto Mountains, approximately 9 miles east of the Davis Unit. The vast majority of the Potrero Unit is located within the City of Beaumont, with a portion on the western edge located in unincorporated Riverside County. The Potrero Unit is bordered on the east by vacant Bureau of Land Management land and to the southeast by the Soboba Indian Reservation. The Potrero Unit is located approximately 3 miles south of Interstate 10 (I-10), and portions of its western boundary are defined by State Route 79 (SR-79) (Lamb Canyon Road). Elevation on the Potrero Unit ranges from approximately 1,520 to 3,731 feet amsl (463 to 1,137 meters).

The latitude and longitude of the approximate center of the Potrero Unit is 33°51'41"N and 116°57'43"W. The UTM coordinates for the approximate center are the following: UTM Easting (meters) 503519 and UTM Northing (meters) 3746774. The Potrero Unit occupies all or part of Sections 1, 2, 3, 4, 5, 9, 10, and 11 of Township 4 South, Range 1 West; Sections 25, 26, 27, 28,

33, 34, 35, and 36 of Township 3 South, Range 1 West; Sections 30 and 31 of Township 3 South, Range 1 East; and Section 6 of Township 4 South, Range 1 East, within the Beaumont, San Jacinto, and Lakeview USGS 7.5-minute quadrangles.

Climate

The San Jacinto Mountain foothills have similar climatic conditions as the San Jacinto Valley described previously but receive on average 3 more inches of rainfall each year than the Davis Unit due to its higher elevation within the foothills of the San Jacinto Mountains.

Soils

The Potrero Unit is predominately composed of loamy soils with substantial areas of Terrace escarpments, rocky soils, and badlands. Soils are shown on Figure 2-2 of the draft LMP. Upland soils on the Potrero Unit are dominated by the Friant and Cieneba series, with large areas also classified as Terrace escarpments and Badlands. The Cieneba and Friant soils are well-drained soils developed from igneous rock and mica-schist, respectively. Within the Potrero Unit, the Friant soils range from 8% to 50%, and the Cieneba soils range from 5% to 50%. In both soil series, rock outcrops occupy 2% to 10% of the surface. Terrace escarpments consist of variable alluvium on terraces with slopes ranging from 30% to 75%. Although Terrace escarpments support some riparian vegetation, they are predominantly located in upland areas on the Potrero Unit. Badlands consist of acid igneous alluvium that originally was deposited by an inland sea (Knecht 1971). Badlands are mapped in the northern portion of the Potrero Unit in areas adjacent to tributaries of Potrero Creek.

Valleys within the Potrero Unit mostly consist of Hanford, San Timoteo, and San Emigdio series. These are well-drained soils developed in alluvium from weakly consolidated sedimentary formations (Knecht 1971).

Soils mapped along Potrero Creek are predominantly Riverwash, Metz loamy sand, and Tujunga loamy sand (Knecht 1971).

Hydrology

The SJWA is within the San Jacinto Hydrologic Unit (HU No. 802.00). The Potrero Unit is completely encompassed by the San Jacinto hydrologic area (Santa Ana RWQCB 2008). The Potrero Unit is entirely within the Gilman Hot Springs subarea (HSA No. 802.21). The main features occurring within the Potrero Unit include Potrero Creek and unnamed tributaries to Potrero Creek. Potrero Creek flows in a southwesterly direction toward the San Jacinto River, then through Massacre Canyon, which is a 500-foot-deep canyon on the southwestern edge of the Potrero Unit.

5.3.2.2 Vegetation Communities

5.3.2.2.1 Methods

The California Department of Fish and Game (CDFG)[1] contracted with the California Native Plant Society (CNPS) and Aerial Information Systems (AIS) to prepare an alliance-level vegetation classification and map for western Riverside County, which encompassed approximately 1.6 million acres. The final report, *Vegetation Alliances of Western Riverside County, California* (CNPS 2006), was initially published in 2005 and revised in April 2006. CNPS assessed vegetation resources quantitatively through field surveys, data analysis using specialized clustering software, and final vegetation classification (CNPS 2006). Each vegetation type sampled corresponds to the National Vegetation Classification System at either the alliance level or at the more detailed association level, when possible. A final key was produced to differentiate from 101 alliances, 169 associations, and 3 unique stands of vegetation (CNPS 2006).

In a separate but parallel process involving AIS, vegetation mapping was accomplished through interpretation of aerial photographs in both color infrared and in natural color imagery flown in the winter and summer. AIS created the detailed map using three primary processes: (1) hand-delineation of polygons on the base color infrared imagery, (2) digitization of those hand-delineated polygons, and (3) attribution of the vegetation types and overstory cover values. The map was created in a geographic information system (GIS) digital format, which was subsequently clipped to the SJWA boundary.

The vegetation mapping prepared by CNPS and AIS was intended to update the vegetation mapping that was prepared by Pacific Southwest Biological Services and KTU+A, Planning and Landscape Architecture, in 1995 for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The 1995 vegetation mapping is considered too general to identify unique vegetation, define special-status species habitats, and map vegetation at a fine scale. The updated CNPS/AIS vegetation map was used to prepare the draft LMP. Further information about the methods used to create this vegetation map and classification system can be found in the *Vegetation Alliances of Western Riverside County, California* (CNPS 2006).

In 2015 AIS published the *Western Riverside County Vegetation Mapping Update, Final Vegetation Mapping Report* (AIS 2015), which provided an update of the mapping provided in the *Vegetation Alliances of Western Riverside County, California* (CNPS 2006). Ground-based field data both within and nearby the western Riverside County mapping area has been acquired since

[1] The California Department of Fish and Game (CDFG) was officially renamed the California Department of Fish and Wildlife (CDFW) as of January 1, 2013. Where references are made in this document to the agency for background information, documents, permits, consultations, etc. prior to January 1, 2013, the title "CDFG" is used and for references after January 1, 2013, "CDFW" is used.

the completion of the vegetation map in the CNPS (2006) vegetation report. An update to the original map was needed to address changes in vegetation due to fire, development and vegetation succession. The update adheres to the vegetation types as represented in *A Manual of California Vegetation* (Sawyer et al. 2009) and the standards set by the National Vegetation Classification System published in 2008 by the Federal Geographic Data Committee (FGDC-STD-005-2008, Vegetation Subcommittee, Federal Geographic Data Committee 2008; AIS 2015).

To analyze impacts to biological resources under CEQA, the vegetation mapping from the *Western Riverside County Vegetation Mapping Update, Final Vegetation Mapping Report* (AIS 2015) was used because it is the most current data available on vegetation communities on the SJWA.

5.3.2.2.2 Vegetation Communities Descriptions

The SJWA contains 13 high-level vegetation mapping categories. These categories are general and correspond to the MSHCP collapsed vegetation groups (RCTLMA 2007). Table 5.3-1 provides the acreage of each generalized vegetation group within the Davis and Potrero Units as assessed for the draft LMP. Table 5.3-2 lists the detailed vegetation community and land cover mapping provided in the AIS 2015 vegetation map. For more information on the detailed vegetation mapping, including descriptions of the alliances, associations, and mapping units, please see the CNPS (2006) vegetation report and the AIS (2015) vegetation report. Included in Table 5.3-2 are current global and state rankings provided by CDFW (CDFG 2010). The rankings provide information regarding the "rarity and imperilment" of vegetation types, taking into account trends and threats that may be leading to a decline in a particular vegetation type. At this time, not all associations have been ranked. In these cases, the alliance- or general community-level ranking is applied to the association. In general, CDFW advises that vegetation communities with a state rank of 1-3 be evaluated further to determine if these are special-status communities. For purposes of this Program Environmental Impact Report (PEIR), communities with state ranks 1-3 are considered special-status or sensitive natural communities.[2] While the vegetation community may not be considered special-status or sensitive, the habitat may be considered sensitive if special-status species use the community as habitat. An analysis of habitat sensitivity is described in sections discussing special-status species. Vegetation communities considered sensitive biological resources by CDFW (CDFG 2010) have an asterisk (*) at the end of the community name in Table 5.3-2. Figure 5.3-2A.1 shows the generalized vegetation communities on the Davis Unit. Figure 5.3-2A.2 shows the sensitive vegetation communities at the alliance, association, or other Mapping Unit (MU) level on the Davis Unit. Figure 5.3-2B.1 shows the

[2] It should be noted that the discussion here pertains strictly to vegetation communities as a resource in and of themselves. For example, a vegetation community with a state rank 4 or 5 may also be considered special-status as habitat for special-status species; however, habitat for special-status species is described in Section 5.3.2.4 for plants and Section 5.3.2.5 for wildlife.

generalized vegetation communities on the Potrero Unit. Figure 5.3-2B.2 shows the sensitive vegetation communities at the alliance, association, or MU level on the Potrero Unit.

Table 5.3-1
Generalized Vegetation Communities within the San Jacinto Wildlife Area Land Management Plan Study Area

Generalized Vegetation Community	Acres on Davis Unit (On-Site Only)	Acres on Potrero Unit (On-Site Only)	Total Acres on the SJWA
Agricultural land	1,377	—	1,377
Developed/disturbed land	149	13	163
Water	2,065	25	2,090
Rock outcrop MU	34	3	37
Non-natural or unvegetated subtotal	*3,625*	*42*	*3,667*
Coastal sage scrub	1,144	4,775	5,919
Riversidean alluvial fan sage scrub	—	45	45
Desert scrub	5	—	5
Chaparral	6	1,769	1,774
Shrub-overstory subtotal	*1,155*	*6,588*	*7,743*
Grassland	4,477	2,212	6,689
Meadows and marshes	24	—	24
Playas and vernal pools	1,580	—	1,580
Herbaceous subtotal	*6,081*	*2,212*	*8,293*
Riparian scrub, woodland, forest	135	277	411
Woodland and forests	—	12	12
Tree-overstory subtotal	*135*	*288*	*423*
Total*	**10,996**	**9,130**	**20,126**

Note:
* Totals do not precisely sum due to rounding.

Table 5.3-2
Specific Vegetation Communities within the San Jacinto Wildlife Area - Land Management Plan Study Area

MSHCP Vegetation/Land Cover Group	Alliance[1], Association, or other MU	Scientific Name	Global and State Rank	Davis Unit (acres)	Potrero Unit (acres)	Total (acres)
Agricultural Land	Agriculture MU	Agriculture	—	1,377	—	1,377
		Agriculture Total	—	*1,377*	*286*	*1,377*
Developed/Disturbed Land	Exotic Trees MU	Exotic trees	—	10	6	16
	Urban or development MU	Urban or development	—	109	7	115
	Vacant (disturbed bare ground, <2% vegetative cover) MU	Vacant (disturbed bare ground, <2% vegetative cover)	—	31	—	31
		Developed/Disturbed Land Total	—	*149*	*13*	*163*
No equivalent	Rock Outcrop MU	Rock outcrop	—	34	3	37
Coastal Sage Scrub	Black Sage Alliance	*Salvia mellifera*	G4 S4	—	6	6
	Brittlebush–California Buckwheat MU	*Encelia farinosa–Eriogonum fasciculatum*	G5 S4	821	896	1,717
	California Buckwheat Alliance	*Eriogonum fasciculatum*	G5 S5	98	1,126	1,224
	California Buckwheat–Brittlebush Alliance	*Eriogonum fasciculatum–Encelia farinosa*	G5 S5	6	—	6
	California Buckwheat–Sugar Bush Association	*Eriogonum fasciculatum–Rhus ovata*	G5 S5	—	487	487
	California Buckwheat–White Sage Alliance	Eriogonum fasciculatum–Salvia apiana	G4 S4	—	6	6
	California Buckwheat–White Sage–(California Sagebrush) MU	*Eriogonum fasciculatum–Salvia apiana–(Artemisia californica)*	G4 S4	—	31	31
	California Sagebrush Alliance	*Artemisia californica*	G5 S5	10	—	10
	California Sagebrush–(California Buckwheat)–Annual Grass–Herb MU	*Artemisia californica–(Eriogonum fasciculatum)*–Annual Grass–Herb	G4 S4	192	59	251
	California Sagebrush–California Buckwheat–(Black Sage–Yellow Bush Penstemon) MU	*Artemisia californica–Eriogonum fasciculatum–(Salvia mellifera–Keckiella antirrhinoides)*	G4 S4	—	12	12
	California Sagebrush/Menzies' Fiddleneck Association	*Artemisia californica / Amsinckia menziesii*	G4 S4	16	—	16
	Chamise–Coastal Sage Scrub Disturbance MU	*Adenostoma fasciculatum*–Coastal Sage Scrub	G5 S5	—	1,969	1,969
	Deerweed Alliance	*Lotus scoparius*	G5 S5	—	64	64
	Palmer's Goldenbush Alliance*	*Ericameria palmeri*	G3 S3?	—	22	22
	Yellow Bush Penstemon Alliance*	*Keckiella antirrhinoides*	G3 S3	—	12	12
	Yerba Santa Alliance*	*Eriodictyon crassifolium*	G3 S3	—	84	84
		Coastal Sage Scrub Total	—	*1,144*	*4,775*	*5,919*
Riversidean Alluvial Fan Scrub	Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU*	*Lepidospartum squamatum–(Eriogonum fasciculatum–Sambucus mexicana–Baccharis salicifolia)*	G3 S3	—	11	11
	Scalebroom–California Buckwheat Association*	*Lepidospartum squamatum–Eriogonum fasciculatum*	G3 S3	—	34	34
		Riversidean Alluvial Fan Scrub Total	—	—	*45*	*45*
Desert Scrub	Mixed Saltbush Alliance	*Atriplex* spp.	G5S4	5	—	5
		Desert Scrub Total	—	*5*	—	*5*
Chaparral	Chamise–Bigberry Manzanita Alliance	*Adenostoma fasciculatum–Arctostaphylos glauca*	G4 S4	—	19	19
	Chamise–Cupleaf Ceanothus Alliance*	*Adenostoma fasciculatum–Ceanothus greggii*	G4 S3	—	222	222
	Chamise–Hoaryleaf Ceanothus Alliance	*Adenostoma fasciculatum–Ceanothus crassifolius*	G5 S5	—	362	362
	Chamise Alliance	*Adenostoma fasciculatum*	G5 S5	—	16	16
	Chamise Pure Association	*Adenostoma fasciculatum* Pure	G5 S5	—	52	52
	Chamise–Hoaryleaf Ceanothus–(Sugarbush–Scrub oak–Black Sage) MU	*Adenostoma fasciculatum–Ceanothus crassifolius (Rhus ovata–Quercus berberidifolia–Salvia mellifera*)	G4 S4	—	4	4
	Chamise–Hoaryleaf Ceanothus–Sugar Bush Association	*Adenostoma fasciculatum–Ceanothus crassifolius–Rhus ovata*	G4 S4	—	125	125
	Hollyleaf Cherry Alliance*	*Prunus ilicifolia*	G3 S3	6	—	6
	Scrub Oak Alliance	*Quercus berberidifolia*	G4 S4	—	166	166

Table 5.3-2
Specific Vegetation Communities within the San Jacinto Wildlife Area - Land Management Plan Study Area

MSHCP Vegetation/Land Cover Group	Alliance[1], Association, or other MU	Scientific Name	Global and State Rank	Davis Unit (acres)	Potrero Unit (acres)	Total (acres)
	Scrub Oak–(Birchleaf Mtn. Mahogany–Ash–Toyon) MU	*Quercus berberidifolia–(Cercocarpus betuloides–Fraxinus dipetala–Heteromeles arbutifolia)*	G4 S4	—	41	41
	Scrub Oak–Chamise Alliance	*Quercus berberidifolia–Adenostoma fasciculatum*	G4 S4	—	655	655
	Scrub Oak–Southern Mixed Chaparral Association	*Quercus berberidifolia*–Southern Mixed Chaparral	G4 S4	—	90	90
	Toyon–Scrub Oak–Birchleaf Mountain-mahogany–California Ash Association*	*Heteromeles arbutifolia–Quercus berberidifolia–Cercocarpus betuloides–Fraxinus dipetala*	G5 S3	—	18	18
		Chaparral Total	—	*6*	*1,769*	*1,774*
Grassland	California Annual Grassland Alliance	California Annual Grassland	—	4,477	2,212	6,689
		Grasslands Total	—	*4,477*	*2,212*	*6,689*
Woodland and Forests	Coast Live Oak Alliance	*Quercus agrifolia*	G4 S4	—	1	1
	Coast Live Oak / Annual Grass–Herb Association	*Quercus agrifolia*/Annual Grass–Herb	G5 S4	—	9	9
	Coast Live Oak / Chaparral Association	*Quercus agrifolia*/Chaparral	G5 S4	—	1	1
		Woodland and Forests Total	—	—	*12*	*12*
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU*	Alkaline Ephemeral Wetland MU	—	1,580	—	1,580
		Playas and Vernal Pools Total	—	*1,580*	—	*1,580*
Meadows and Marshes	Bulrush–Cattail Alliance*	*Scirpus* spp.–*Typha* spp.	G1 S1, G2 S2, G3 S3 (depending on association) (CNPS 2006)	9	—	9
	Bulrush–Cattail MU*	*Scirpus* spp.–*Typha* spp.	G1 S1, G2 S2, G3 S3 (depending on association) (CNPS 2006)	15	—	15
		Meadows and Marshes Total	—	*24*	—	24
Water	Duck Ponds MU	Duck Ponds	—	1,363	—	1,363
	Riverine or Lacustrine flats, channels, streambeds, MU	Riverine or Lacustrine flats, channels, streambeds, MU	—	—	25	25
	Water MU	Water	—	702	—	702
		Water Total	—	*2,065*	*25*	*2,090*
Riparian Scrub, Woodland, Forest	California Sycamore Alliance*	*Platanus racemosa*	G3 S3	—	4	4
	Arroyo Willow Alliance	*Salix lasiolepis*	G5 S4	—	3	3
	Black Willow Alliance*	*Salix gooddingii*	G4 S3	4	3	7
	Black Willow/Mulefat Association*	*Salix gooddingii/Baccharis salicifolia*	G4 S3	41	—	41
	Blue Elderberry–(Mulefat) MU*	*Sambucus mexicana–(Baccharis salicifolia)*	G5 S3	—	71	71
	Emory's Baccharis MU*	*Baccharis emoryi*	G3 S2?	38	—	38
	Fremont Cottonwood Dry MU*	*Populus fremontii*	G4 S3	—	20	20
	Fremont Cottonwood–Black Willow/Mulefat Association*	*Platanus racemosa–Salix gooddingii/Baccharis salicifolia*	G3 S3	1	13	14
	Fremont Cottonwood/Mulefat Association*	*Populus fremontii/Baccharis salicifolia*	G4 S3	—	45	45
	Fremont Cottonwood–Red Willow Association*	*Populus fremontii–Salix lasiandra*	G4 S3	—	25	25
	Fremont Cottonwood–Willow MU*	*Populus fremontii–Salix* spp.	G4 S3	—	48	48
	Mulefat Alliance	*Baccharis salicifolia*	G4 S4	9	41	50
	Willow MU*	*Salix laevigata*	G3 S3	41	5	46
		Riparian Scrub, Woodland, Forest Total	—	*135*	*277*	*411*
		Total	**—**	**10,996**	**9,130**	**20,126**

Note: Asterisk (*) denotes vegetation communities considered to be sensitive natural communities or special status by CDFW (CDFG 2010).
Zeros are acreages less than 0.5 acre.
1. The alliance is based on the *A Manual of California Vegetation* (Sawyer et al. 2009).

5.3.2.2.3 Non-natural or Unvegetated

Agricultural Land

Agricultural lands on the SJWA include areas where crops were grown with an agricultural lease in the western portion of Subunit D2 (Figure 5.3-2A.1). Subunit D2 is the only unit that has been used for an agicultural lease in the past. Mapped agricultural lands also include former agricultural areas that are no longer in agricultural production but show legacy effects of soil manipulation and areas subject to food crop production by CDFW for wildlife management (Subunits D3, D4, D7, D10, and D11).

Status

Agricultural lands consist of non-native crops grown for commercial and non-commercial use and are not considered a sensitive biological resource by CDFW (CDFG 2010).

Developed/Disturbed Lands

Developed/disturbed lands within the SJWA include the following specific MUs: exotic trees MU, urban or development, and vacant MU. These MUs are principally composed of roads, houses, ornamental plantings, and vacant land. The San Jacinto River flood control channel likely contributes the most significant area to the developed/disturbed lands in the SJWA. Additional areas mapped within the developed/disturbed lands designation include former development pads, existing buildings, and annual grasslands with extremely low vegetative cover.

Status

Developed/disturbed land typically does not support any vegetation or is a landscaped area and is not considered a sensitive biological resource by CDFW (CDFG 2010).

Water

Areas mapped as water on the SJWA include the following more specific MUs: (1) duck ponds and marshes for waterfowl and other wetland species MU; (2) riverine or lacustrine flats, channels, streambeds MU; and (3) water MU. On the Davis Unit, this mapping type includes a large portion of the waterfowl ponds in Subunit D4, the northern portion of Subunits D7 and D9, and the northern portion of D10, as well as the former waterfowl ponds in D13. Mystic Lake in Management Subunit D3 is mapped as lacustrine water, although it is ephemeral. A few small guzzlers and ponds in Subunits D7, D11, and D12 are also included as water. On the Potrero Unit, water is mapped only as the riverine or lacustrine flats, channels, streambeds MU and is primarily mapped in Subunit P5, but is also mapped in Subunits P7 and P10.

Status

Water is not a vegetation community; therefore, it is not included in the List of California Vegetation Alliances and Associations (CDFG 2010). However, certain water resources can be considered U.S. Army Corps of Engineers (ACOE)-, CDFW-, and Regional Water Quality Control Board (RWQCB)-jurisdictional waters, which is discussed in Section 5.3.2.3, Jurisdictional Resources.

Rock Outcrop MU

Rock outcrops are not described in the *Vegetation Alliances of Western Riverside County* (CNPS 2006). However, these areas were mapped because outcrops have habitat values, such as habitat for granite spiny lizard (*Sceloporus orcutti*) and nesting or perching sites for raptors. Expanses of exposed rock lacking vegetation characterize these areas on the SJWA, including areas on Subunit D14 of the Davis Unit and on smaller areas in Subunits P2, P9, and P10 in the central portion of the Potrero Unit.

Status

Rock outcrop is not a vegetation community; therefore, it is not included in the *List of California Vegetation Alliances and Associations* (CDFG 2010) and is not considered a sensitive biological resource by CDFW.

5.3.2.2.4 Shrub-Overstory

Coastal Sage Scrub

Coastal sage scrub is the most common vegetation community in the SJWA, covering approximately 10% of the total acreage within the Davis Unit and 52% of the total acreage within the Potrero Unit. It occurs in 6 of the 15 management Subunits of the Davis Unit (D1, D6, D8, D12, D14, and D15) and in every management subunit of the Potrero Unit.

Figure 5.3-2A.1 MSHCP Vegetation Communities – Davis Unit

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Figure 5.3-2A.2 Sensitive Vegetation Communities – Davis Unit

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Figure 5.3-2B.1 MSHCP Vegetation Communities – Potrero Unit

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Figure 5.3-2B.2 Sensitive Vegetation Communities – Potrero Unit

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Within the coastal sage scrub general vegetation group, the following specific MUs, alliances, and associations occur in the SJWA: black sage (*Salvia mellifera*); brittlebush–California buckwheat (*Encelia farinosa–Eriogonum fasciculatum*) MU; California buckwheat (*Eriogonum fasciculatum*) alliance; California buckwheat–brittlebush (*Eriogonum fasciculatum–Encelia farinosa*) alliance; California buckwheat–sugar bush (*Eriogonum fasciculatum–Rhus ovata*) association; California buckwheat–white sage (*Eriogonum fasciculatum–Salvia apiana*) alliance; California buckwheat–white sage–(California sagebrush) (*Eriogonum fasciculatum–Salvia apiana–*(*Artemisia californica*)) MU; California sagebrush (*Artemisia californica*) alliance; California sagebrush–(California Buckwheat)–annual grass–herb (*Artemisia californica–*(*Eriogonum fasciculatum*)*–annual grass–herb*) MU; California sagebrush–California buckwheat–(black sage–yellow bush penstemon) (*Artemisia californica–Eriogonum fasciculatum–*(*Salvia mellifera–Keckiella antirrhinoides*)) MU; California sagebrush/Menzies' fiddleneck (*Artemisia californica/Amsinckia menziesii*) association; chamise–coastal sage scrub (*Adenostoma fasciculatum–coastal sage scrub*) disturbance MU; deerweed (*Lotus scoparius*) alliance; Palmer's goldenbush (*Ericameria palmeri*) alliance; yellow bush penstemon (*Keckiella antirrhinoides*) alliance; and yerba santa (*Eriodictyon crassifolium*) alliance.

Status

Yellow bush penstemon, Palmer's goldenbush, and yerba santa alliances are considered sensitive vegetation communities by CDFW (CDFG 2010). The yellow bush penstemon alliance occurs on Subunits P10 and P11 of the Potrero Unit. The yerba santa alliance occurs on Subunits P2, P9, P10, and P11 of the Potrero Unit. The Palmer's goldenbush alliance occurs on Subunits P5 of the Potrero Unit.

Riversidean Alluvial Fan Scrub

The Riversidean alluvial fan sage scrub general group is mapped mainly along drainages in the eastern portion of the Potrero Unit (management Subunits P5, P6, P9, P10, and P11). It does not occur on the Davis Unit. Two specific MUs and associations occur within this general group on the SJWA: scalebroom–(California buckwheat–Mexican elderberry–mulefat) (*Lepidospartum squamatum–*(*Eriogonum fasciculatum–Sambucus mexicana–Baccharis salicifolia*)) MU and scalebroom–California buckwheat (*Lepidospartum squamatum–Eriogonum fasciculatum*) association.

Status

Both of these communities are considered sensitive vegetation communities by CDFW (CDFG 2010) due to their state rank of S3.

Chaparral

Chaparral often occurs and is mapped on slopes opposite of coastal scrub. Given the wide distribution of coastal scrub on the Potrero Unit, it is not surprising that chaparral is also mapped throughout the Potrero Unit in all management Subunits. Chaparral is only found on 1 acre of the Davis Unit in Subunit D14 and is mapped as the hollyleaf cherry alliance.

Within the chaparral general group, the following specific MUs, alliances, and associations occur in the SJWA: chamise–bigberry manzanita (*Adenostoma fasciculatum–Arctostaphylos glauca*) alliance; chamise–cupleaf ceanothus (*Adenostoma fasciculatum–Ceanothus greggii*) alliance; chamise–hoaryleaf ceanothus (*Adenostoma fasciculatum–Ceanothus crassifolius*) alliance; chamise (*Adenostoma fasciculatum*) alliance; chamise pure (*Adenostoma fasciculatum* pure) association; chamise–hoaryleaf ceanothus–(sugarbush–scrub oak–black sage) (*Adenostoma fasciculatum–Ceanothus crassifolius* (*Rhus ovata–Quercus berberidifolia–Salvia mellifera*)) MU; chamise–hoaryleaf ceanothus–sugar bush (*Adenostoma fasciculatum–Ceanothus crassifolius–Rhus ovata*) association; hollyleaf cherry (*Prunus ilicifolia*) alliance; scrub oak–(birchleaf mountain mahogany–ash–toyon) (*Quercus berberidifolia*–(*Cercocarpus betuloides–Fraxinus dipetala–Heteromeles arbutifolia*)) MU; scrub oak–chamise (*Quercus berberidifolia–Adenostoma fasciculatum*) alliance; scrub oak–southern mixed chaparral (*Quercus berberidifolia*–southern mixed chaparral) association; scrub oak (*Quercus berberidifolia*) alliance; sugar bush (*Rhus ovata*) alliance; and toyon–scrub oak–birchleaf mountain mahogany–California ash (*Heteromeles arbutifolia–Quercus berberidifolia–Cercocarpus betuloides–Fraxinus dipetala*) association.

Status

The toyon–scrub oak–birchleaf mountain mahogany–California ash association and hollyleaf cherry alliance are considered sensitive biological resources by CDFW (CDFG 2010) with a state rank of S3.

The chamise alliance is not considered a sensitive vegetation community by CDFW (CDFG 2010); however, this alliance does contain associations that occur within the region of the SJWA but have not been documented on the SJWA. The scrub oak alliance is not considered a sensitive vegetation community by CDFW (CDFG 2010); however, this alliance does contain an association that is considered a sensitive community and that occurs within the region of the SJWA but has not been documented on the SJWA. The scrub oak–chamise alliance does not contain any sensitive vegetation associations (CDFG 2010). The sugar bush alliance is not considered a sensitive vegetation community by CDFW (CDFG 2010); however, this alliance contains an association that is considered a sensitive community and occurs within the region of the SJWA but has not been documented on SJWA. The following communities are not recognized vegetation communities by CDFW (CDFG 2010): chamise–bigberry manzanita alliance, chamise–cupleaf ceanothus alliance,

and chamise–hoaryleaf ceanothus alliance. However, these are recognized and described in the *Vegetation Alliances of Western Riverside County* (CNPS 2006). The chamise–bigberry manzanita alliance does contain associations that are considered sensitive communities (CNPS 2006). Chamise–cupleaf ceanothus alliance is not considered a sensitive vegetation community by CDFW (CNPS 2006; CDFG 2010). Chamise–hoaryleaf ceanothus alliance is not considered a sensitive vegetation community by CDFW (CNPS 2006; CDFG 2010).

5.3.2.2.5 Herbaceous Vegetation

Grasslands

The grassland general group only includes the California annual grassland alliance. On both the Davis Unit and Potrero Unit, grasslands are mapped in every subunit.

Status

The California annual grassland alliance are not considered a sensitive biological resource by CDFW (CDFG 2010).

Playas and Vernal Pools

The playas and vernal pools general group includes the alkaline ephemeral wetland MU and occurs only on the Davis Unit. Playas and vernal pools support many special-status alkali plant species due to the highly specialized living conditions caused by seasonal inundation, heavy clay soils, and above average salinity. The vegetation community is mapped in some former agricultural sites (management Subunit D5) where very limited alkali species were detected during field surveys for the draft LMP. However, the majority of the sites were found to support alkali species in a mosaic with annual grasslands (CDFW 2016a). These sites are located in Subunits D3 and D5, east of Mystic Lake, in various interstitial areas in and between waterfowl ponds in Subunit D4, and in the immediate vicinity of the San Jacinto River in Subunits D7, D11, and D13. Playas and vernal pools are also found in Subunit D1 and D12, and there are two acres or less in each of Subunits D2, D8, D9, and D15.

Status

The alkaline ephemeral wetland MU is considered a sensitive biological resource by CDFW (CNPS 2006).

Meadows and Marshes

The meadows and marshes general group includes the bulrush–cattail (*Scirpus* spp.–*Typha* spp.) alliance and bulrush–cattail MU and comprises one of the most limited vegetation communities

on the SJWA. These communities are only mapped in Subunits D4, D7, and D8 on the Davis Unit. This community is not mapped on the Potrero Unit.

Status

Depending on the specific association within the bulrush–cattail alliance and bulrush–cattail MU, this community can be ranked G1S1, G2S2, or G3S3 (CNPS 2006), indicating that these communities would be considered a sensitive biological resource by CDFW (CDFG 2010).

5.3.2.2.6 Tree-Overstory Vegetation

Woodlands and Forests

The woodland and forests general group includes the coast live oak (*Quercus agrifolia*) alliance, the coast live oak/annual grass–herb association, and the coast live oak/chaparral association. These coast live oak communities occur in several small locations on the Potrero Unit (Subunits P2, P6, P9, and P10). Woodlands and forests are not found on the Davis Unit.

Status

None of the woodland and forests general groups are considered sensitive biological resources by CDFW (CDFG 2010).

Riparian Scrub, Woodland, Forest

Riparian communities are mapped along the historical San Jacinto River channel in Subunit D7; around waterfowl ponds in the northern portion of Subunit D4; and in scattered locations within Subunits D1, D2, D3, D5, and D14. On the Potrero Unit, riparian communities are present in every subunit, and occur along Potrero Creek through the central portion of the unit and several tributaries. The following MUs, alliances, and associations occur within the riparian scrub, woodland, forest general group: California sycamore alliance; arroyo willow alliance; black willow alliance; black willow/mulefat association; Fremont cottonwood–black willow/mulefat association; Fremont cottonwood–red willow association; Fremont cottonwood–willow MU; Fremont cottonwood/mulefat association; Fremont cottonwood dry MU; blue elderberry–(mulefat) MU; Emory's baccharis MU; mulefat alliance; and willow MU.

Status

The following communities are considered sensitive biological resources by CDFW (CDFG 2010): California sycamore alliance; black willow alliance; black willow/mulefat association; Fremont cottonwood–black willow/mulefat association; Fremont cottonwood–red willow association; Fremont cottonwood–willow MU; Fremont cottonwood/mulefat association; Fremont cottonwood dry MU; Emory's baccharis MU; willow MU; and blue elderberry–(mulefat) MU.

5.3.2.2.7 Special-Status Vegetation Communities

As described in the above subsections, several of the vegetation communities occurring on-site are considered sensitive or special-status. Special-status vegetation communities are those identified by CDFW as high priority for inventory due to rarity in California (CDFG 2010). Vegetation communities ranked S1–S3 are considered special status. There are 22 vegetation communities that occur in the SJWA are considered special-status by CDFW, including the following:

- Alkaline Ephemeral Wetland MU
- California Sycamore Alliance
- Black Willow Alliance
- Black Willow/Mulefat Association
- Blue Elderberry–(Mulefat) MU
- Bulrush–Cattail Alliance
- Bulrush–Cattail MU
- Chamise–Cupleaf Ceanothus Alliance
- Emory's Baccharis MU
- Fremont Cottonwood Dry MU
- Fremont Cottonwood–Black Willow/Mulefat Association
- Fremont Cottonwood/Mulefat Association
- Fremont Cottonwood–Red Willow Association
- Fremont Cottonwood–Willow MU
- Hollyleaf Cherry Alliance
- Palmer's Goldenbush Alliance
- Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU
- Scalebroom–California Buckwheat Association
- Toyon–Scrub Oak–Birchleaf Mountain-mahogany–California Ash Association
- Willow MU
- Yellow Bush Penstemon Alliance
- Yerba Santa Alliance

CDFW considers some of the associations in the California buckwheat, chamise, California buckwheat–white sage, black sage, scrub oak, arroyo willow, and coast live oak alliances to be sensitive associations. Because the sensitive associations would have been mapped if noted by CNPS (2006) and the Regional Conservation Authority (RCA) or SJWA biologists, and the study area would have been accessible to CNPS, it is assumed that in the study area the aforementioned alliances do not contain sensitive associations.

5.3.2.3 Jurisdictional Resources

5.3.2.3.1 Methods

A formal delineation of federal and state jurisdictional wetlands and waters as defined and regulated by Sections 401 and 404 of the Clean Water Act (CWA), Porter-Cologne Water Quality Protection Act, and Section 1602 of the California Fish and Game Code has not been conducted within the SJWA. However, potential jurisdictional aquatic features have been identified within the SJWA based on a review of available resources, including the National Hydrographic Database (NHD) (USGS 2016) and the *Western Riverside County Vegetation Mapping Update, Final Vegetation Mapping Report* (AIS 2015).

Based on this review, it was determined that the study area may support the following jurisdictional waters, and a set of data, referred to herein as "potentially jurisdictional waters," was created to analyze potential direct and indirect impacts to waters of the United States/state:

- Waters of the United States, including wetlands, under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), pursuant to Section 404 of the federal CWA
- Waters of the state under the jurisdiction of the California Regional Water Quality Control Board, pursuant to Section 401 of the federal CWA and the Porter-Cologne Act, as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code

NHD stream data used for the potentially jurisdictional waters analysis included the streams/river, canal/ditch, and artificial paths that are mapped as occurring in the SJWA in the NHD dataset. Vegetation/land cover groups included in the potentially jurisdictional waters analysis include the associations and alliances in the following generalized MSHCP vegetation/land cover groups: meadows and marshes; playas and vernal pools; riparian scrub, woodland, forest; Riversidean alluvial fan sage scrub; and water. After review of these resources, it was concluded that the vegetation mapping data (AIS 2015) were more accurate and precise in the mapping of potentially jurisdictional waters; therefore, vegetation community data were used in the delineation of potentially jurisdictional waters that overlapped with the NHD data. NHD data for communities not included in the aforementioned vegetation communities were still

considered potentially jurisdictional waters for purposes of this analysis. Any project with potential impacts to jurisdictional waters will conduct field surveys to verify that the all jurisdictional features were identified.

5.3.2.3.2 Potentially Jurisdictional Waters

There are approximately 4,150 acres of potentially jurisdictional waters within the SJWA. The majority of these potentially jurisdictional waters occur within the Davis Unit with approximately 3,804 acres of potentially jurisdictional waters in the unit (Table 5.3-3). The major resources identified include the alkaline ephemeral wetlands, waterfowl ponds, and water (e.g., San Jacinto River, Mystic Lake) MUs. Approximately 346 acres of potentially jurisdictional waters were identified within the Potrero Unit (Table 5.3-3). The major potentially jurisdictional waters include vegetation communities that are associated with Potrero Creek and associated tributaries. The Colorado River Aqueduct also occurs within the Potrero Unit; however, this feature was not considered a potentially jurisdictional water due to undergrounding of the pipeline through this area. Additionally, there are 29.3 linear miles of potentially jurisdictional waters outside of the vegetation communities listed in Table 5.3-4. The total linear miles of potentially jurisdictional waters by NHD features type are provided in Table 5.3-4. There are approximately 7.1 linear miles of potentially jurisdictional waters in the Davis Unit and approximately 22.2 linear miles of potentially jurisdictional waters in the Potrero Unit. Figure 5.3-3A shows the potentially jurisdictional waters on the Davis Unit, and Figure 5.3-3B shows the potentially jurisdictional waters on the Potrero Unit.

Table 5.3-3
Potentially Jurisdictional Waters Acreages by Unit

MSHCP Vegetation/ Land Cover Group	Alliance[1]/MU	Davis (acres)	Potrero (acres)	Total (acres)
Meadows and Marshes	Bulrush–Cattail Alliance	9	—	9
	Bulrush–Cattail MU	15	—	15
	Meadows and Marshes Total	*24*	—	*24*
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU	1,580	—	1,580
	Playas and Vernal Pools Total	*1,580*	—	*1,580*
Riparian Scrub, Woodland, Forest	Arroyo Willow Alliance	—	3	3
	Black Willow/Mulefat Association	41	—	41
	Black Willow Alliance	4	3	7
	Blue Elderberry–(Mulefat) MU	—	71	71
	California Sycamore Alliance	—	4	4
	Emory's Baccharis MU	38		38
	Fremont Cottonwood–Black Willow/ Mulefat Association	1	13	14

Table 5.3-3
Potentially Jurisdictional Waters Acreages by Unit

MSHCP Vegetation/ Land Cover Group	Alliance[1]/MU	Davis (acres)	Potrero (acres)	Total (acres)
	Fremont Cottonwood–Red Willow Association	—	25	25
	Fremont Cottonwood–Willow MU	—	48	48
	Fremont Cottonwood/Mulefat Association	—	45	45
	Fremont Cottonwood Dry MU	—	20	20
	Mulefat Alliance	9	41	50
	Tamarisk Alliance	0		0
	Willow MU	41	5	46
	Riparian Scrub, Woodland, Forest Total	*135*	*277*	*411*
Riversidean Alluvial Fan Sage Scrub	Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU	—	11	11
	Scalebroom–California Buckwheat Association	—	34	34
	Riversidean Alluvial Fan Sage Scrub Total	—	*45*	*45*
Water	Duck Ponds MU	1,363	—	1,363
	Riverine or Lacustrine flats, channels, streambeds, MU		25	25
	Water MU	702		702
	Water Total	*2,065*	*25*	*2,090*
	Grand Total	**3,804**	**346**	**4,150**

Note:
1. The alliance classification system was used - *A Manual of California Vegetation* (Sawyer et al. 2009).

Table 5.3-4
Potentially Jurisdictional Waters Linear Miles by Unit

NHD Feature Type	Davis Unit (Linear Miles)	Potrero Unit (Linear Miles)	Total (Linear Miles)
Artificial path	0.1	0.2	0.3
Canal/ditch	1.8	0.0	1.8
Stream/river	5.3	22.0	27.2
Total	**7.1**	**22.2**	**29.3**

5.3.2.4 Plant Resources

To prepare the draft LMP, a comprehensive plant and wildlife species list was compiled from several resources: the 2000 LMP (CDFG 2000); various research activities (conducted mostly on the Davis Unit); regional biological monitoring activities conducted under the MSHCP (RCA 2006, 2007, 2008); other projects, mainly utility projects, that cross a portion of the Davis Unit; environmental documents for wetlands restoration, introduction of game species, and site

acquisition on the Davis Unit; environmental documents for previous planned development on the Potrero Unit (City of Beaumont 2001); Dudek's 2008 general reconnaissance survey; the CDFW California Natural Diversity Database (CNDDB) (CDFG 2008a); the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2011); and the U.S. Fish and Wildlife Service (USFWS) Occurrence Data (USFWS 2006).

To augment and update the species analysis provided in the draft LMP, the following sources were used to supplement the special-status plant data in this PEIR: regional biological monitoring activities associated with the MSHCP (RCA 2016) (2005–2015); the CDFW CNDDB (CDFW 2017a); the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2017); and the USFWS Occurrence Data (USFWS 2016a). The CNPS Inventory and the CNDDB were queried based on the USGS 7.5-minute quadrangles on which the SJWA is located (i.e., Sunnymead, El Casco, Beaumont, Perris, Lakeview, and San Jacinto). The remaining databases were queried using GIS software based on the boundary of each unit.

5.3.2.4.1 Floral Diversity

Current documentation indicates that 282 plant species have been recorded on the Davis Unit, with 212 of those species (75%) being native. Current documentation indicates that 126 plant species have been recorded on the Potrero Unit, with 92 species being native (73%). Appendix A of the draft LMP provides a comprehensive list of plant species identified on each unit based on resources reviewed by Dudek for preparation of the draft LMP and Dudek's own field investigations. Appendix 5.3-A-1 of this PEIR includes the plants recorded on the Davis Unit, and Appendix 5.3-A-2 of this PEIR includes the plants recorded on the Potrero Unit.

5.3.2.4.2 Special-Status Plants

Endangered, rare, or threatened species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this PEIR and include (1) endangered or threatened species recognized in the context of the California and federal Endangered Species Acts, and (2) plant species with a California Rare Plant Rank (CRPR) (CNPS 2016) (ranks 1A, 1B, and 2).

The discussion of special-status plants is organized by (1) Table 5.3-5, Special-Status Plants Species Observed within the San Jacinto Wildlife Area and recorded in the draft LMP; and (2) Table 5.3-6, Special-Status Plants Species not Observed but with a Moderate to High Potential to Occur within the San Jacinto Wildlife Area. Each table identifies whether the species is an alkali plant and its status, habitat, known range, and whether it was observed or has potential to occur in the unit. Eleven special-status plant species have been recorded within the SJWA in at least one of the units, and 23 special-status plant species have a moderate to high potential to occur in at least one of the units. Figure 5.3-4A shows the known occurrences of each special-status plant

on the Davis Unit, and Figure 5.3-4B shows the known occurrences of each special-status plant on the Potrero Unit. The figures show data from the MSHCP (RCA 2016) (2005–2015); the CDFW CNDDB (CDFW 2017a) (2005–2017); and the USFWS Occurrence Data (USFWS 2016a) (2005–2017). Additionally, the CNDDB point locations were used instead of polygons when describing known occurrences.

An overview of the special-status plants on each management unit is provided below. Various special-status plant species known from the region have not been observed and are not expected to occur on the SJWA, and therefore, were not analyzed in this section. These species are identified, and the reasons for not expecting them to occur in either unit are discussed in the draft LMP.

Davis Unit

Alkali Plant Species

The Davis Unit represents an important conservation area for the unique alkali communities occurring in western Riverside County. Located along the San Jacinto River floodplain within the Willow-Domino-Travers soils complex, the Davis Unit supports alkali vegetation communities and numerous rare alkali plant species. Special-status alkali plants documented on the Davis Unit include smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), mud nama (*Nama stenocarpa*), the federally listed endangered San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), and the federally listed threatened spreading navarretia (*Navarretia fossalis*). In addition, although not strictly alkali-dependent, the federally listed threatened and state-listed endangered thread-leaved brodiaea (*Brodiaea filifolia*) occurs on the Davis Unit. There is only one alkali plant species, Parish's brittlescale (*Atriplex parishii*), that is considered to have a moderate potential to occur but has not yet been documented on the SJWA. Collectively, the alkali special-status plant species that were observed occur in Subunits D1, D3, D4, D5, D7, D8, D9, D10, D11, and D13, with the highest concentrations in Subunits D4, D7, and D13.

Other Plant Species

The Davis Unit does not have any documented locations of non-alkali special-status plant species. However, based on an evaluation of existing vegetation communities, soils, geology, and geography of the Davis Unit, 12 non-alkali special-status plant species have potential to occur, and presence or absence should be determined by a focused species survey, as stated in the draft LMP.

Table 5.3-5
Special-Status Plants Species Observed within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status*	State Status*	MSHCP*	CRPR*	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Allium marvinii	Yucaipa onion	Other	None	None	Covered	1B.2	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland; mesic, clay/perennial bulbiferous herb/Mar–May/974–3,510	—	X	Known within Subunit P6.Five occurrences were observed in 2008 and 2009 (MSHCP BMP 2014)
Astragalus pachypus var. *jaegeri*	Jaeger's bush milk-vetch	Other	None	None	Covered	1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; sandy or rocky/perennial shrub/Dec–June/1,198–3,002	—	X	Known within Subunits P4 and P5 in chamise–hoaryleaf ceanothus.
Atriplex coronata* var. *notatior	**San Jacinto Valley crownscale**	**Alkali**	**FE**	**None**	**Covered**	**1B.1**	**Playas, valley and foothill grassland (mesic), vernal pools; alkaline/annual herb/Apr–Aug/456–1,640**	**X**	**—**	**Known within Subunits D3, D4, D5, D7, D8, D9, D10, D13—all 38 locations are within alkali scrub/playa habitats.**
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Alkali	None	None	Covered	1B.2	Coastal bluff scrub, coastal scrub; alkaline/annual herb/Apr–Oct/33–656	X	—	Known within Subunits D4, D7, and D13 – D11 locations within alkali scrub/playa habitats in the historical San Jacinto River floodplain. According to CNPS (2016), occurs in Subunit D15.

Table 5.3-5
Special-Status Plants Species Observed within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status*	State Status*	MSHCP*	CRPR*	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Brodiaea filifolia	**thread-leaved brodiaea**	**Alkali**	**FT**	**CE**	**Covered**	**1B.1**	**Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3,675**	**X**	**—**	**Known from Subunits D7 and D13 – 15 locations within California annual grassland and alkaline ephemeral wetland.**
Centromadia pungens ssp. *laevis*	smooth tarplant	Alkali	None	None	Covered	1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2,100	X	X	Recorded within Subunits D1, D3, D4, D5, D7, D8, D10, D11, and D13 – 35 locations within agricultural land, alkaline ephemeral wetland MU, black willow alliance, bulrush–cattail MU, California annual grassland, and Fremont cottonwood/mulefat association, as well as around waterfowl ponds. Three additional locations adjacent to Potrero Creek in Subunit P10 and 5 locations in Subunit P5.

Table 5.3-5
Special-Status Plants Species Observed within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status*	State Status*	MSHCP*	CRPR*	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Chorizanthe parryi var. *parryi*	Parry's spineflower	Other	None	None	Covered*	1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; sandy or rocky, openings/annual herb/Apr–June/902–4,003	—	X	Known within Subunits P6 and P7 in brittlebush–California buckwheat and chamise–coastal sage scrub.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Alkali	None	None	Covered	1B.1	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4,003	X	—	Known within Subunits D3, D4, D5, D7, D8, D9, D10, and D13 – 75 locations within agricultural land, playas and vernal pools, bulrush–cattail MU, California annual grassland, and areas around waterfowl ponds.
Nama stenocarpa	mud nama	Alkali	None	None	Covered	2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/16–1,640	X	(see Table 5.3-6)	Known from three locations within Subunit D5 within the alkaline ephemeral wetland MU and California annual grassland alliance south of Mystic Lake.

Table 5.3-5
Special-Status Plants Species Observed within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status*	State Status*	MSHCP*	CRPR*	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Navarretia fossalis	**Spreading navarretia**	**Alkali**	**FT**	**None**	**Covered**	**1B.1**	**Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2,149**	**X**	**—**	**Known from Subunits D7 and D13 in 16 locations within the alkaline ephemeral wetland MU and California annual grassland alliance and around waterfowl ponds.**
Trichocoronis wrightii var. *wrightii*	Wright's tricho-coronis	Alkali	None	None	Covered	2B.1	Meadows and seeps, marshes and swamps, riparian forest, vernal pools; alkaline/annual herb/May–Sep/16–1,427	X	—	Known within Subunits D4 and D7 – 3 locations within the alkaline ephemeral wetland MU and around waterfowl ponds – CNDDB locations from 1980 and 1993 not recently confirmed, but one location is from 2011.

***Status Legend:**

None**:** No federal or state designation.

Federal:

FE: Federally listed as endangered.

FT: Federally listed as threatened.

State:

CE: State-listed as endangered.

MSHCP: Western Riverside Multiple Species Habitat Conservation Plan Covered Species

CRPR: California Rare Plant Rank

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Threat Rank:

1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

2: Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan

Covered*: Considered adequately conserved when certain conservation requirements are met.

Footnote 1: Primary habitat associations, life form, blooming period, and elevation range information comes from CNPS Rare and Endangered Plant Inventory (CNPS 2017).

Table 5.3-6
Special-Status Plants Species not Observed but with a Moderate to High Potential to Occur within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status	State Status	MSHCP	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	Other	None	None	—	1B.1	Chaparral, coastal scrub, desert dunes; sandy/annual herb/Jan–Sep/246–5,249	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Allium munzii	**Munz's onion**	**Other**	**FE**	**CT**	**Covered**	**1B.1**	**Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland; mesic, clay/perennial bulbiferous herb/Mar–May/974–3,510**	**—**	**X**	**Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.**
Atriplex parishii	Parish's brittlescale	Alkali	None	None	Covered	1B.1	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–Oct/82–6,234	X	—	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
California macrophylla	round-leaved filaree	Other	None	None	Covered	1B.1	Cismontane woodland, valley and foothill grassland; clay/annual herb/Mar–May/49–3,937	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Chorizanthe parryi var. *parryi*	Parry's spineflower	Other	None	None	Covered	1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; sandy or rocky, openings/annual herb/Apr–June/902–4,003	X	(see Table 5.3-5)	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences. Occurs within the Potrero Unit.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	Other	None	None	Covered	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; often clay/annual herb/Apr–July/98–5,020	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Deinandra mohavensis	**Mojave tarplant**	**Other**	**None**	**CE**	**Covered***	**1B.3**	**Chaparral, coastal scrub, riparian scrub; mesic/annual herb/(May) June–Oct (Jan)/2,100–5,249**	–	**X**	**Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.**
Dodecahema leptoceras	**slender-horned spineflower**	**Other**	**FE**	**CE**	**Covered**	**1B.1**	**Chaparral, cismontane woodland, coastal scrub (alluvial fan); sandy/annual herb/Apr–June/656–2,493**	**—**	**X**	**Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.**
~~***Eriastrum densifolium* ssp. *sanctorum***~~	~~**Santa Ana River woollystar**~~	~~**Other**~~	~~**FE**~~	~~**CE**~~	~~**Covered**~~	~~**1B.1**~~	~~**Chaparral, coastal scrub (alluvial fan); sandy or gravelly/perennial herb/Apr–Sep/299–2,001**~~	~~**—**~~	~~**X**~~	~~**Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.**~~
Horkelia cuneata var. *puberula*	mesa horkelia	Other	None	None	—	1B.1	Chaparral (maritime), cismontane woodland, coastal scrub; sandy or gravelly/perennial herb/Feb–July (Sep)/230–2,657	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Imperata brevifolia	California satintail	Other	None	None	—	2B.1	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub; mesic/perennial rhizomatous herb/Sep–May/0–3,986	X	X	Moderate potential to occur. Suitable habitat exists, but elevation is at periphery of that which occurs on the Davis Unit.
~~*Lepechinia cardiophylla*~~	~~heart-leaved pitcher sage~~	~~Other~~	~~None~~	~~None~~	~~Covered~~	~~1B.2~~	~~Closed-cone coniferous forest, chaparral, cismontane woodland/perennial shrub/Apr–July/1,706–4,495~~	~~—~~	~~X~~	~~Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.~~
~~*Lilium parryi*~~	~~lemon lily~~	~~Other~~	~~None~~	~~None~~	~~Covered*~~	~~1B.2~~	~~Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest; mesic/perennial bulbiferous herb/July–Aug/4,003–9,006~~	~~—~~	~~X~~	~~Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.~~
Lycium parishii	Parish's desert-thorn	Other	None	None	—	2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/443–3,281	X	—	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Malacothamnus parishii	Parish's bush-mallow	Other	None	None	—	1A	Chaparral, coastal scrub/perennial deciduous shrub/June–July/1,001–1,493	X	X	Moderate potential to occur. Suitable habitat exists, but elevation is at periphery of that which occurs on the Davis Unit.
Monardella macrantha ssp. *hallii*	Hall's monardella	Other	None	None	Covered	1B.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/perennial rhizomatous herb/June–Oct/2,395–7,201	—[2]	X	Moderate potential to occur. Suitable habitat exists in Potrero.
Nama stenocarpa	mud nama	Alkali	None	None	Covered	2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/16–1,640	(see Table 5.3-5)	X	Moderate potential to occur. Although species was observed on the Davis Unit, only a small amount of suitable habitat exists on the Potrero Unit.

Table 5.3-6
Special-Status Plants Species not Observed but with a Moderate to High Potential to Occur within the San Jacinto Wildlife Area

Scientific Name	Common Name	Group	Federal Status	State Status	MSHCP	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)[1]	Davis Unit	Potrero Unit	Potential to Occur
Pseudognaphalium leucocephalum	white rabbit-tobacco	Other	None	None	—	2B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/Jul–Dec/0–6,890	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences. There are two CNDDB occurrences within 5 miles of the Potrero Unit.
Scutellaria bolanderi ssp. *austromontana*	southern mountains skullcap	Other	None	None	—	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest; mesic/perennial rhizomatous herb/June–Aug/1,394–6,562	—	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Senecio aphanactis	chaparral ragwort	Other	None	None	—	2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr/49–2,625	X	—	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences
Sidalcea hickmanii ssp. *parishii*	Parish's checkerbloom	Other	None	CR	—	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest/perennial herb/June–Aug/3,281–8,199	—	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Sidalcea neomexicana	Salt Spring checkerbloom	Other	None	None	—	2B.2	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas; alkaline, mesic/perennial herb/Mar–June/49–5,020	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Symphyotrichum defoliatum	San Bernardino aster	Other	None	None	—	1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov/7–6,693	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.

NOTE: Species in boldface are federally or state listed.
Status Legend:
None: No federal or state designation.
Federal:
FE: Federally listed as endangered.
FT: Federally listed as threatened.
State:
CE: State-listed as endangered.
CT: State-listed as threatened.
CR: State-listed as rare.
CRPR: California Rare Plant Rank
1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
Threat Rank:
1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
2: Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
3: Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan
Covered*: Considered adequately conserved when certain conservation requirements are met. In the LMP, Mojave tarplant (*Deinandra mohavensis*), many-stemmed dudleya *(Dudleya multicaulis*), bristly sedge (*Carex comosa*), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), Nevin's barberry (*Berberis nevinii*), horn's milk-vetch (*Astragalus hornii* var. *hornii*) were considered to have a moderate potential to occur. They have been removed from analysis and are considered either low potential or not expected to occur in this PEIR based on comments from the CNPS (2016).

Footnote 1: Primary habitat associations, life form, blooming period, and elevation range information comes from CNPS Rare and Endangered Plant Inventory (CNPS 2017). Footnote 2: Removed as moderate potential to occur on the Davis Unit per CNPS (2016).

Figure 5.3-3A Potentially Jurisdictional Waters - Davis Unit

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Figure 5.3-3B Potentially Jurisdictional Waters - Potrero Unit

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Figure 5.3-4A Special-Status Plants - Davis Unit

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Figure 5.3-4B Special-Status Plants - Potrero Unit

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Potrero Unit

Alkali Plant Species

The only special-status alkali plant species documented as occurring on the Potrero Unit is smooth tarplant. One other special-status alkali plant, mud nama, has a moderate or high potential to occur on the Potrero Unit. Smooth tarplant often occurs on the margin of riparian areas where soils are somewhat alkaline as opposed to the large alkali areas on the Davis Unit. Smooth tarplant occurs within Subunits P5 and P10.

Other Plant Species

A number of non-alkali special-status plant species have been documented on the Potrero Unit, including Jaeger's bush milk-vetch (*Astragalus pachypus* var. *jaegeri*) (located in chaparral in Subunits P4 and P5), Yucaipa onion (*Allium marvinii*) (a clay endemic located in Subunit P6), and Parry's spineflower (*Chorizanthe parryi* var. *parryi*) (located in coastal sage scrub openings in Subunits P6 and P7). An additional 18 non-alkali special-status plant species have a moderate to high potential to occur on the Potrero Unit.

5.3.2.5 Wildlife Resources

This section lists the sources used to prepare the comprehensive wildlife species list for the LMP. To augment and update the species analysis provided in the draft LMP, the following sources were used to supplement the special-status wildlife data in this PEIR: regional biological monitoring activities associated with the MSHCP (RCA 2016) (2005–2014), the CDFW CNDDB (2016), and the USFWS Occurrence Data (2016a). The CNDDB and USFWS databases were queried using GIS software based on the boundary of each unit.

5.3.2.5.1 Faunal Diversity

A complete list of wildlife species identified within the SJWA is contained in Appendix B of the draft LMP. Appendix 5.3-B-1 of this PEIR includes the wildlife recorded on the Davis Unit, and Appendix 5.3-B-2 of this PEIR includes the wildlife recorded on the Potrero Unit. Current documentation indicates that 303 wildlife species have been recorded on the Davis Unit and 163 wildlife species on the Potrero Unit.

The following is a discussion of common wildlife species, organized by guild, observed on the SJWA. Categorization by guild identifies groups of species that rely on similar resources (e.g., general habitat categories) regardless of taxonomic position (Simberloff and Dayan 1991). The analysis by guild does not indicate that a particular species will not use other types of habitat for portions of its life history.

Upland Species

The upland species guild includes species that predominantly require upland habitats, such as sage scrub, including both coastal sage scrub and alluvial fan sage scrub; chaparral; grassland; oak woodlands; and even agricultural areas. Representative species from this guild known from the SJWA include American kestrel (*Falco sparverius*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), greater roadrunner (*Geococcyx californianus*), oak titmouse (*Baeolophus inornatus*), Bell's sparrow (*Artemisiospiza belli*), grasshopper sparrow (*Ammodramus savannarum*), wrentit (*Chamaea fasciata*), loggerhead shrike (*Lanius ludovicianus*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), granite spiny lizard (*Sceloporus orcutti*), and Blainville's horned lizard (*Phrynosoma blainvillii*). Upland ~~game~~ species such as California quail (*Callipepla californica*), ring-necked pheasant (*Phasianus colchicus)*, and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) also are included in the upland species guild. This also includes the special-status species discussed in Section 5.3.2.5.2 (e.g., coastal California gnatcatcher (*Polioptila californica californica*) and Stephens' kangaroo rat (*Dipodomys stephensi*)). Annual grassland is the dominant habitat type for the federally endangered Stephens' kangaroo rat, and coastal sage scrub is the dominant habitat for the federally threatened coastal California gnatcatcher.

Wetland Species

The wetland species guild includes species that predominantly require wetland habitats, such as playa, cattail marsh, open meadows, and open water, to satisfy important life history needs. These species may benefit from manufactured wetlands, such as waterfowl ponds and seasonally inundated fields, at the SJWA. Representative species of the wetland species guild known from the SJWA include American coot (*Fulica americana*), American white pelican (*Pelecanus erythrorhynchos*), black-crowned night-heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritus*), Clark's marsh wren (*Cistothorus palustris clarkae*), tricolored blackbird (*Agelaius tricolor*), white-faced ibis (*Plegadis chihi*), Baja California treefrog (*Pseudacris hypochondriaca*), western spadefoot (*Spea hammondii*), versatile fairy shrimp (*Branchinecta lindahli*), and California vole (*Microtus californicus*). This group also includes waterfowl game birds such as mallard (*Anas platyrhynchos*), northern shoveler (*Anas clypeata*), white-fronted goose (*Anser albifrons*), and Canada goose (*Branta canadensis*). The Davis Unit marshes are actively managed to provide optimal nesting and foraging habitat for migratory waterfowl and shorebirds. Refer to Section 5.3.2.5.2 for discussion of special-status species.

Riparian Species

The riparian species guild includes species that predominantly require riparian habitats such as southern willow scrub, mulefat scrub, or cottonwood forest. Representative species within the

riparian species guild known to be from the SJWA include downy woodpecker (*Picoides pubescens*), black-headed grosbeak (*Pheucticus melanocephalus*), Cooper's hawk (*Accipiter cooperii*), least Bell's vireo (*Vireo bellii pusillus*), tree swallow (*Tachycineta bicolor*), white-tailed kite (*Elanus leucurus*), and gray fox (*Urocyon cinereoargenteus*). Several other raptor species would nest within the guild area as well. Riparian communities on the SJWA provide suitable habitat for the state and federally endangered least Bell's vireo, fully protected white-tailed kite, and various other special-status riparian bird species. Refer to Section 5.3.2.5.2 for discussion of special-status species.

5.3.2.5.2 Special-Status Wildlife

With respect to wildlife, endangered, rare, or threatened species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this PEIR and include (1) endangered or threatened species recognized in the context of the California and federal Endangered Species Acts; (2) California species of special concern (SSC), as designated by the CDFW (2016); (3) mammals and birds that are fully protected species, as described in the California Fish and Game Code, Sections 4700 and 3511; and (4) birds of conservation concern (BCC), as designated by the USFWS (USFWS 2008).

The discussion of special-status wildlife is organized by (1) Table 5.3-7, Special-Status Wildlife Observed or With a Moderate or High Potential to Occur on the Davis Unit, and (2) Table 5.3-8, Special-Status Wildlife Observed or With a Moderate or High Potential to Occur on the Potrero Unit. Each table includes the species' taxonomic groups, guild, status, habitat, known range, and whether it was observed or has potential to occur on the unit. As shown in Table 5.3-7, 45 special-status wildlife species were observed on the Davis Unit, and 13 special-status wildlife species have a moderate to high potential to occur on the Davis Unit. As shown in Table 5.3-8, 25 special-status wildlife species were observed on the Potrero Unit, and 19 special-status wildlife species have a moderate to high potential to occur. Figure 5.3-5A.1 shows the known occurrences of special-status wildlife in the upland species guild on the Davis Unit, and Figure 5.3-5A.2 shows the known occurrences of special-status wildlife in the upland species guild on the Potrero Unit. Figure 5.3-5B.1 shows the known occurrences of special-status wildlife in the wetland species guild on the Davis Unit, and Figure 5.3-5B.2 shows the known occurrences of special-status wildlife in the wetland species guild on the Potrero Unit. Figure 5.3-5C.1 shows the known occurrences of special-status wildlife in the riparian species guild on the Davis Unit and Figure 5.3-5C.2 shows the known occurrences of special-status wildlife in the riparian species guild on the Potrero Unit. Figure 5.3-5D.1 shows the known occurrences of burrowing owls on the Davis Unit and Figure 5.3-5D.2 shows the known occurrences of burrowing owls on the Potrero Unit. Figure 5.3-5E.1 shows the known occurrences of Stephens' kangaroo rat on the Davis Unit and Figure 5.3-5E.2 shows the known occurrences of Stephens' kangaroo rat on the Potrero Unit. Figure 5.3-5F.1 shows the known occurrences of special-status and covered raptors

on the Davis Unit. and Figure 5.3-5F.2 shows the known occurrences of special-status and covered raptors on the Potrero Unit. Figure 5.3-5G.1shows the known occurrences of tricolored blackbirds on the Davis Unit and Figure 5.3-5G.2 shows the known occurrences of tricolored blackbirds on the Potrero Unit. Several species-status wildlife species known from the region have not been observed and are not expected to occur on the SJWA, and therefore, were not analyzed in this section. These species are identified, and the reasons for not expecting them to occur in either unit are discussed in Section 4.4 of the draft LMP.

Least Bell's Vireo

The least Bell's vireo Core Areas are outside of the Davis and Potrero Units and therefore were not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). Least Bell's vireo were not observed at the Lake Perris/SJWA during the 2007 focused riparian bird surveys (MSHCP BMP 2008a). Vireo were observed at both the Lake Perris/Mystic Lake Core Area and Lake Perris/Mystic Lake non-core area during 2011 focused riparian bird surveys, although nesting was not documented at either area in the Davis Unit (MSHCP BMP 2012a). Overall, vireo has been observed in 2005 in Subunits D4, in 2007 and 2008 in D14, in 2010 in D4, in 2011 and 2012 in D1 and D7, in 2014 in D3 and D4, and in 2015 in D4 (RCA 2016 and CNDDB/USFWS occurrence data). The observations are concentrated along the riparian vegetation in the central and northern portions of the unit (Figure 5.3-5C.1). There is suitable nesting and foraging habitat in willow riparian areas in the unit and this species has been observed in the Davis Unit during the nesting season (RCA 2016).

A nest was observed in the Potrero Unit during the nest monitoring in 2008 (MSHCP BMP 2009a). It was also detected during nest monitoring in 2007 in P2 (RCA 2016). Overall, vireo has been observed in 1990 in Subunits P10, in 2006 and 2007 in P2, in 2008 in P2 and P10, and in 2010 in P8 and P9 (RCA 2016 and CNDDB/USFWS occurrence data). The observations are concentrated along the riparian vegetation in the central portion of the unit (Figure 5.3-5C.2). There is suitable willow riparian nesting and foraging habitat on the unit (CDFW 2016a).

Vegetation sampling was done as part of the 2007 riparian bird survey. The percent cover of *Salix* spp. was positively correlated with least Bell's vireo occupancy, and vireo use could be increased by expanding the willow growth ((MSHCP BMP 2008a).

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Special-Status Wildlife Species Observed within the Davis Unit							
Amphibian/Wetland	*Spea hammondii*	western spadefoot	None	SSC	Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Observed adults in D1 (2012) and D7 (2013) and tadpoles in D12 (2013) and D13 (2013) (RCA 2016); and two locations in 1999 (age not specified) in D8 and D15 (CNDDB occurrence data).
Bird/Riparian	***Elanus leucurus***	**white-tailed kite (nesting)**	**None**	**FP**	**Covered**	**Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.**	**Surveys for riparian birds, including white-tailed kite, were conducted in portions of the MSHCP in 2006, 2007 and 2011 (MSHCP BMP 2007a, 2008a, 2012a). Evidence of successful nesting was detected in the Lake Perris/Mystic Lake Core in 2011, and based on the survey routes, it likely occurred in the Davis Unit (MSHCP BMP 2012a). White-tailed kited has been incidentally observed during numerous surveys in the SJWA. Observed in D1 in 2006, 2009, 2011, and 2012; in D3 in 2009, 2011, 2012, and 2014; in D4 in 2005–2007 and 2010–2012; in D5 in 2008, 2009, 2011, and 2013–2015; in D7 in 2006–2012; in D8 in 2007 and 2012; in D9 in 2011 and 2012; in D10 in 2011 and 2012; in D11 in 2011 and 2015; in D13 2006, 2007, 2009, 2012, and 2014; in D14 in 2006; and in D15 in 2009 and 2011 (RCA 2016). There is suitable riparian, oak woodland, wetland, and grassland habitat for this species in the unit to support both nesting and foraging (CDFW 2016a). Suitable nesting habitat includes the riparian scrub, woodland, and forest habitat (see Figure 5.3-3A).**
Bird/Riparian	***Empidonax traillii extimus***	**Southwestern willow flycatcher**	**FE**	**SE**	**Covered**	**Nests in wet meadow and montane willow riparian.**	**The southwestern willow flycatcher Core Areas[3] are outside of the Davis Unit and therefore this unit was not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). Surveys for riparian birds, including southwestern willow flycatcher, were conducted in portions of the MSHCP in 2006, 2007, 2008 and 2011 (MSHCP BMP 2007a, 2008a, 2009a, 2012a). One individual was observed during the 2007 focused surveys (MSHCP BMP 2008a). Including incidental observations, this species was observed in D7 in 2007, 2011, and 2015, and in D15 in 2008 (RCA 2016). This species has only been documented in early June (in 2007, 2008, and 2011) or mid-May (in 2015) and may only occur as a migrant; nesting has not been observed. There is suitable foraging habitat in the unit for this species in the riparian areas (CDFW 2016a).**
Bird/Riparian	*Icteria virens*	yellow-breasted chat (nesting)	None	SSC	Covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	The yellow-breasted chat Core Areas are outside of the Davis Unit, and therefore this unit was not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). Observed in D4 in 2014 (RCA 2016). This species may both be an occasional migrant through the unit and may nest in riparian habitat although no nesting has been observed.

[3] Core Areas are defined in the MSHCP as blocks of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more species covered by the MSHCP.

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Riparian	*Pyrocephalus rubinus*	vermilion flycatcher (nesting)	None	SSC	Not Covered	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures.	Observed on site in D4 in the winter of 2011, 2012, and 2016 (RCA 2016; Peterson, per. comm. 2017a.). It is only expected to have a very low chance of nesting as it would only be a vagrant nester in this area. It is a more common nester along the Colorado River in eastern Riverside County.
Bird/Riparian	*Setophaga petechia*	yellow warbler (nesting)	BCC	SSC	Covered	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	The yellow warbler Core Areas are outside of the Davis Unit, and therefore this unit was not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). Observed in D1 in 2005 and 2011; in D3 in 2009, 2014, and 2015; in D4 in 2007–2009 and 2011–2015; and in D7 in 2007, 2010, 2011, 2014, and 2015 (RCA 2016). Yellow warblers were observed at the Lake Perris/SJWA during the 2007 focused riparian bird surveys; however, no nesting was detected at this location (MSHCP BMP 2008a). There are small patches of suitable nesting habitat on the unit. It is expected that the species would at least occasionally nest on site and this species has been observed in April, May and June in most years it has been documented; nesting has not been confirmed. This species may winter in the unit based on fall and winter observations. This species may forage in the unit (CDFW 2016a).
Bird/Riparian	***Vireo bellii pusillus***	**least Bell's vireo (nesting)**	**FE**	**SE**	**Covered**	**Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.**	**Observed in D1 in 2007; in D3 in 2014; in D4 in 2005, 2010, 2012, 2014, and 2015; in D7 in 2011 and 2012; and in D14 in 2007 and 2008 (RCA 2016). There is suitable nesting and foraging habitat in willow riparian areas in the unit and this species has been observed in the unit during the nesting season (MSHCP BMP 2007a; RCA 2016). More information on these observations is provided in the text below the tables.**
Bird/Upland	*Ammodramus savannarum*	grasshopper sparrow (nesting)	None	SSC	Covered*	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.	Observed in D1 in 2011, D4 in 2009 and 2015, D7 in 2015, and D15 in 2005 (RCA 2016). The SJWA areas were not quantitatively surveyed in 2005 during the grasshopper sparrow surveys, but site visits detected 3 individuals in the SJWA and noted that there is suitable nesting and foraging habitat on the unit in the grassland and agricultural areas (MSHCP BMP 2006). The burrowing owl surveys incorporate concomitant surveys for this species since they occupy similar habitat.
Bird/Upland	***Aquila chrysaetos***	**golden eagle (nesting, nonbreeding, and wintering)**	**BCC**	**FP, WL**	**Covered**	**Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.**	**Golden eagles have been observed in D1 in 2008, 2011, 2012, and 2014; in D2 in 2008; in D3 in 2011 and 2012; in D4 in 2008 and 2011-2013; in D7 in 2008, 2013, and 2014; in D8 in 2008 and 2012-2014; in D9 in 2007 and 2012; in D10 in 2011; in D12 in 2014; in D13 in 2009; and in D15 in 2011 and 2012 (RCA 2016). The observations of golden eagle are of flying or foraging individuals, including both adults and subadults (RCA 2016). There is suitable foraging habitat in the unit (CDFW 2016a). While nesting is feasible on Davis, golden eagles are not known to nest on the unit.**

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Upland	*Artemisiospiza belli*	Bell's Sparrow (nesting)	BCC	WL	Covered	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter.	Observed in D6 in 2007 and 2014; in D14 in 2007; and D15 in 2001 and 2012 (RCA 2016). There is suitable nesting and foraging habitat in the unit in the chaparral and sage scrub habitats (CDFW 2016a).
Bird/Upland	*Asio flammeus*	short-eared owl (nesting)	None	SSC	Not Covered	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands	Observed four individuals in D5 in 2010 during loggerhead shrike surveys (RCA 2016). Suitable nesting habitat present.
Bird/Upland	*Asio otus*	long-eared owl (nesting)	None	SSC	Not Covered	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats.	Observed in D15 in 2012 during mountain plover surveys (RCA 2016). There is a marginal quantity of nesting habitat on the site for this species, which nests in riparian woodland areas. This species may forage in the unit in grasslands and agriculture.
Bird/Upland	*Athene cunicularia*	burrowing owl (burrow sites and some wintering sites)	BCC	SSC	Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	CNDDB has records from 1982 in D7, D8 and D13. Focused burrowing owl surveys were conducted in 2006, 2007, 2011 (RCA 2007b, 2008b, 2012b), and 2015 (report not available yet), and this species was also recorded during other species' surveys. Burrowing owl are recorded nearly each year since 2005. They have been observed in D1 in 2006 and 2007; D4 in 2006, 2007, 2009, and 2011; D6 in 2007; in D7 in 2006 and 2007; in D9 in 2007; in D10 in 2005, 2014, and 2015; in D11 in 2012; in D13 2005-2007, 2009, 2011, 2012, 2014, and 2015; and in D15 in 2006 and 2009 (RCA 2016). There is suitable wintering, nesting, and foraging grassland, open scrub, and agriculture habitat in the unit (CDFW 2016a). More information on these observations is provided in the text below the tables.
Bird/Upland	*Buteo regalis*	ferruginous hawk (nonbreeding/wintering)	BCC	WL	Covered	Winters and forages in open, dry country, grasslands, open fields, agriculture.	Observed in D1 in 2008, 2009, 2011, and 2012; in D2 in 2007 and 2011; in D3 in 2011, 2012, 2014; in D4 in 2008, 2009, and 2012; in D5 in 2008, 2009, and 2015; in D7 in 2009, 2011, and 2012; in D8 in 2010; in D10 in 2011 and 2015; in D12 in 2006, 2008, and 2011; and in D13 in 2014 (RCA 2016). This species is as an occasional winter migrant and forager throughout the site in grasslands and agriculture (CDFW 2016a).
Bird/Upland	***Buteo swainsoni***	**Swainson's hawk (nesting)**	**BCC**	**ST**	**Covered**	**Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.**	**Observed in D3 in 2014, in D4 in 2011, D7 in 2012, D8 in 2010, D9 in 2008, D11 in 2007 and 2014, D12 in 2013, and D13 in 2009 (RCA 2016). This species is as an occasional spring or fall migrant on the site. There is suitable foraging habitat in the unit for this species in the grassland and agricultural areas (CDFW 2016a).**
Bird/Upland	*Calypte costae*	Costa's hummingbird (nesting)	BCC	None	Not Covered	Nests and forages in desert wash, edges of riparian and valley–foothill riparian, coastal scrub, desert scrub, desert succulent scrub, lower-elevation chaparral, and palm oasis.	Observed in D6 and D14 in 2007 (RCA 2016). There is suitable habitat in the unit for this species.
Bird/Upland	*Chaetura vauxi*	Vaux's swift (nesting)	None	SSC	Not Covered	Late-stage conifer forest and mixed-conifer/deciduous forest; nests in redwood (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga* spp.), and other conifers, and occasionally buildings and chimneys.	Observed in D14 in 2007 (RCA 2016). Species was only observed foraging during the coastal sage scrub surveys. No nesting habitat is present within the unit.

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Upland	*Circus cyaneus*	northern harrier (nesting)	None	SSC	Covered	Nests in open wetlands including marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	Observed on site in D1 in 2005, 2008, 2009, and 2012–2014; in D2 in 2007, 2008, 2011, and 2014; in D3 in 2007–2009, 2011, 2012, 2014, and 2015; in D4 between 2005 and 2015; in D5 in 2008, 2010, 2011, and 2014; in D6 in 2006, 2007, and 2011; in D7 between 2007 and 2015; in D9 in 2007, 2009 and 2011–2014; in D10 between 2011 and 2015; in D11 in 2007, 2009, 2011, 2014, and 2015; in D12 in 2008–2010; in D13 in 2008, 2009, and 2013–2015; in D14 in 2007 and 2009; and in D15 in 2006; 2009; 2011–2013 (RCA 2016). Focused nesting surveys were conducted in 2009; survey areas were selected by identifying primary breeding and secondary breeding habitat. Primary breeding habitat includes cismontane alkali marsh, freshwater marsh, playas and vernal pools, and grasslands; secondary foraging/wintering habitat includes agricultural land, Riversidean alluvial fan sage scrub and coastal sage scrub (MSHCP BMP 2010a). Two nests were observed in the unit, one in D3 and one in D11 in 2009 (MSHCP BMP 2010a). Potential breeding habitat in the unit include freshwater marsh, grassland, and alkali marsh. There is suitable foraging habitat in the unit in the uplands (CDFW 2016a).
Bird/Upland	*Cypseloides niger*	black swift (nesting)	BCC	SSC	Covered	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats.	Observed in in month of May in D4 in 2007 and 2015, in D7 in 2015, and D13 in 2007 (RCA 2016). Not expected to nest on site due to lack of suitable nesting habitat; however, this species may migrate through the area on occasion and has been observed in the Davis Unit.
Bird/Upland	*Falco mexicanus*	prairie falcon (nesting)	BCC	WL	Covered	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	Observed on site in D1 in 2008, 2011, 2012, and 2014; in D2 in 2008; in D3 in 2011, 2012, and 2014; in D4 in 2008, 2011, and 2012; in D7 in 2008, 2009, 2014, and 2015; in D8 in 2010; in D10 in 2011 and 2014; and in D12 in 2009 and 2013 (RCA 2016). There is suitable foraging habitat in the unit for this species in the grassland and agricultural areas. Prairie falcon rarely breeds within the MSHCP area (MSHCP BMP 2010b) and the majority of observations have been outside of the breeding season (RCA 2016).

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Upland	*Lanius ludovicianus*	loggerhead shrike (nesting)	BCC	SSC	Covered	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	Portions of the Davis Unit are within the loggerhead shrike Core Area of the MSHCP (MSHCP BMP 2011a). Based on the 2010 focused loggerhead shrike surveys, nesting was successful in the southern and southeastern portion of the Davis Unit (MSHCP BMP 2011a). Observed throughout the season in D1 in 2007 and 2011-2015; in D2 in 2007, 2012, 2014, and 2015; in D3 in 2007-2012, 2014, and 2015; in D4 in 2005, 2007-2009, 2011-2013, and 2015; in D5 in 2006-2011 and 2015; in D7 in 2006-2015; in D8 in 2007, 2010, 2011, 2012, and 2014; in D9 in 2005, 2007, 2009, 2011-2013, and 2015; in D10 in 2010-2015; in D11 in 2007, 2008, 2010, 2011, and 2015; in D12 in 2010; in D13 in 2009, 2011, and 2013-2015; in D14 in 2006 and 2007; and in D15 in 2005, 2007-2009 and 2011-2013 (RCA 2016). There is suitable nesting and foraging habitat for this species in the unit (CDFW 2016a).
Bird/Upland	***Polioptila californica californica***	**coastal California gnatcatcher (nesting)**	**FT**	**SSC**	**Covered**	**Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.**	**The California gnatcatcher Core Areas are outside of the Davis Unit and therefore this unit was not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). No California gnatcatchers were observed in the unit during the coastal sage scrub surveys in 2006, 2007 or 2011 (MSHCP BMP 2007c, 2008c, 2012c). Observed in 2007 in D6 and D14 during burrowing owl surveys (RCA 2016). There is suitable coastal sage scrub nesting and foraging habitat the unit (CDFW 2016a).**
Bird/Upland	*Progne subis*	purple martin (nesting)	None	SSC	Covered	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways.	Observed in D3 in 2006, in D4 in 2012, and in D9 in 2015 (RCA 2016). This species may forage in the riparian areas in the unit (CDFW 2016a). It is not expected to nest on site because known nesting range in southern California is limited to higher elevations of the Transverse, Peninsular, and Santa Ana Mountain Ranges.
Bird/Upland	*Spinus lawrencei*	Lawrence's goldfinch (nesting)	BCC	None	Not Covered	Nests and forages in open oak, arid woodlands, and chaparral near water.	Observed in D1 in 2011 (RCA 2016). This species is not expected to nest in the unit, due to the generally poor habitat quality. It would be expected to occasionally forage over the site though.
Bird/Wetland	***Agelaius tricolor***	**tricolored blackbird (nesting colony)**	**BCC**	**~~State Candidate for Listed Endangered, SSC~~Threatened**	**Covered**	**Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.**	**Observed in D1 in 2008; in D2 in 2007; in D3 in 2015; in D4 in 2006, 2007, 2012, 2013, and 2015; in D5 in 2015; in D7 in 2007, 2011, 2014, and 2015; in D8 in 2007 and 2014; in D10 in 2011, 2013, and 2015; in D11 in 2010, 2011, 2013, 2014, and 2015; in D12 in 2007 and 2011; and in D13 in 2013, 2014 and 2015 (RCA 2016). There is suitable nesting and foraging habitat on the site in the riparian areas, agriculture, and grasslands (CDFW 2016a). More information on these observations is provided in the text below the tables.**
Bird/Wetland	*Anser albifrons elgasi*	tule greater white-fronted goose (nesting)	None	SSC	Not Covered	Winters in marshes dominated by tules, bulrushes (*Scirpus* spp.), and cattails (*Typha* spp.); unlike most other geese, does not typically feed in agricultural fields	Observed in D3 and D4 in 2011 and 2012 during the Mountain Plover surveys (RCA 2016). The survey areas focused on plover habitat, such as short-grass habitats that are flat and nearly devoid of vegetation (MSHCP BMP 2013a).

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Wetland	*Aythya americana*	Redhead (nesting)	None	SSC	Not Covered	Nests in relatively deep (>3 feet) permanent or semi-permanent wetlands of at least 1 acre, with about 75% open water and emergent tules, bulrushes (*Scirpus* spp.), and cattails (*Typha* spp.) up to about 3 feet in height; winters in coastal estuaries and large, deep ponds, lakes, and reservoirs of the interior.	Observed during a variety of surveys in D3 in 2011 and 2012, D4 in 2011 and 2012, D9 in 2011, and D11 in 2015 (RCA 2016).
Bird/Wetland	*Branta bernicla*	Brant (wintering and staging)	None	SSC	Not covered	Nesting habitat includes the edges of saltmarshes in the low Arctic region; migratory habitats include shallow marine lakes; winter range includes intertidal mudflats in shallow marine waters with abundant eelgrass or green algae.	Observed in D4 in 2009 during the northern harrier surveys (RCA 2016).
Bird/Wetland	***Falco peregrinus anatum***	**American peregrine falcon**	**FD**	**SD; FP**	**Covered**	**Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present.**	**Observed in D1 in 2008, 2011, and 2012; in D3 in 2008, 2011,, 2012; in D4 in 2006, 2007, and 2012-2015; in D5 in 2015; in D6 in 2006 and 2012; in D7 in 2007, 2011, 2012, and 2015; in D9 in 2005 and 2011-2013;in D10 in 2012; and in D13 in 2011 and 2014 (RCA 2016). There is suitable foraging habitat in the waterfowl ponds and Mystic Lake on the unit. During the 2009 focused Lake Birds Surveys, peregrine falcon was observed at every Core Area except the Mystic Lake/SJWA, although it was observed there earlier in 2009 (MSHCP BMP 2010c). This species likely would not nest on the site due to lack of suitable nesting habitat (CDFW 2016a).**
Bird/Wetland	*Gavia immer*	Common loon (nesting)	None	SSC	Not Covered	Extirpated as a breeder from California; winters in coastal waters such as bays, channels, coves, and inlets; also winters inland at large, deep lakes and reservoirs.	Observed in D3 in 2011 during the Mountain Plover Survey (RCA 2016).
Bird/Wetland	***Haliaeetus leucocephalus***	**bald eagle (nesting and nonbreeding/wintering)**	**FD; BCC**	**SE; FP**	**Covered**	**Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains.**	**Observed in D1 in 2008 and 2014; in D2 in 2008; in D3 in 2006, 2008, 2012; in D4 in 2010-2014; in D5 in 2009; in D8 in 2013 and 2014; in D9 2009 and 2014; in D12 in 2009; and in D13 in 2006 (RCA 2016). The majority of these observations have been outside of the breeding season and include both adults and juveniles/subadults. Bald eagles rarely breed in the MSHCP area and are primarily winter residents (MSHCP BMP 2010c). There is suitable winter foraging habitat for this species at the waterfowl ponds and Mystic Lake on the site (CDFW 2016a).**
Bird/Wetland	*Hydroprogne caspia*	Caspian tern	BCC (nesting colony)	None	Not Covered	Coastal estuarine, saltmarsh, and barrier islands; nests on islands in rivers and salt lakes.	Observed in D5 in 2011 during burrowing owl surveys (RCA 2016).
Bird/Wetland	*Numenius americanus*	long-billed curlew (nesting)	BCC	WL	Not Covered	Nests in grazed, mixed grass, and short-grass prairies; localized nesting along the California coast; winters and forages in coastal estuaries, mudflats, open grassland, and cropland.	Observed in D1 in 2007, D3 in 2012, D4 in 2011 and 2012, D7 in 2011, D9 in 2011 and 2012, D10 in 2011 and 2012, and D15 in 2015 (RCA 2016). There is suitable nesting and foraging habitat within the SJWA in the grassland and meadow/marsh habitats (CDFW 2016a). However, this species typically nests much farther to the north and east, only entering California to nest in the extreme northeast. They would only be expected to rarely nest if ever, in Riverside County. To date, this species has only been observed during the winter months, with the exception of one observation in April 2007 (RCA 2016).

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Wetland	*Pelecanus erythrorhynchos*	American white pelican (nesting)	None	SSC	Not Covered	Nests colonially on isolated islands in freshwater lakes with sandy, earthen, or rocky substrates; minimal disturbance from humans or mammalian predators required, as is close access to productive foraging areas; forages on inland marshes, lakes, or rivers; winters on shallow coastal bays, inlets, and estuaries.	Observed in D3 in 2011 and 2014, D4 in 2012, D5 in 2007, D7 in 2011, and D10 in 2011 (RCA 2016). This species may migrate through the area in the spring and fall; but it is very unlikely that this species would nest on site. There is suitable resting and foraging habitat for this species on the waterfowl ponds on the site.
Bird/Wetland	*Xanthocephalus xanthocephalus*	yellow-headed blackbird (nesting)	None	SSC	Not Covered	Nests in marshes with tall emergent vegetation, often along borders of lakes and ponds; forages in emergent wetlands, open areas, croplands, and muddy shores of lacustrine habitat.	Observed in D7 in 2007, D8 in 2014, D9 in 2012, D10 in 2013, D11 in 2015, D12 in 2007, and D13 in 2014 and 2015 (RCA 2016). There is suitable foraging and nesting habitat for this species in the wetland areas and foraging habitat in the grasslands and agriculture in the unit (CDFW 2016a).
Mammal/Upland	*Chaetodipus fallax fallax*	northwestern San Diego pocket mouse	None	SSC	Covered	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland.	Captured during Los Angeles Pocket Mouse (MSHCP BMP 2007d, 2008d, 2011b, and 2012d) and Stephens Kangaroo Rat Surveys (MSHCP BMP 2007e, 2008e) in D1 in 2010 and 2011; in D14 in 2006 and 2007; and in D15 in 2006, 2007, 2010, and 2011 (RCA 2016). Also recorded in D6 and D7 in 1999 (CNDDB occurrence data). There is suitable habitat for this species in the sage scrub and grassland areas in the unit (CDFW 2016a). This species is expected to be common in suitable habitat.
Mammal/Upland	***Dipodomys stephensi***	**Stephens' kangaroo rat**	**FE**	**ST**	**Covered**	**Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas.**	**Observed in D1 in 2006, 2007, 2010, and 2011; in D14 in 2006 and 2008; and in D15 in 2006, 2007, and 2011, with much higher numbers in D15 (RCA 2016). Also, there are USFWS occurrences for this species on the unit from 1990 (D1 and D2), 1991 (D3), 1999 (D1), and 2008 (D14). This species may be common to abundant in occupied areas. More information on these observations is provided in the text below the tables.**
Mammal/Upland	*Eumops perotis californicus*	western mastiff bat	None	SSC	Not Covered	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	This species was noted as observed in the LMP (CDFW 2016a); however, the most recent species occurrence data does not include as observed (RCA 2016). There is suitable foraging habitat on the site (CDFW 2016a).
Mammal/Upland	*Lepus californicus bennettii*	San Diego black-tailed jackrabbit	None	SSC	Covered	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Observed in D2 in 2014 and 2015; in D3 in 2010, 2011, and 2014; in D4 in 2005 and 2012; in D10 2014 and 2015; in D11 in 2010 and 2013; in D13 in 2014 and 2015; in D14 in 2006; and in D15 in 2006 and 2013 (RCA 2016). There is suitable habitat in the unit in the grassland and sage scrub habitats (RCA 2006).
Mammal/Upland	*Neotoma lepida intermedia*	San Diego desert woodrat	None	SSC	Covered	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	This species was noted as observed in the LMP (CDFW 2016a); however, the most recent species occurrence data does not include as observed (RCA 2016). There is suitable habitat in the unit in the sage scrub habitat (CDFW 2016a) and is expected to be fairly common in suitable habitat.

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Mammal/Upland	*Perognathus longimembris brevinasus*	Los Angeles pocket mouse	None	SSC	Covered	Lower-elevation grassland, alluvial sage scrub, and coastal scrub.	Observed in D14 in 2010 and 2011 and D15 in 1991, 2006, 2007, 2010, and 2011 (RCA 2016). This species was noted as observed in the LMP in additional subunits (CDFW 2016a); however, the most recent species occurrence data does not include these locations (RCA 2016) There is suitable habitat for this species in the grassland and sage scrub habitats in the unit (CDFW 2016a). This species may be relatively common in suitable habitat.
Mammal/Upland	*Taxidea taxus*	American badger	None	SSC	Not Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	Observed in D12 and D15 in 1990 (RCA 2016). There is suitable grassland and sage scrub habitat in the unit (CDFW 2016a). This species may occur at a low density in suitable habitat throughout the site.
Reptile/Upland	*Aspidoscelis tigris stejnegeri*	San Diego tiger whiptail	None	SSC	Covered	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas. Open areas in semiarid grasslands, scrublands, and woodlands.	Observed in D14 in 2008. There is suitable habitat in the SJWA for this species.
Reptile/Upland	*Crotalus ruber*	red-diamond rattlesnake	None	SSC	Covered	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Observed in D6 in 2010 and 2014 and in D8 in 2008; there are four records in D12 between 2008 and 2010; and observed in D15 in 1999 and 2011 (RCA 2016). There is suitable habitat for this species.
Reptile/Wetland	*Actinemys marmorata*	western pond turtle	None	SSC	Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	Observed in D4 (RCA 2016) in June 2012 during visual assessments for pond turtle (MSHCP BMP 2012e).There is suitable habitat on the unit at the waterfowl ponds; however, an MSHCP BMP 2008 survey of E ponds was negative and only detected non-native turtles (MSHCP BMP 2009b). The 2012 monitoring report stated that there is probably only one female in the SJWA (based on surveys at that time), and proper management could lead to a successful repopulation. CDFW staff observed two pond turtles in 2016 (pers. com. CDFW 2017b)
Special-Status Wildlife Species Not Observed but with a Moderate to High Potential to Occur within the Davis Unit							
Reptile/Upland	*Anniella pulchra pulchra*	silvery legless lizard	None	SSC	Not Covered	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils.	Moderate potential to occur. Suitable sage scrub and riparian habitats exists within the unit for this species, but would likely be limited to scattered locations with friable soils and enough cover to maintain soil moisture. (e.g., shade, leaves and other surface debris).
Reptile/Upland	*Coleonyx variegatus abbotti*	San Diego banded gecko	None	SSC	Covered	Rocky areas within coastal scrub and chaparral.	Moderate potential to occur based on suitable habitat present within the Davis Unit. RCA conducted focused nocturnal reptile surveys in 2008 that were negative (MSHCP BMP 2009c), although the species was detected in the northwestern corner of the Lake Perris area.
Reptile/Upland	*Phrynosoma blainvillii*	Blainville's horned lizard	None	SSC	Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	High potential to occur at least at low densities. There is suitable coastal scrub, chaparral, and grassland habitat on the unit, and this species has been observed on the Potrero Unit (CDFW 2016a).
Reptile/Upland	*Salvadora hexalepis virgultea*	coast patch-nosed snake	None	SSC	Not Covered	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites.	Moderate potential to occur in low densities. There is some suitable habitat for this species within the unit.
Reptile/Wetland	*Thamnophis hammondii*	two-striped garter snake	None	SSC	Not Covered	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Moderate potential to occur. There is suitable habitat in the unit near the vernal pool and ponded areas, as well as perennial or seasonal drainages containing flowing or ponded water.

Table 5.3-7
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Davis Unit
Bird/Upland	*Charadrius montanus*	mountain plover (wintering)	None	SSC	Covered	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts.	High potential to occur. There is suitable habitat in the flat areas with low vegetation cover. Mountain plover has not observed in the unit. Focused mountain plover surveys were conducted within the Mountain Plover Core Areas identified in the MSHCP which includes the Mystic Lake/SJWA (MSHCP BMP 2013a).
Bird/Upland	*Spizella atrogularis*	black-chinned sparrow (nesting)	BCC	None	Not Covered	Nests and forages in mixed chaparral, chamise–redshank chaparral, sagebrush, and other brushy habitats.	High potential to occur. There is suitable nesting and foraging habitat in the unit in the chaparral and sage scrub areas.
Mammal/Upland	*Chaetodipus californicus femoralis*	Dulzura pocket mouse	None	SSC	Not Covered	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet amsl.	Moderate potential to occur. There is suitable habitat for this species in the sage scrub and chaparral areas in the unit. This species is much less common in the western Riverside County region than the closely related and similar-appearing northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). Also, the subspecies of California pocket mouse on site, if present, could be the non-special status *C. c. dispar,*
Mammal/Upland	*Nyctinomops femorosaccus*	pocketed free-tailed bat	None	SSC	Not Covered	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, and buildings.	Moderate potential to occur. There is suitable foraging habitat throughout the unit for this species, including grasslands, sage scrubs, chaparral, riparian and wetland areas.
Mammal/Upland	*Antrozous pallidus*	pallid bat	None	SSC	Not Covered	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Moderate potential to occur. There is suitable foraging habitat throughout the unit for this species, including grasslands, sage scrubs, chaparral, riparian and wetland areas.
Invertebrate/ Wetland	***Branchinecta lynchi***	**vernal pool fairy shrimp**	**FT**	**None**	**Covered**	**Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats**	**Low to moderate potential to occur. There is suitable habitat within the SJWA for this species in the alkaline ephemeral wetlands. MSHCP BMP (2009d) included identification of five vernal pools on the Davis Unit. Three of the five pools support the non-listed versatile fairy shrimp.**
Invertebrate/ Wetland	***Branchinecta sandiegonensis***	**San Diego fairy shrimp**	**FE**	**None**	**Not Covered**	**Vernal pools, non-vegetated ephemeral pools.**	**Moderate potential to occur. MSHCP BMP (2009d) included identification of five vernal pools on the Davis Unit. Three of the five pools support the non-listed versatile fairy shrimp.**
Invertebrate/ Wetlands	***Streptocephalus woottoni***	**Riverside fairy shrimp**	**FE**	**None**	**Covered**	**Vernal pools, non-vegetated ephemeral pools.**	**Moderate potential to occur. MSHCP BMP (2009d) included identification of five vernal pools on the Davis Unit. Three of the five pools support the non-listed versatile fairy shrimp.**

NOTE: Species in boldface are federally or state listed.
Status Legend:
None: No federal or state designation.
Federal:
BCC: USFWS—Birds of Conservation Concern
FC: Candidate species for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listing as threatened
FD: Federally delisted; monitored for 5 years

State:
FP: CDFW Fully Protected Species
SE: State listed as endangered
ST: State listed as threatened
SSC: California Species of Special Concern
WL: CDFW Watch List Species
SD: State delisted
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan
Covered*: Considered adequately conserved when certain conservation requirements are met

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Special-Status Wildlife Species Observed within the Potrero Unit							
Amphibian/ Wetland	*Spea hammondii*	western spadefoot	None	SSC	Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Observed in P2 in 2009 and 2010; in P5 in 2007 and 2015; in P6 in 2009 and 2013; and in P10 in 2008 and 2009 (RCA 2016). There is suitable habitat for this species, and there are CNDDB occurrence data in the unit (observed on the Potrero and Davis Units – CDFG 2008b). Observed in P3 and P4 (CDFG 2000).
Bird/Riparian	***Elanus leucurus***	**white-tailed kite**	**None**	**FP (nesting)**	**Covered**	**Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.**	**Surveys for riparian birds, including white-tailed kite, were conducted in portions of the MSHCP in 2006, 2007 and 2011 (MSHCP BMP 2007a, 2008a, 2012a). Observed in P2 in 2006, 2007, and 2010; in P5 in 2006; in P8 and P9 in 2006; and in P10 in 2006, 2010, 2012, and 2015 (mostly in P2 and P10) (RCA 2016). Successful reproduction of three pairs of white-tailed kites was detected at Potrero in 2006 (RCA 2007). Juveniles with adults detected in June and July 2012 in P10; and breeding activity observed in 2015 at prior nest location in P10 (RCA 2016). There is suitable riparian, oak woodland, wetland, grassland, and agriculture habitat in the unit (CDFW 2016a). Suitable nesting habitat includes the riparian scrub, woodland, and forest habitat (see Figures 5.3-3A and 5.3-3B.**
Bird/Riparian	*Setophaga petechia*	yellow warbler (nesting)	BCC	SSC	Covered	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Yellow warbler was observed during the focused riparian bird surveys in 2006 and 2007 (RCA 2007, 2008). The yellow warbler Core Areas are outside of the Potrero Unit but a nest was observed in the unit during the nest monitoring in 2008 (MSHCP BMP 2009a). Observed in P2 in 2006 and 2007; in P5 in 2006, 2007, and 2014; in P9 in 2007; and in P10 in 2006-2008 and 2013–2015 (RCA 2016). There is limited availability of suitable nesting riparian scrub habitat for this species in the unit, and it only occurs in sparse and isolated patches. There is foraging habitat on the unit (CDFW 2016a).
Bird/Riparian	***Vireo bellii pusillus***	**least Bell's vireo (nesting)**	**FE**	**SE**	**Covered**	**Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.**	**The least Bell's vireo Core Areas are outside of the Potrero Unit, but a nest was observed in the unit during the nest monitoring in 2008 (RCA 2016; MSHCP BMP 2009a). It was also detected during nest monitoring in 2007 in P2 (RCA 2016). Overall, vireo has been observed in P2 in 2006–2008; in P8 and P9 in 2010; and in P10 in 1990 and 2008 (RCA 2016 and CNDDB/USFWS occurrence data). There is suitable willow riparian nesting and foraging habitat on the unit (CDFW 2016a). More information on these observations is provided in the text below the tables.**
Bird/Upland	*Ammodramus savannarum*	grasshopper sparrow (nesting)	None	SSC	Covered*	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.	Observed P5 in 2005, P6 in 2011, and P9 in 2006 (RCA 2016). Also observed in P2 (CDFG 2000). The Potrero Unit was not quantitatively surveyed in 2005 during the grasshopper sparrow surveys, but site visits detected 1 individual in the Potrero Unit and noted there is suitable habitat on the unit in the grassland areas (MSHCP BMP 2006).

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Bird/Upland	***Aquila chrysaetos***	**golden eagle (nesting, nonbreeding, and wintering)**	**BCC**	**FP, WL**	**Covered**	**Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.**	**Golden eagles have been observed in P1 in 2006; in P2 in 2008–2010; in P3 in 2006, 2008, and 2012; in P4 in 2009 and 2010; in P5 in 2005; in P6 in 2014; in P9 in 2008 and 2012–2015; and in P10 in 2008, 2009, 2010, and 2013 (RCA 2016 and CNDDB occurrence data). The 2012 golden eagle nest survey detected an active golden eagle nest on a cliff ledge at Potrero; the pair produced one nestling, but the area (and nest) were burned in June and the outcome of the nest could not be determined (MSHCP BMP 2013c). This cliff nest was used again in 2013, with a chick observed at the nest, and nesting activity at the nest in 2014 (RCA 2016). There is suitable foraging habitat on the unit for this species (CDFW 2016a).**
Bird/Upland	*Artemisiospiza belli*	Bell's Sparrow (nesting)	BCC	WL	Covered	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter.	Observed in P1 in 2007; in P2 in 2012 and 2014; in P4 in 2008 and 2010; in P5 in 2014; in P6 in 2010 and 2012; in P8 in 2006 and 2009; in P10 in 2014 and 2015; and in P11 in 2015 (RCA 2016). There is suitable sage scrub, chaparral, and woodland habitat on the unit.
Bird/Upland	*Athene cunicularia*	burrowing owl (burrow sites and some wintering sites)	BCC	SSC	Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Focused burrowing owl surveys were conducted in 2006, 2007, 2011 (MSHCP BMP 2007b, 2008b, 2012b), and 2015 (report not available yet), but no burrowing owls were observed in this unit during those surveys. Observed during other surveys in P1 in 2008 and P5 in 2006 (RCA 2016 and CNDDB occurrence data). There is suitable habitat in the grassland and agricultural areas on the unit for this species (CDFW 2016a). More information on these observations is provided in the text below the tables.
Bird/Upland	*Baeolophus inornatus*	oak titmouse (nesting)	BCC	None	Not Covered	Nests and forages in oak woodlands; also open pine forest, pinyon woodland, and riparian and chaparral with oak.	Observed in P2 and P10 in 2006 and 2007 (RCA 2016). There is suitable woodland and riparian habitat on the unit.
Bird/Upland	*Buteo regalis*	ferruginous hawk (nonbreeding/wintering)	BCC	WL	Covered	Winters and forages in open, dry country, grasslands, open fields, agriculture.	Observed in P3 and P4 in 2008, P5 in 2010 and 2015, and P10 in 2006 and 2008 (RCA 2016 and CNDDB occurrence data). This species occurs as an occasional winter migrant forager on the unit (CDFW 2016a). There is suitable grassland foraging habitat on the unit.
Bird/Upland	*Circus cyaneus*	northern harrier (nesting)	None	SSC	Covered	Nests in open wetlands including marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	Observed in P1 in 2008; in P2 in 2008–2010; in P3 in 2008 and 2012; in P4 in 2009–2010; in P5 in 2008–2010; in P6 in 2010; in P7 in 2012; in P9 in 2012 and 2014; in P10 in 2007, 2009, 2010, and 2014; and in P11 in 2008 and 2010 (RCA 2016). Focused nesting surveys were conducted in 2009; survey areas were selected by identifying primary breeding and secondary breeding habitat. Primary breeding habitat includes cismontane alkali marsh, freshwater marsh, playas and vernal pools, and grasslands; secondary foraging/wintering habitat includes agricultural land, Riversidean alluvial fan sage scrub and coastal sage scrub. No northern harrier nests were detected in the unit during the 2009 surveys (MSHCP BMP 2010a). There is suitable foraging habitat in the unit in the grassland and agricultural areas on the unit, but the site lacks wetland nesting habitat (CDFW 2016a).

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Bird/Upland	*Falco mexicanus*	prairie falcon (nesting)	BCC	WL	Covered	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	Observed in P1 in 2008, P2 in 2006 and 2008, P4 in 2007, P5 in 2008 and 2012, P8 in 2009, P9 in 2012, and P10 in 2007 and 2014 (RCA 2016). There is suitable foraging habitat on the unit for this species in grassland and agricultural areas (CDFW 2016a). Prairie falcon rarely breeds within the MSHCP area (MSHCP BMP 2010b) and the majority of observations have been outside of the breeding season (RCA 2016).
Bird/Upland	*Lanius ludovicianus*	loggerhead shrike (nesting)	BCC	SSC	Covered	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	The unit is within the loggerhead shrike Core Area of the MSHCP (MSHCP BMP 2011a). Based on the 2010 focused loggerhead shrike surveys, active nests were observed in the unit (MSHCP BMP 2011a) in P10 and P11 (RCA 2016). Observed in P2 in 2006-2008 and 2010; in P3 in 2007, 2010, and 2012; in P4 in 2007, 2008, and 2010; in P5 in 2005-2010, 2012, 2014, and 2015; in P6 in 2007, 2009-2012, 2014, and 2015; in P10 in 2010, 2011, and 2013-2015; and in P11 in 2009 and 2010 (RCA 2016 and CNDDB occurrence data). There is suitable nesting and foraging habitat in the unit, including grassland, agriculture, and sage scrub (CDFW 2016a).
Bird/Upland	***Polioptila californica californica***	**coastal California gnatcatcher (nesting)**	**FT**	**SSC**	**Covered**	**Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet amsl.**	**The California gnatcatcher Core Areas are outside of the Potrero Unit and therefore this unit was not surveyed as part of the nest monitoring in 2008 (MSHCP BMP 2009a). No California gnatcatchers were observed in the unit during the coastal sage scrub surveys in 2006, 2007 or 2011 (MSHCP BMP 2007c, 2008c, 2012c). Observed on site in P7 in 2010 during amphibian surveys (RCA 2016). The available sage scrub habitat on site is marginally suitable for this species due to the generally steep slopes of the available habitat.**
Bird/Upland	*Spinus lawrencei*	Lawrence's goldfinch (nesting)	BCC	None	Not Covered	Nests and forages in open oak, arid woodlands, and chaparral near water.	Observed in P2 and P10 in 2006 and 2007 and in P8 and P9 in 2006 (RCA 2016 This species is not expected to nest in the unit, due to the generally poor habitat quality. It would be expected to occasionally forage over the site though.
Bird/Upland	*Spizella atrogularis*	black-chinned sparrow (nesting)	BCC	None	Not Covered	Nests and forages in mixed chaparral, chamise–redshank chaparral, sagebrush, and other brushy habitats.	Observed in P2 in 2006, P5 in 2014, P8 and P9 in 2006 and 2007, P10 in 2006-2007 and 2011, and P11 in 2007 (RCA 2016). There is suitable nesting and foraging habitat on the unit in sage scrub and chaparral (CDFW 2016a).
Bird/Upland	*Spizella breweri*	Brewer's sparrow (nesting)	BCC	None	Not Covered	Nests in treeless shrub habitat with moderate canopy, especially sagebrush; winters in open desert scrub and croplands in southern Mojave and Colorado Deserts.	Observed in P5 in 2007 and P9 in 2006 (RCA 2016). There have been historical migrant observations on the unit (CDFW 2016a); however, the unit is outside the typical known range for this species, which is mainly in the desert east of the unit in this region.
Bird/Wetland	***Agelaius tricolor***	**tricolored blackbird (nesting colony)**	**BCC**	**State Candidate for Listing Endangered, SSC**	**Covered**	**Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.**	**RCA has documented a breeding colony within a small (0.5-acre) pond in P10 (MSHCP BMP 2006c). This species has been observed in P4 in 2007, P8 in 2006, and in P10 in 2005–2007 and 2009–2015 (RCA 2016). Suitable foraging habitat in grassland. More information on these observations is provided in the text below the tables.**

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Bird/Wetland	***Falco peregrinus anatum***	**American peregrine falcon (nesting)**	**Delisted; S; BCC**	**Delisted; FP**	**Covered**	**Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present.**	**Observed in P2 in 2006 (RCA 2016). There is suitable foraging habitat in the riparian areas of the unit. It is not likely that this species would nest on the unit due to lack of suitable nesting habitat (CDFW 2016a).**
Mammal/Upland	*Lepus californicus bennettii*	San Diego black-tailed jackrabbit	None	SSC	Covered	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Observed in P3 in 2015; in P4 in 2008; in P5 2010 and 2013-2015; in P6 in 2010, 2012, and 2014; in P10 in 2006, 2011, and 2015; and in P11 in 2012 (RCA 2016). There is suitable grassland and sage habitat in the unit (CDFW 2012).
Mammal/Upland	*Chaetodipus fallax fallax*	northwestern San Diego pocket mouse	None	SSC	Covered	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland.	Captured during Los Angeles Pocket Mouse (MSHCP BMP 2007d, 2008d, 2011b, and 2012d) and Stephens Kangaroo Rat Surveys (MSHCP BMP 2007e, 2008e) in P2 in 2007, 2008, and 2010; in P3 in 2007, 2008, and 2010; in P4 in 2000, 2006, 2008, and 2010; in P5 in 2007, 2008, 2010, and 2014; in P6 in 2008, 2010, and 2014; in P9 in 2010; in P10 in 2007, 2008, 2010, and 2014; and in P11 in 2007 and 2010 (RCA 2016 and CNDDB occurrence data). There is suitable habitat for this species in the sage scrub, chaparral and grassland areas in the unit and it is expected to be common (CDFW 2016a).
Mammal/Upland	***Dipodomys stephensi***	**Stephens' kangaroo rat**	**FE**	**ST**	**Covered**	**Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas.**	**Observed at numerous locations in P2 in 2006–2008 and 2013; in P3 in 2007, 2008, and 2014; in P4 in 2003, 2006–2008, and 2014; in P5 in 2005–2008, 2011, and 2014; in P6 in 2007, 2008, 2010, 2011, and 2014; in P10 in 2006–2008, 2010, and 2014; and in P11 in 2006, 2007, 2008, and 2010, with the highest counts in P2, P4, P5, and P10 (RCA 2016 and CNDDB occurrence data). There is suitable annual grassland habitat in the unit, and may be common to abundant in occupied habitat (CDFW 2016a). More information on these observations is provided in the text below the tables.**
Reptile/Upland	*Aspidoscelis tigris stejnegeri*	San Diego tiger whiptail	None	SSC	Covered	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Observed in P6 in 2012, P7 in 2010 and P11 in 2008 (RCA 2016). There is suitable sage scrub, chaparral and woodland habitats on the unit.
Reptile/Upland	*Crotalus ruber*	red-diamond rattlesnake	None	SSC	Covered	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Observed in P3 in 2010 and P11 in 2005 (RCA 2016). There is suitable grassland, sage scrub, chaparral and woodland habitat on the unit. Also recorded in P1 (CDFW 2016a).
Reptile/Upland	*Phrynosoma blainvillii*	Blainville's horned lizard	None	SSC	Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	Observed in P2 in 2008, P3 in 2008 and 2014, P4 in 2006 and 2008, and P10 in 2005 and 2013 (RCA 2016 and CNDDB occurrence data). There is suitable grassland, sage scrub, chaparral and woodland habitat in the unit (CDFW 2016a).
Special-Status Wildlife Species Not Observed but with a Moderate to High Potential to Occur within the Potrero Unit							
Bird/Riparian	***Empidonax traillii extimus***	**southwestern willow flycatcher (nesting)**	**FE**	**SE**	**Covered**	**Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration**	**Moderate potential to occur as a migrant, but no potential as breeder due to small patchy breeding habitat. There is marginally suitable habitat along the willow riparian areas in the unit.**

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Bird/Riparian	*Icteria virens*	yellow-breasted chat (nesting)	None	SSC	Covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	Moderate potential to occur as a migrant but not for breeding. The habitat occurs in in patches that are too small to support nesting on the Unit. However, there is suitable foraging habitat in the unit for this species in the riparian areas.
Bird/Riparian	***Empidonax traillii***	**willow flycatcher (nesting)**	**BCC**	**SE**	**Not covered**	**Nests in wet meadow and montane willow riparian.**	**Moderate potential to occur as a migrant but not for breeding. The habitat occurs in in patches that are too small to support willow flycatcher nesting on the unit. However, there is suitable foraging habitat in the unit for this species in the riparian areas.**
Bird/Upland	***Buteo swainsoni***	**Swainson's hawk (nesting)**	**BCC**	**ST**	**Covered**	**Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.**	**Moderate potential to occur. This species may occasionally occur as a spring or fall migrant on the unit. There is suitable foraging habitat in the unit in the grassland and agricultural areas.**
Bird/Upland	*Charadrius montanus*	mountain plover (wintering)	None	SSC	Covered	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts.	Moderate potential to occur. There may be some suitable habitat in the flat areas with low vegetation cover.
Mammal/Upland	*Antrozous pallidus*	pallid bat	None	SSC	Not Covered	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Moderate potential to occur. This species may forage in the natural habitats on the unit. Suitable roosting habitat is limited on the unit.
Mammal/Upland	*Chaetodipus californicus femoralis*	Dulzura pocket mouse	None	SSC	Not Covered	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet amsl.	Moderate potential to occur. There is suitable habitat for this species in the sage scrub and riparian areas on the unit.
Mammal/Upland	*Chaetodipus fallax pallidus*	pallid San Diego pocket mouse	None	SSC	Not Covered	Desert wash, desert scrub, desert succulent scrub, and pinyon–juniper woodland.	Moderate potential to occur. There is suitable habitat in the grassland and sage scrub areas on the unit for this species.
Mammal/Upland	***Dipodomys merriami parvus***	**San Bernardino kangaroo rat**	**FE**	**SSC**	**Covered**	**Sparse scrub habitat, alluvial scrub/coastal scrub habitats on gravelly and sandy soils near river and stream terraces.**	**Moderate potential to occur in alluvial fan sage scrub within lower Potrero Creek. Known locations exist west of the Potrero Unit.**
Mammal/Upland	*Eumops perotis californicus*	western mastiff bat	None	SSC	Not Covered	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Moderate potential to occur. This species may forage in the natural habitats on the unit. Suitable roosting habitat is limited on the unit. Species was observed on the nearby Davis Unit (CDFG 2008b).
Mammal/Upland	*Neotoma lepida intermedia*	San Diego desert woodrat	None	SSC	Covered	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	High potential to occur. There is suitable habitat on the unit in the sage scrub and chaparral, and this species has been observed on the nearby Davis Unit (CDFW 2012).
Mammal/Upland	*Onychomys torridus ramona*	southern grasshopper mouse	None	SSC	Not Covered	Grassland and sparse coastal scrub.	Moderate potential to occur in low densities. This species is typically found in the desert but has been recently found in the nearby and similar Shipley Reserve to the south.
Mammal/Upland	*Perognathus longimembris brevinasus*	Los Angeles pocket mouse	None	SSC	Covered	Lower-elevation grassland, alluvial sage scrub, and coastal scrub.	High potential to occur. There is suitable habitat for this species in the grassland and sage scrub habitats associated with sandy soils on the unit (CDFW 2016a).
Mammal/Upland	*Taxidea taxus*	American badger	None	SSC	Not Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	Moderate potential to occur in low densities. There is suitable grassland, agricultural, and sage scrub habitat on the unit.
Reptile/Upland	*Coleonyx variegatus abbotti*	San Diego banded gecko	None	SSC	Covered	Rocky areas within coastal scrub and chaparral.	High potential to occur. There are suitable granite outcrops on the site for this species.
Reptile/Wetland	*Thamnophis hammondii*	two-striped garter snake	None	SSC	Not Covered	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Moderate potential to occur. There is marginally suitable habitat for this species on the unit near the marsh areas.

Table 5.3-8
Special-Status Wildlife Species Observed or with a Moderate to High Potential to Occur within the Potrero Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Observed or Potential to Occur on Potrero Unit
Invertebrate/ Wetland	***Branchinecta lynchi***	vernal pool fairy shrimp	FT	None	Covered	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Low to moderate potential to occur. There is suitable habitat within the SJWA for this species in the alkaline ephemeral wetlands. MSHCP BMP (2011c) reported pools with fairy shrimp on the Potrero Unit and one pool supported the non-listed versatile fairy shrimp
Invertebrate/ Wetland	***Branchinecta sandiegonensis***	San Diego fairy shrimp	FE	None	Not Covered	Vernal pools, non-vegetated ephemeral pools.	Moderate potential to occur Moderate potential to occur. MSHCP BMP (2011c) reported pools with fairy shrimp on the Potrero Unit and one pool supported the non-listed versatile fairy shrimp
Invertebrate/ Wetlands	***Streptocephalus woottoni***	Riverside fairy shrimp	FE	None	Covered	Vernal pools, non-vegetated ephemeral pools.	Moderate potential to occur. MSHCP BMP (2011c) reported pools with fairy shrimp on the Potrero Unit and one pool supported the non-listed versatile fairy shrimp

NOTE: Species in boldface are federally or state listed.
Status Legend:
None: No federal or state designation.
Federal:
BCC: USFWS—Birds of Conservation Concern
FC: Candidate species for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listing as threatened
FD: Federally delisted; monitored for 5 years
State:
FP: CDFW Fully Protected Species
SE: State listed as endangered
ST: State listed as threatened
SSC: California Species of Special Concern
WL: CDFW Watch List Species
SD: State delisted
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan
Covered*: Considered adequately conserved when certain conservation requirements are met

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Figure 5.3-5A.1 Upland Special-Status Wildlife - Davis Unit

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Figure 5.3-5A.2 Upland Special-Status Wildlife - Potrero Unit

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Figure 5.3-5B.1 Special-Status Wildlife Occurrence in Wetland Guild - Davis Unit

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Figure 5.3-5B.2 Special-Status Wildlife Occurrence in Wetland Guild - Potrero Unit

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Figure 5.3-5C.1 Special-Status Wildlife Occurrence in Riparian Guild - Davis Unit

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Figure 5.3-5C.2 Special-Status Wildlife Occurrence in Riparian Guild - Potrero Unit

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Figure 5.3-5D.1 Burrowing Owl Occurrences – Davis Unit

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Figure 5.3-5D.2 Burrowing Owl Occurrences – Potrero Unit

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Figure 5.3-5E.1 Stephens' Kangaroo Rat Occurrences – Davis Unit

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Figure 5.3-5E.2 Stephens' Kangaroo Rat Occurrences – Potrero Unit

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Figure 5.3-5F.1 Special-Status / Covered Raptors Occurrences – Davis Unit

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Figure 5.3-5F.2 Special-Status / Covered Raptors Occurrences – Potrero Unit

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Figure 5.3-5G.1 Tricolored Blackbird Occurrences – Davis Unit

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Figure 5.3-5G.2 Tricolored Blackbird Occurrences – Potrero Unit

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Tricolored Blackbird

1989–2005 Occurrence Data: According to the *Tricolored Blackbird Survey Report* (MSHCP BMP 2006c), tricolored blackbirds have historically occurred within the Davis Unit. Historical data shows populations in the SJWA ponds in the Davis Unit. Populations in Marsh A (D4) ranged from a nesting colony with approximately 6,000 individuals in 1989 (Beedy et al. 1991); 5,000 individuals in 1992, 1,000 individuals in 1993, 400 individuals in 1994, 750 individuals in 1996, and 350 individuals in 1997 (MSHCP BMP 2006c). Populations in Marsh B (D4) ranged from 1,000 in 1993 to between 75 and 300 individuals in 1994, between 2,000 and 2,500 individuals in 1996, and 400 individuals in 1997 (MSHCP BMP 2006c). Additionally, approximately 200 individuals in 1993 along the west side of Davis Road (D7) (MSHCP BMP 2006c). The single largest recorded nesting colony in Riverside County since 1997 has always occurred somewhere in the San Jacinto Valley, including in the SWJA in 2003, 2004, and 2005 (MSHCP BMP 2011d). The 2006 survey report noted that Colony 5 (located in D4) was the largest breeding colony found in the MSHCP, with an estimated 10,000 breeding adults historically (no date; MSHCP BMP 2006c). During the initial 2005 visit, a colony was observed nest building at Colony 5; however, a follow-up visit noted that the colony had disappeared, and no breeding success was observed in 2005 within SJWA (MSHCP BMP 2006c). Figure 5.3-5G.1 shows these locations.

A smaller colony nests in the Potrero Unit. The Potrero colony was estimated as supporting 500 breeding adults in the Potrero Pond Colony (0.5-acre) in 2005 in P10 (see Figure 5.3-5G.2).

2006–2015 Occurrence Data: Tricolored blackbirds were observed in the Davis Unit in 2006 in Subunits D4; in 2008 in D2, D4, D7, D8, and D12; and in 2010 in D11 according to GIS data from RCA (RCA 2016). No nesting colonies were observed in the Davis Unit during the 2009 or 2010 surveys (MSHCP BMP 2011d). In June 2011, a colony of approximately 450 birds were observed at the Bridge Street Pond (D11) in the provisional stage of nesting, and foraging in the grassland around Mystic Lake and to a lesser extent from the agricultural fields surrounding Bridge Street (MSHCP BMP 2012g). Nest building was observed in D4 in 2012 (RCA 2016), but no nesting colonies were described in the monitoring report (MSHCP BMP 2013d), and therefore it is assumed there was no successful nesting in 2012. No nesting colonies were observed in the Davis Unit in 2013 (MSHCP BMP 2014a), but individuals were documented in Subunits D4, D10, D11, and D13 in 2013, including at the Spring-Summers Wetland and Bridge Street Pond (RCA 2016) (Figure 5.3-5G.1). Two nesting colonies were observed in the Davis Unit in 2014: one colony of approximately 150 individuals in the San Jacinto River and another with approximately 250 individuals at the Spring-Summer Wetlands; neither location had previously recorded nesting colonies (MSHCP BMP 2015). These nesting colonies were the first in the Davis Unit since 2011 (MSHCP BMP 2015a). ~~Three~~ Four successful nesting colonies were confirmed in 2015 within the Davis Unit at the Spring-Summer Wetlands (D13), Bridge Street Pond (D11), Mystic Lake (D3) dry lakebed, and Ramona Hunt Club (D10) (MSHCP BMP

2016a). Tricolored blackbirds were also observed flying or foraging at Subunits D3, D4, D5, and D7 in 2015 (RCA 2016 and CNDDB data).

A colony was observed in the Potrero Pond Colony in 2009, 2010, 2012, 2013, and 2014 (RCA 2016). The 2009 surveys estimated the colony size on April 25, 2009 at 200 (+/- 50) adults, occupying an area of approximately 900 square meters (0.2 acre). Adults were in the provisioning stage of nesting and collecting caterpillars and other insect prey from grasslands within the wildlife area. Breeding success was confirmed on a second visit to the colony on May 2 (MSHCP BMP 2011d). In 2010, Feenstra (2010, as cited in MSHCP BMP 2011d) reported 75 birds at this site in their April survey. On May 4, 2010, this colony had approximately 25 adults and was in the nestling stage; reproductive success was confirmed on May 9 (MSHCP BMP 2011d). The condition of the nesting substrate was generally poor, consisting of cattails that were mostly dry and bent over (MSHCP BMP 2011d). No colony was observed here in 2011 (or any other area in the Potrero Unit), but several individuals were observed in Subunit P10 (RCA 2016). This area was colonized in 2012 and reproductive success was confirmed, although the colony was smaller (20 birds) compared to previous years (MSHCP BMP 2013d). Successful reproduction was confirmed at the Potrero Pond in 2013 (350 individuals) and in 2014 (200 individuals) (MSHCP BMP 2014; 2015). A colony was not observed here in 2015, but individuals were in Subunit P10 that year (RCA 2016) (see Figure 5.3-5G.2).

Suitable Habitat: Suitable breeding habitat includes upland and wetland habitat located within 0.5 kilometer (0.3 mile) of a water source and 1 ~~kilometer~~ to 5 kilometers (0.6 ~~mile~~ to 3.1 miles) from quality foraging habitat (RCA 2016). Nesting colonies have been observed in typical marsh habitat (e.g., *Typha* spp. and *Scirpus* spp.), as well as thistle and non-native vegetation (e.g., *Malva parviflora*, *Lactuca serriola*, *Urtica dioica*, etc.) (RCA 2016). Adults forage on grain and insects, and young depend on insects gathered from surrounding fields and vegetation. While foraging areas can vary and include many different types, adults averaged travel distances between 2.3 ~~kilometers~~ and 5 kilometers (1.4 ~~miles~~ and 3.1 miles) (RCA 2016).

Burrowing Owl

Focused burrowing owl surveys were conducted within specific areas of the MSHCP in 2006, 2007, and 2011 (MSHCP BMP 2007b; 2008b; 2012b). Based on the RCA (2016) and CNDDB data, approximately 6 burrowing owls were observed in the Davis Unit in 1982 in Subunits D7, D8, D13; 13 observed in 2005 in D10 and D13; 24 observed in 2006 in D1, D4, D7, D13, and D15; 41 observed in 2007 in D1, D4, D6, D7, D9, and D13; 12 observed in 2009 in D4, D13, and D15; 12 observed in 2011 in D4 and D13; 16 observed in 2012 in D11 and D13; 2 observed in 2014 in D10 and D13; and 8 observed in 2015 in D10 and D13 (RCA 2016). One burrowing owl location was recorded in Potrero Unit in 2006 in P5 (CNDDB) and one individual was observed in 2008 in P1 (RCA 2016). Twelve breeding pairs were observed in or near the Lake

Perris/SJWA survey area in 2006 (MSHCP BMP 2007b) and three pairs in 2007 (RCA 2008). One pair nested in 2006 and two pairs in 2007 in D13 (Peterson, per. comm. 2017b). None were observed nesting in the Potrero Unit in 2006 or 2007 based on the report figures. No breeding pairs were observed in the Lake Perris/SJWA during the 2011 surveys (MSHCP BMP 2012b). See burrowing owls on Figures 5.3-5D.1 and 5.3-5D.2.

Stephens' Kangaroo Rat

Stephens' kangaroo rat was observed in the Davis and Potrero Units and may be common to abundant in occupied areas of both units. It was observed in the Davis Unit in Subunits D1, D14 and D15, with much higher numbers in D15 (RCA 2016). For example, in 2006, 1,177 individuals were recorded in D15 during Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) surveys (MSHCP BMP 2007d) and Stephens' Kangaroo Rat Surveys (MSHCP BMP 2007e) compared to 10 individuals in other subunits during the same year (RCA 2016). See Table 5.3-9 and Figure 5.3-5E.1.

Table 5.3-9
Stephens' Kangaroo Rat Population Data (Davis Unit)

Subunit	1990	1991	1999	2006	2007	2008	2010	2011
D1	2	—	2	6	15	—	9	34
D2	1	—	—	—	—	—	—	—
D3	—	1	—	—	—	—	—	—
D14	—	—	—	4	—	2	—	—
D15	—	—	—	1,177	291	—	—	39
Total	**3**	**1**	**2**	**1,187**	**306**	**2**	**9**	**73**

This species was observed in the Potrero Unit in P2, P3, P4, P5, P6, P10, and P11, with highest numbers recorded in P5 and P10. See Table 5.3-10 and Figure 5.3-5D.2.

Table 5.3-10
Stephens' Kangaroo Rat Population Data (Potrero Unit)

Subunit	2003	2005	2006	2007	2008	2010	2011	2013	2014
P2	—	—	67	722	427	—	—	1	—
P3	—	—	—	21	7	—	—	—	1
P4	1	—	14	538	407	—	—	—	2
P5	—	1	16	2,006	858	—	0	—	2
P6	—	—	—	27	11	25	0	—	22
P10	—	—	154	2,486	4,418	21	—	—	23
P11	—	—	9	249	6	10	—	—	—
Total	**1**	**1**	**260**	**6,049**	**6,134**	**56**	**0**	**1**	**50**

Wintering Raptors

Raptors have been well-documented on both units. Some raptors are year-round residents, such as golden eagle, Cooper's hawk, northern harrier, and white-tailed kite, while others are more concentrated in the non-breeding season, such as merlin, ferruginous hawk, prairie falcon, and Swainson's hawk. Common habitats frequented during the winter include open country habitats, such as grassland, agricultural land, and open scrub and woodland. These habitat types occur on both units, as well as surrounding the study area. Overwintering raptor surveys were conducted in 2007–2008 and 2008–2009 to record all Covered raptor species observed during the surveys (MSHCP BMP 2009e; 2010b). Raptors were more abundant within the Davis Unit during these surveys, with 75 observations recorded compared to 11 observations on the Potrero Unit (MSHCP BMP 2009e; 2010b). Northern harrier was recorded the most, with 56 observations on the Davis Unit and 4 on the Potrero Unit (MSHCP BMP 2009e; 2010b). These species have also been recorded during other surveys and these observations are shown on Figures 5.3-5E.1 and 5.3-5E.2. For example, American peregrine falcon has been observed regularly on the Davis Unit during the winter, with observations ranging from 2 records in various years up to 13 records in 2012 (RCA 2016). See Tables 5.3-11 and 5.3-12 for observations of raptors[4] by month and year. While these observations were made during various surveys and do not represent results from one survey method or survey area, they provide an overview of observations between 2005 and 2015.

Table 5.3-11
Raptor Observation Data by Year (Davis Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2005	American peregrine falcon	—	—	—	—	—	—	2	—	—	—	—	—
	northern harrier	—	—	—	—	1	—	—	—	—	—	1	—
	white-tailed kite	—	—	—	—	—	—	—	—	—	—	1	—
	Total	**—**	**—**	**—**	**—**	**1**	**—**	**2**	**—**	**—**	**—**	**2**	**—**
2006	American peregrine falcon	—	—	—	—	—	—	—	—	—	—	2	—
	bald eagle	—	—	—	2	—	—	—	—	—	—	—	—
	Cooper's hawk	—	—	—	—	—	—	—	—	—	—	1	—
	ferruginous hawk	—	—	—	—	—	—	—	—	—	—	1	—
	northern harrier	—	1	—	2	—	—	—	—	1	—	2	—
	sharp-shinned hawk	—	—	—	—	—	—	—	—	—	1	—	—
	white-tailed kite	—	1	1	—	—	1	3	—	—	—	—	—
	Total	**—**	**2**	**1**	**4**	**—**	**1**	**3**	**—**	**1**	**1**	**6**	**—**

[4] These tables include special-status or covered raptors.

Table 5.3-11
Raptor Observation Data by Year (Davis Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2007	American peregrine falcon	—	—	—	—	—	2	—	—	—	—	—	—
	Cooper's hawk	1	—	1	—	—	4	—	—	—	—	—	—
	ferruginous hawk	—	—	—	—	—	—	—	—	—	—	1	—
	golden eagle	—	—	—	—	—	—	—	—	—	—	1	—
	merlin	—	—	1	—	—	—	—	—	—	—	—	—
	northern harrier	1	2	—	—	2	—	—	—	—	—	1	—
	Swainson's hawk	—	—	—	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	—	—	—	1	—	3	—	—	—	—	—
	Total	**2**	**2**	**2**	**—**	**3**	**6**	**3**	**—**	**—**	**—**	**3**	**—**
2008	American peregrine falcon	—	—	—	1	—	—	—	—	—	—	—	1
	bald eagle	—	—	2	—	—	—	—	—	—	—	2	
	Cooper's hawk	1	1		—	—	—	—	—	—	—	1	2
	ferruginous hawk	—	1	1	—	—	—	—	—	—	—	1	4
	golden eagle	1	—	1	—	2	—	—	—	—	—	2	—
	merlin	—	1	1	—	—	—	—	—	—	—	—	1
	northern harrier	3	12	24	1	—	—	—	1	—	—	7	8
	prairie falcon	1	—	1	—	—	—	—	—	—	—	2	1
	sharp-shinned hawk	—	—	1	—	—	—	—	—	—	—	—	—
	Swainson's hawk	—	1	—	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	1	1	—	—	—	—	1	—	1	2	—
	Total	**6**	**17**	**32**	**2**	**2**	**—**	**—**	**2**	**—**	**1**	**17**	**17**
2009	bald eagle	—	1	—	—	—	—	—	—	—	—	—	2
	Cooper's hawk	—	—	—	—	—	—	—	—	—	1	—	1
	ferruginous hawk	—	2	1	—	—	—	—	—	—	—	—	3
	golden eagle	—	—	1	—	—	—	—	—	—	—	—	—
	merlin	—	—	—	—	—	—	—	—	—	1	—	1
	northern harrier	5	8	17	11	—	—	—	—	—	1	—	3
	prairie falcon	—	1	—	—	—	—	—	—	—	—	—	1
	Swainson's hawk	—	—	1	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	1	3	—	1	1	1	—	—	2	—	5
	Total	**5**	**13**	**23**	**11**	**1**	**1**	**1**	**—**	**—**	**5**	**—**	**16**

Table 5.3-11
Raptor Observation Data by Year (Davis Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2010	bald eagle	—	—	—	—	—	—	—	—	—	—	—	1
	Cooper's hawk	—	—	—	—	—	—	—	—	—	1	—	—
	ferruginous hawk	—	—	—	—	—	—	—	—	—	1	—	—
	merlin	—	—	—	—	—	—	—	—	—	—	—	1
	northern harrier	—	3	2	—	—	—	—	—	—	—	1	1
	prairie falcon	—	—	—	—	—	—	—	—	—	1	—	—
	Short-eared owl	—	2	—	—	—	—	—	—	—	—	—	—
	sharp-shinned hawk	1	—	—	—	—	—	—	—	—	—	—	—
	Swainson's hawk	—	—	—	—	—	—	—	—	—	1	—	—
	white-tailed kite	—	—	—	—	—	—	—	—	—	1	1	1
	Total	**1**	**5**	**2**	**—**	**—**	**—**	**—**	**—**	**—**	**5**	**2**	**4**
2011	American peregrine falcon	—	—	—	—	—	—	—	—	—	—	—	6
	bald eagle	—	—	—	—	—	—	—	—	—	—	—	1
	Cooper's hawk	—	—	—	—	—	—	—	—	—	—	1	4
	ferruginous hawk	1	—	—	—	—	—	—	—	—	—	4	14
	golden eagle	—	—	—	—	—	—	—	—	—	—	—	6
	merlin	—	—	—	—	—	—	—	—	—	1	3	4
	northern harrier	—	—	2	2	1	1	1	—	9	3	39	72
	prairie falcon	—	—	—	—	—	—	—	—	—	—	1	5
	sharp-shinned hawk	—	—	—	—	—	—	—	—	—	—	1	2
	Swainson's hawk	—	—	—	—	—	—	—	—	1	—	—	—
	white-tailed kite	—	—	3	—	—	—	—	—	8	2	23	33
	Total	**1**	**—**	**5**	**2**	**1**	**1**	**1**	**—**	**18**	**6**	**72**	**147**
2012	American peregrine falcon	4	8	1	—	—	—	—	—	—	—	—	—
	bald eagle	2	2	—	—	—	—	—	—	—	—	—	—
	Cooper's hawk	2	1	—	—	—	—	—	—	—	—	—	—
	ferruginous hawk	5	10	—	—	—	—	—	—	—	—	—	—
	golden eagle	4	3	1	—	—	—	—	—	—	—	—	1
	merlin	4	2	—	—	—	—	—	—	—	—	—	—
	northern harrier	37	42	4	2	—	—	—	—	—	—	—	3
	prairie falcon	3	3	—		1	—	—	—	—	—	—	—
	Swainson's hawk	—	—	—	1	—	—	—	—	—	—	—	—
	white-tailed kite	22	14	1	—	—	—	—	—	1	—	—	—
	Total	**83**	**85**	**7**	**3**	**1**	**—**	**—**	**—**	**1**	**—**	**—**	**4**

Table 5.3-11
Raptor Observation Data by Year (Davis Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2013	American peregrine falcon	1	—	1	—	—	—	—	—	—	—	—	—
	bald eagle	1	1	—	—	—	—	—	—	—	—	—	—
	golden eagle	1	1	—	1	—	—	—	—	—	1	—	1
	northern harrier	5	—	4	—	—	—	—	—	—	1	—	—
	prairie falcon	1	—	—	—	—	—	—	—	—	—	—	—
	Swainson's hawk	—	—	1	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	—		—	—	—	—	—	—	—	—	1
	Total	**9**	**2**	**6**	**1**	**—**	**—**	**—**	**—**	**—**	**2**	**—**	**2**
2014	American peregrine falcon	1	1	—	—	—	—	—	—	1	—	—	—
	bald eagle	3	—	—	—	—	—	—	—	—	—	—	1
	Cooper's hawk	2	—	—	—	—	—	—	—	—	—	—	1
	ferruginous hawk	1	—	3	—	—	—	—	—	—	—	—	1
	golden eagle	3	—	1	—	—	—	—	—	1	—	—	—
	merlin	—	—	1	—	—	—	—	—	—	—	—	—
	northern harrier	12	5	20	—	2	—	—	—	1	—	—	5
	prairie falcon	1	1	1	—	—	—	—	—	—	—	—	2
	Swainson's hawk	—	—	4	—	—	—	—	—	—	—	—	—
	white-tailed kite	3	—	1	—	—	—	—	—	—	—	—	1
	Total	**26**	**7**	**31**	**—**	**2**	**—**	**—**	**—**	**3**	**—**	**—**	**11**
2015	American peregrine falcon	—	—	—	1	—	1	—	1	—	—	—	1
	bald eagle	3	1	—	1	—	—	—	—	—	—	—	—
	Cooper's hawk	—	—	1	—	—	—	—	—	—	—	—	—
	ferruginous hawk	—	—	2	—	1	—	—	—	—	—	—	2
	golden eagle	—	—	—	—	1	—	—	—	—	—	—	—
	northern harrier	6	15	6	2	1	—	—	1	1	—	1	3
	prairie falcon	1	—	—	—	—	—	—	—	—	—	—	—
	white-tailed kite	1	—	—	—	3	1	—	1	—	—	—	1
	Total	**11**	**16**	**9**	**4**	**6**	**2**	**—**	**3**	**1**	**—**	**1**	**7**

Table 5.3-12
Raptor Population Data by Year (Potrero Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2005	golden eagle	—	—	—	1	—	—	—	—	—	—	—	—
	Total	**—**	**—**	**—**	**1**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**

Table 5.3-12
Raptor Population Data by Year (Potrero Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2006	American peregrine falcon	—	—	—	—	—	1	—	—	—	—	—	—
	Cooper's hawk	—	—	—	—	2	3	4	—	—	1	—	—
	golden eagle	—	—	—	—	—	—	—	—	—	—	2	—
	merlin	—	—	—	—	—	—	—	—	—	—	—	1
	prairie falcon	2	—	—	—	1	1	—	—	—	—	—	—
	sharp-shinned hawk	—	—	—	—	4	—	1	—	—	—	—	—
	white-tailed kite	—	—	1	3	5	5	3	—	—	3	—	—
	Total	**2**	**—**	**1**	**3**	**12**	**10**	**8**	**—**	**—**	**4**	**2**	**1**
2007	Cooper's hawk	—	—	—	1	3	1	—	—	—	—	—	—
	merlin	—	—	—	—	—	—	—	—	—	—	1	1
	northern harrier	—	—	—	1	—	—	—	—	—	—	—	—
	prairie falcon	—	—	—	—	—	3	—	—	—	—	2	
	sharp-shinned hawk	—	—	—	1	1	—	—	—	—	—	—	—
	white-tailed kite	—	—	—	—	1	—	—	—	—	—	—	—
	Total	**—**	**—**	**—**	**3**	**5**	**4**	**—**	**—**	**—**	**—**	**3**	**1**
2008	Cooper's hawk	—	—	—	—	—	—	—	—	—	—	—	2
	ferruginous hawk	—	1	—	—	—	—	—	—	—	—	—	2
	golden eagle	—	—	1	—	—	3	—	—	1	—	—	1
	merlin	—	1	1	—	—	—	—	—	—	—	—	2
	northern harrier	—	1	1	—	—	—	—	—	—	—	—	7
	prairie falcon	—	2	—	—	—	—	—	—	—	—	—	2
	sharp-shinned hawk	—	1	—	—	—	—	—	—	—	—	—	—
	Total	**—**	**6**	**3**	**—**	**—**	**3**	**—**	**—**	**1**	**—**	**—**	**16**
2009	golden eagle	1	—	—	1	1	—	—	—	—	—	—	—
	northern harrier	1	1	1	1	—	—	—	—	—	—	—	—
	prairie falcon	1	—	—	—	—	—	—	—	—	—	—	—
	sharp-shinned hawk	1	—	—	—	—	—	—	—	—	—	—	—
	Total	4	1	1	2	1	—	—	—	—	—	—	—
2010	Cooper's hawk	—	—	2	—	—	—	—	—	—	—	1	—
	ferruginous hawk	1	—	—	—	—	—	—	—	—	—	—	—
	golden eagle	—	1	1	—	—	5	—	—	—	—	1	—
	northern harrier	1	4	1	2	—	—	—	—	—	—	1	—
	sharp-shinned hawk	—	1	—	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	2	1	2	—	—	—	—	—	—	—	—
	Total	**2**	**8**	**5**	**4**	**—**	**5**	**—**	**—**	**—**	**—**	**3**	**—**
2011	Cooper's hawk	—	—	1	—	—	—	—	—	—	—	—	—
	Total	**—**	**—**	**1**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**

Table 5.3-12
Raptor Population Data by Year (Potrero Unit)

Year	Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
2012	Cooper's hawk	—	—	—	—	—	—	1	—	—	—	—	—
	golden eagle	1	2	2	1	2	4	1	—	—	—	—	—
	northern harrier	1	1	—	—	2	—	—	—	—	—	—	—
	prairie falcon	1	1	—	—	—	—	—	—	—	—	—	—
	sharp-shinned hawk	—	1	—	—	—	—	—	—	—	—	—	—
	white-tailed kite	1	—	1	—	—	1	1	—	—	—	—	—
	Total	**4**	**5**	**3**	**1**	**4**	**5**	**3**	**—**	**—**	**—**	**—**	**—**
2013	Cooper's hawk	—	—	—	—	4	—	—	—	—	—	—	—
	golden eagle	—	—	—	—	—	6	3	—	—	—	—	—
	Total	**—**	**—**	**—**	**—**	**4**	**6**	**3**	**—**	**—**	**—**	**—**	**—**
2014	golden eagle	3	1	1	1	1	3	1	1	—	—	—	—
	northern harrier	3	3	—	—	—	—	—	—	—	—	—	—
	prairie falcon	—	—	—	—	—	—	—	—	—	—	—	2
	Total	**6**	**4**	**1**	**1**	**1**	**3**	**1**	**1**	**—**	**—**	**—**	**2**
2015	ferruginous hawk	—	—	1	—	—	—	—	—	—	—	—	—
	golden eagle	—	—	1	—	—	—	—	—	—	—	—	—
	white-tailed kite	—	—	2	2	2	—	—	—	—	—	—	—
	Total	**—**	**—**	**4**	**2**	**2**	**—**	**—**	**—**	**—**	**—**	**—**	**—**

5.3.2.6 Critical Habitat

USFWS-designated critical habitat for thread-leaved brodiaea (*Brodiaea filifolia*) occurs within portions of Subunits D7, D12, and D13 of the Davis Unit, and designated critical habitat for spreading navarretia (*Navarretia fossalis*) within portions of Subunits D7, D8, D9, D12, D13, and D15 of the Davis Unit (Figure 5.3-6). No USFWS-designated critical habitat occurs within the Potrero Unit (USFWS 2016b). USFWS-designated critical habitat for San Bernardino kangaroo rat (*Dipodomys merriami parvus*) occurs within portions of Subunits D9, D10, and D13 of the Davis Unit. No USFWS-designated critical habitat occurs within the Potrero Unit (USFWS 2016b) (Figure 5.3-6).

5.3.2.7 Wildlife Movement

Wildlife movement on the SJWA was discussed in the MSHCP with respect to both existing habitat linkages and proposed linkages. A linkage is defined in the MSHCP as "[a] connection between Core Areas with adequate size, configuration, and vegetation characteristics to generally provide for "Live-In" Habitat or provide for genetic flow for identified Planning Species." A Core Area is defined in the MSHCP as "[a] block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species." Live-in Habitat is defined in the MSHCP as "Habitat that contains the

necessary components to support key life history requirements of a species; e.g., year-round Habitat for permanent residents or breeding Habitat for migrant species." The MSHCP also defines Proposed Constrained Linkages as "A constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use." Figure 5.3-7A provides an overview of the MSHCP Cores and Linkages in both units and Figures 5.3-7B.1 (Davis Unit) and 5.3-7B.2 (Potrero Unit) provide more details by unit.

The Davis Unit is identified as Existing Core H in the MSHCP, and the Potrero Unit is identified as part of Proposed Core 3, which is a large proposed Core Area encompassing The Badlands to the northwest and which connects directly to Existing Core K (San Jacinto Mountains) to the east (Figure 5.3-7A). The Davis Unit connects directly with Proposed Core 3 along its eastern boundary at Gilman Springs Road. Both units are important contributors to regional connectivity for wildlife movement, both through their inter-connection and through connections with other important habitat areas in the region, as described below. Maintaining wildlife movement across Gilman Springs Road from the Davis Unit to the badlands is essential.

Proposed Constrained Linkage 20 is identified in the MSHCP at the southeastern corner of the Davis Unit that would connect to the Lakeview Mountains to the south (Figures 5.3-7A and 5.3-7B.1). Proposed Constrained Linkage 20 crosses existing agricultural lands and the Ramona Expressway between the Davis Unit and the Lakeview Mountains, referred to as a "Noncontiguous Habitat Block" in the MSHCP. According to the MSHCP, maintaining this connection is important for reducing the chance of species extirpations in the Lakeview Mountains. Existing agricultural uses currently completely constrain this linkage, with the Ramona Expressway posing an additional obstacle to wildlife movement. The MSHCP identifies several special-status wildlife species (i.e., Planning Species in the MSHCP) potentially associated with Proposed Constrained Linkage 20, including arroyo toad (*Anaxyrus [=Bufo] californicus*), western pond turtle (*Actinemys marmorata [=Clemmys marmorata pallida]*), tricolored blackbird, mountain plover (*Charadrius montanus*), white-faced ibis, and Los Angeles pocket mouse. Species not covered by the MSHCP that may also use this linkage include American badger (*Taxidea taxus*) and mule deer (*Odocoileus hemionus*). This connection could also provide linkage habitat for movement by larger mobile species such as deer, coyotes, badgers, and bobcats, and smaller less mobile species such as native birds, reptiles and amphibians, and rodents.

The Davis Unit connects to the San Jacinto Mountains to the east via the middle segment of the San Jacinto River, referred to as Existing Constrained Linkage C in the MSHCP. Existing Constrained Linkage C also connects to Proposed Constrained Linkage 20 (Figure 5.3-7A). Much of Existing Constrained Linkage C is constrained by existing development bordering the San Jacinto River in the Cities of San Jacinto and Hemet, but its broad channel and natural

vegetation provide habitat for special-status species such as arroyo toad, Los Angeles pocket mouse, and white-faced ibis. This connection also provides habitat for movement by larger mobile species such as coyotes, bobcats, mule deer, and smaller less mobile species such as native birds, reptiles and amphibians, and rodents.

Existing Core Area H is also proposed to be expanded to the southwest of the Davis Unit with Proposed Extension Core Area 4 along the middle reach of San Jacinto River, which then connects to Proposed Constrained Linkage 19 at I-215. The Proposed Extension Core Area 4 and Proposed Constrained Linkage 19 would connect to areas downstream of the San Jacinto River in the Canyon Lake area and would provide habitat and maintain floodplain processes for species such as Los Angeles pocket mouse (Figure 5.3-7A). This connection would also provide linkage habitat for movement by larger mobile species such as coyotes and smaller less mobile species such as native birds, reptiles and amphibians, and rodents.

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Figure 5.3-6 USFWS-Designated Critical Habitat

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Figure 5.3-7A MSHCP Cores and Linkages

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The Potrero Unit is part of Proposed Core 3, also referenced in the MSHCP as "Badlands/Potrero" (Figure 5.3-7A). Proposed Core 3 supports both Live-In and northeast–southeast trending wildlife movement habitat connected to Existing Core K to the southeast for many special-status wildlife species addressed in the draft LMP, including Stephens' kangaroo rat, Bell's sparrow, loggerhead shrike, cactus wren (*Campylorhynchus brunneicapillus*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). Additional larger mobile species using Proposed Core 3 are mountain lions (*Puma concolor*), mule deer, coyotes, badger, and bobcats, as well as many smaller, less mobile native birds, amphibians, reptiles and rodents.

As shown in Figure 5.3-7A, conceptual linkages were also identified in the MSHCP to connect Proposed Core 3 to habitats in northern Riverside/San Bernardino Counties, including Proposed Linkage 4 (Reche Canyon); Proposed Linkages 5, 6, and 12 (San Timoteo Creek); Proposed Constrained Linkage 22 (San Timoteo Creek); and Proposed Constrained Linkage 23 (Cherry Valley). These linkages variously provide Live-In and movement habitat for a variety of special-status wildlife species that also may occur in, or move through, the Potrero Unit, including Stephens' kangaroo rat, San Bernardino kangaroo rat, Los Angeles pocket mouse, northwestern San Diego pocket mouse, San Diego desert woodrat, San Diego black-tailed jackrabbit, bobcat, Bell's sparrow, coastal California gnatcatcher, Cooper's hawk, yellow warbler, southwestern willow flycatcher, yellow-breasted chat, least Bell's vireo, white-tailed kite, loggerhead shrike, and southern California rufous-crowned sparrow. As noted above, Proposed Core 3 is directly connected to the Davis Unit in Existing Core H, separated only by Gilman Springs Road.

Two other studies have addressed landscape-level habitat connectivity in the SJWA region: (1) the California Essential Habitat Connectivity Project (Spencer et al. 2010) and (2) the South Coast Missing Linkages Project (South Coast Wildlands 2008).

The California Essential Habitat Connectivity Project (CEHC) is a collaborative effort commissioned by the CDFW and California Department of Transportation that developed a coarse-scale "Essential Connectivity Map" that shows large natural "Natural Landscape Blocks" throughout the state and areas considered essential for providing ecological connectivity between the blocks, called "Essential Connectivity Areas" (ECAs). According to the CEHC, ECAs are "placeholder polygons that can inform land-planning efforts, but that should eventually be replaced by more detailed Linkage Designs, developed at finer resolution based on the needs of particular species and ecological processes" (Spencer et al. 2010, p. xiii). The CEHC identifies the area encompassing the SJWA as an ECA in the South Coast Ecoregion.

The South Coast Missing Linkages Project (SCML) is a collaborative inter-agency effort including the South Coast Wildlands, National Park Service, U.S. Forest Service, California State Parks, The Wildlands Conservancy, The Resources Agency, California State Parks Foundation, The Nature Conservancy, Santa Monica Mountains Conservancy, Resources Legacy

Foundation, Conservation Biology Institute, San Diego State University Field Stations Program, Environment Now, Mountain Lion Foundation, and the Zoological Society of San Diego's Conservation and Research for Endangered Species, and others. The South Coast Ecoregion linkage design evolved from participant workshops and GIS-generated linkage maps reviewed by experts. One of the linkages identified in the SCML is the "San Bernardino-San Jacinto Connection" that includes The Badlands, and which encompasses the Potrero Unit. The SCML notes that "the majority of unprotected land in the linkage could be conserved through the Western Riverside MSHCP..." (South Coast Wildlands 2008, p. 22).

Because the MSHCP habitat linkages fulfill the recommendations in more detail than those of the CEHC and SCML, as described above, and thus are more appropriate for a CEQA-level impact analysis, the CEHC and SCML are not discussed further in this PEIR.

5.3.3 Applicable Regulations, Plans, and Policies

This section summarizes the existing regulatory environment related to the SJWA.

Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) process provides an overall framework for the evaluation of the environmental effects of federal actions. NEPA (42 U.S.C. 4321 et seq.) requires environmental statements for "major Federal actions significantly affecting the quality of the human environment" and states that the planning and decision-making process shall follow "a systematic, interdisciplinary approach." Federal agencies are required to identify and assess reasonable alternatives to proposed actions based on the Council on Environmental Quality (40 CFR 1500 et seq.). Alternatives must avoid or minimize adverse environmental impacts and enhance the quality of the human environment. In addition, the NEPA process must integrate impact studies required by other environmental laws and Executive Orders to determine significant environmental issues in project planning. At this time, there is no federal action associated with the adoption of the draft LMP; therefore, this PEIR does not require preparation in conformance with NEPA.

Clean Water Act

Pursuant to Section 404 of the CWA, ACOE regulates the discharge of dredged and fill material into waters of the United States. The term "waters of the United States" (waters) is generally defined to include navigable waters and other waters (such as streams and seeps) and wetlands that meet applicable regulatory criteria.

The Section 404(b)(1) Guidelines For Specification of Disposal Sites For Dredged or Fill Material (40 CFR 230; Guidelines) govern the issuance of permits authorizing the discharge of fill material into waters of the United States, and state the following (40 CFR 230.10(a)):

> No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impacts on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

Under the Guidelines, the project applicant must demonstrate avoidance or minimization of impacts to waters of the United States to the maximum extent practicable. Under the previously mentioned requirements, the ACOE can only issue a CWA Section 404 permit for the "least environmentally damaging practicable alternative." In addition, the ACOE is prohibited from issuing a permit that is contrary to the public interest (33 CFR 320.4(a)).

Section 401 of the CWA requires that an project applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification, declaring that the discharge will comply with water quality standard requirements of the CWA. The ACOE is prohibited from issuing a CWA permit until the project applicant receives a CWA Section 401 water quality certification or waiver from the Regional Water Quality Control Board.

Any modifications to the existing management of wetlands or waters under the draft LMP may come under the jurisdiction of the CWA.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) designates threatened and endangered animals and plants and provides measures for their protection and recovery. Under FESA, "take" of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. FESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S.C. 1532(19)). Harm includes any act that kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under FESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. FESA sections 7 and 10 provide two pathways for obtaining permission to take listed species.

Under section 7 of FESA, a federal agency that authorizes, funds, or carries out a project that "may affect" a listed species or its critical habitat must consult with USFWS. For example, ACOE must issue a permit for projects impacting waters or wetlands under ACOE jurisdiction. In a section 7 Consultation, the lead agency (e.g., ACOE) prepares a biological assessment that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS has up to 135 days to complete the consultation process and develop a biological opinion determining whether the project is likely to jeopardize the continued existing species or result in adverse modification of critical habitat. If a "no jeopardy" opinion is provided, the project may proceed. If a jeopardy or adverse modification opinion is provided, USFWS may suggest "reasonable and prudent measures" that would result in a no jeopardy opinion.

Under section 10 of FESA, private parties with no federal nexus may obtain an incidental take permit to harm listed wildlife species incidental to the lawful operation of a project. To obtain an incidental take permit, the project applicant must develop a habitat conservation plan (HCP) that specifies impacts to listed species, provides minimization and mitigation measures and funding, and discusses alternatives considered and the reasons why such alternatives are not being used. If USFWS finds the HCP will not appreciably reduce the likelihood of the survival and recovery of the species, it will issue an incidental take permit. Issuance of incidental take permits requires USFWS to conduct an internal section 7 Consultation, triggering coverage of any listed plant species or critical habitat present on site (listed plants on private property are protected under FESA if a listed animal is present). Unlike a section 7 Consultation, USFWS is not constrained by a time limit to issue an incidental take permit.

Critical habitat has been designated within the Davis Unit for spreading navarretia, thread-leaved brodiaea, and San Bernardino kangaroo rat (USFWS 2016b); there is no critical habitat on the Potrero Unit for these species. Figure 5.3-6 shows the location of critical habitat on the Davis Unit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The Migratory Bird Treaty Act protects over 800 species of birds.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.) provides for protection of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting, except under certain specified conditions, the taking and possession of, or commerce in such birds (or the parts, eggs, or nests of the birds). The USFWS is responsible for implementing the Bald and Golden Eagle Protection Act. Under the Bald and Golden Eagle Protection Act regulations, a permit may be issued, pursuant to FESA section 1539 (also known as Section 10 of the FESA), for take of bald or golden eagles if "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" (16 U.S.C. 1539(a)(2)(B)(iv)).

National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their undertakings on historical properties and to submit to a historic preservation review process by the Advisory Council on Historic Preservation.

Executive Order 11990 Protection of Wetlands

Executive Order 11990, Protection of Wetlands, requires federal agencies and responsible entities to avoid undertaking or providing financial assistance for new construction located within wetlands, unless a finding is made that there is no practicable alternative to such construction. Wetlands are defined in Section 7(c) of the Executive Order as "those areas that are inundated by surface- or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mudflats, and natural ponds."

Executive Order 11990 states that measures should be taken to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative."

Council on Environmental Quality Revised Draft National Environmental Policy Act Guidance

The Council on Environmental Quality released Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts for public review and comment in December 2014. The Revised Draft Guidance suggest that federal agencies, in their NEPA scoping process, consider both the potential effects of a proposed action on climate change, through greenhouse gas emissions, and an analysis of the implications of climate change on the impacts associated with

the proposed action. The Revised Draft Guidance applies to all proposed federal agency actions, including land and resource management.

State

California Endangered Species Act

CESA and related regulations prohibit the take of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, candidate species. CDFW may authorize the take of any such species if certain conditions are met. (similar regulatory permitting provisions apply to rare plants.)

Section 2081 subdivision (b) of the Fish and Game Code allows CDFW to authorize take of species listed as endangered, threatened, candidate, if that take is incidental to otherwise lawful activities and if certain conditions are met. These authorizations are commonly referred to as incidental take permits (ITPs).

If a species is listed by both the federal Endangered Species Act and CESA, Fish and Game Code section 2080.1 allows an applicant who has obtained a federal incidental take statement (federal Section 7 consultation) or a federal incidental take permit (federal Section 10(a)(1)(B)) to request that the Director of CDFW find the federal documents consistent with CESA. If the federal documents are found to be consistent with CESA, a consistency determination (CD) is issued and no further authorization or approval is necessary under CESA.
A Safe Harbor Agreement (SHA) authorizes incidental take of a species listed as endangered, threatened, candidate, if implementation of the agreement is reasonably expected to provide a net conservation benefit to the species, among other provisions. SHAs are intended to encourage landowners to voluntarily manage their lands to benefit CESA-listed species. California SHAs are analogous to the federal safe harbor agreement program and CDFW has the authority to issue a consistency determination based on a federal safe harbor agreement.

California Code of Regulations

Title 14, Section 551 of the CCR defines wildlife areas designated by the California Fish and Game Commission and identifies regulations and restrictions pertaining to allowable activities within wildlife areas, including hunting and use of recreational vehicles. The SJWA is defined as "Type A". Type A wildlife areas are defined as:

> "wildlife areas which have restricted hunter access during waterfowl season, and require a hunting pass to be purchased in advance and exchanged for an entry permit at the wildlife area, per subsections 550.5(c) and 702(b) of these regulations. Reservations are available per subsection 550.5(a) of these

> regulations during waterfowl season. Species open for hunting are waterfowl, coots, moorhens, snipe, pheasant, and dove, unless otherwise specified in subsection 551(s). Except as provided in subsection 551(p) and Section 552 of these regulations, shoot days are Saturdays, Sundays, and Wednesdays during waterfowl season, youth waterfowl hunt days authorized in Section 502 of these regulations, and daily during the September dove season only. All Type A wildlife areas are closed to hunting on Christmas Day.

California Fish and Game Code

According to Sections 3511 and 4700 of the California Fish and Game Code, which regulate birds and mammals, respectively, a "fully protected" species may not be taken or possessed and incidental takes of these species are not authorized. However, CDFW may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Fully protected species include the golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), white-tailed kite (*Elanus leucurus*), and peregrine falcon (*Falco peregrinus anatum*).

Pursuant to Section 3503.5 of the California Fish and Game Code, it is also unlawful to take, possess, or destroy any birds of prey, or to take, possess, or destroy any nest or eggs of such birds. "Birds of prey" refer to species in the orders *Falconiformes* and *Strigiformes*. Active nests of all other birds (except English sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*)) are similarly protected under Sections 3503 and 3513 of the Fish and Game Code.

The Fish and Game Commission's statutory powers and duties generally relate to the take of fish and game including establishing, extending, shortening or abolishong open and closed seasons, establishing, changing or abolishing bag, possession and size limits, establishing and changing territorial limits for taking any or all species or varieties, and prescribing the manner and means of taking any species or variety.The Commission also considers petitions to list and delist species pursuant to the California Endangered Species Act and establishes policies, such as encouraging recreational hunting,. that may apply to the Commission and CDFW.

Natural Communities Conservation Planning Act

The statutory framework for the Natural Communities Conservation Planning (NCCP) Act was established by the California Legislature through its enactment of the NCCP Act (California Fish and Game Code, Section 2800 et seq.). The NCCP Program is designed to support voluntary, collaborative planning efforts involving landowners, local governments, state and federal agencies, environmental organizations, and interested members of the public in the formulation and approval of the NCCPs. The NCCPs provide long-term, large-scale protection of natural vegetation

communities and wildlife diversity while allowing compatible land uses and appropriate development and growth. The NCCP process was initiated to provide an alternative to "single species" conservation efforts. The shift in focus from single species, project-by-project conservation efforts to large-scale conservation planning at the natural community level is intended to facilitate regional and subregional protection of a range of species (listed and unlisted) that inhabit a designated natural community or communities.

The program seeks to anticipate and prevent the controversies and gridlock that sometimes results from species' listing by focusing on the long-term stability of wildlife and plant communities and including key stakeholders in the process.

The 1991 NCCP Act was replaced with a substantially revised and expanded NCCP Act in 2002. The revised NCCP Act established new standards and guidance on many facets of the program, including scientific information, public participation, biological goals, interim project review, and approval criteria. The new NCCP Act took effect on January 1, 2003. Approval of an NCCP under the new NCCP Act requires CDFW to make the following findings:

- The Plan must be consistent with the Planning Agreement.
- The Plan must provide for the conservation and management of the covered species (*conservation* is defined to mean that the Plan must contribute to species recovery).
- The Plan must protect habitat, natural communities, and species diversity on the landscape level.
- The Plan must conserve the ecological integrity of large habitat blocks, ecosystem function, and biodiversity.
- The Plan must support sustainable populations of covered species.
- The Plan must provide a range of environmental gradients and habitat diversity to support shifting species distributions.
- The Plan must sustain movement of species among reserves.
- Mitigation and conservation must be roughly proportional to impacts in timing and extent.
- Funding for conservation, monitoring, and adaptive management must be adequately assured.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (California Fish and Game Code, sections 1900–1913) directed the CDFW to carry out the legislature's intent to "preserve, protect and enhance endangered or rare plants of this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and to protect

endangered and rare plants from take. When CESA was passed in 1984, it expanded on the original Native Plant Protection Act and enhanced legal protection for plants and created the categories of "threatened" and "endangered" species to parallel the FESA. CESA converted all rare animals into the act as threatened species but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and best management practices and mitigation measures for impacts to rare plants are listed in Section 5.3.6.

California Environmental Quality Act

California Environmental Quality Act (CEQA) was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. The approval and implementation of the draft LMP qualifies as a "project" subject to CEQA review. If a project is regulated under CEQA, the permittee completes the necessary studies to identify a project's potentially significant environmental impacts and ways that such impacts can be avoided, minimized, or mitigated. CEQA is intended to inform state government and the public of the potential environmental damage of proposed projects and activities regulated by the state and the range of feasible alternatives to such actions.

The lead agency for the project conducts an initial study that identifies the environmental impacts of the project and determines whether these impacts are significant. In some cases, the lead agency may skip the preparation of the initial study and proceed directly to the preparation of an EIR. The lead agency may prepare a negative declaration if it finds no significant impacts, a mitigated negative declaration if it revises the project to avoid or mitigate significant impacts, or an EIR if it finds significant, unmitigated impacts. The EIR is subject to more extensive public comment and provides information on the potentially significant impacts, lists ways to minimize these impacts, and discusses alternatives to the project. CEQA only provides a public review process, and projects with significant and unavoidable impacts may be approved if the lead agency makes a finding of overriding considerations.

In addition to state-listed or federally listed species, special-status plants and animals receive consideration under CEQA. Special-status species include CDFW Species of Special Concern, USFWS Birds of Conservation Concern, and plant with a California Rare Plant Rank (CRPR) 1A, 1B, or 2.

California Desert Native Plants Act

California Food and Agriculture Code, Division 23, sections 80001–80201, affords protection to desert native plants under the California Desert Native Plants Act passed in 1981. Sections 1925–1926 of the California Fish and Game Code agree to enforce the provisions of the act. The California Desert Native Plants Act prohibits the harvesting, transport, sale, or possession of

designated native desert plants except for scientific or educational purposes (under a permit) or if the person has a valid permit, or wood receipt, and the required tags and seals. The provisions are applicable within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties.

California Wildlife Action Plan

California's Wildlife Action Plan (Plan) was prepared by the Wildlife Health Center at the University of California, Davis, for CDFG in 2005 (UC Davis Wildlife Health Center 2005)) and was adopted in 2006. California's Wildlife Action Plan was updated in 2015 (CDFW 2015).

The Plan focuses on stressors affecting wildlife and the actions needed to maintain wildlife diversity and abundance in the future. The SJWA is located in the South Coast ecoregion of the Plan, and therefore, has an assortment of recommended conservation measures to restore and conserve wildlife in the South Coast ecoregion. The objectives of the update include the following: create a vision for fish and wildlife conservation in California; provide an accounting of accomplishments; stratify analysis of impacts and stressors by ecoregions; incorporate climate change impacts and adaptation strategies; update species at risk, vulnerable species and species of greatest conservation need; and recommend conservation actions consistent with planning documents developed by other agencies (CDFW 2017c).

Regional

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional plan that conserves endangered and threatened plant and animal species and associated habitats in western Riverside County. The MSHCP serves as an HCP pursuant to section 10(a)(1)(B) of the FESA, as well as a Natural Communities Conservation Plan (NCCP) under the Natural Communities Conservation Planning Act of 2001. The MSHCP allows the participating jurisdictions to authorize "take" of plant and wildlife species identified within the Plan Area. The USFWS and CDFW (hereafter "Wildlife Agencies") have the authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the Wildlife Agencies will grant "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP conservation area, in exchange for the assembly and management of a coordinated MSHCP conservation area.

The MSHCP was approved in June of 2003 by the County of Riverside; the city jurisdictions as well as other local and state public entities that subsequently signed onto the MSHCP are effectively referred to as "Permittees." The MSHCP is implemented by the Permittees and the RCA, with permit compliance ensured by the Wildlife Agencies. The SJWA is an important part

of the MSHCP Reserve. The overall management of the SJWA is coordinated with the long-term management goals that the MSHCP needs to accomplish to achieve a sustained MSHCP Reserve. CDFW is not a Permittee or Participating Special Entity under their own NCCP; however, pursuant to CEQA, CDFW would continue to demonstrate that it does not conflict with the goals of the MSHCP

The MSHCP Plan Area encompasses approximately 1.26 million acres or about 2,000 square miles in western Riverside County. The MSHCP Plan Area, larger than the State of Delaware, includes all of the unincorporated territory west of the crest of the San Jacinto Mountains to the Orange County line, as well as the Cities of Temecula, Murrieta, Menifee, Wildomar, Lake Elsinore, Canyon Lake, Norco, Corona, Eastvale, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto.

The MSHCP calls for the acquisition of 153,000 acres of new conservation land (Additional Reserve Lands (ARL)) to augment and enhance 347,000 acres of land presently conserved in the public domain (Public/Quasi-Public (PQP) Lands). The SJWA contains a mix of ARL and PQP lands. Ultimately, the MSHCP goal is to form a 500,000-acre self-sustaining habitat reserve in western Riverside County that protects, recovers, and sustains 146 covered species (MSHCP Reserve). Generally, the MSHCP Reserve is made up of cores (i.e., large blocks of habitat) connected by linkages (more linear features) that allow for genetic transfer and movement of species throughout the Plan Area (Figure 5.3-7A). To provide the habitat necessary to protect and allow for the future viability of the 146 species covered under the MSHCP, the areas which are not a part of the PQP Lands were overlaid with "Criteria Cells." It is from the area overlaid with Criteria Cells that the ARL (i.e., 153,000 acres) will be compiled, and ultimately, the combination of the PQP Lands and ARL will form the 500,000-acre MSHCP Reserve (Figure 5.3-7B.1 and Figure 5.3-7B.2).

The SJWA is located within the northeast region of the Riverside Lowlands Bioregion and within the northwestern corner of the San Jacinto Mountains Bioregion. More specifically, the SJWA occurs within three Area Plans (Lakeview/Nuevo, Reche Canyon/Badlands, and the Pass), which are described below and organized by the applicable SJWA Unit (Figure 5.3-7B.1 and Figure 5.3-7B.2).

See Section 5.3.6.7 for additional information and analysis of the draft LMP in the context of the MSHCP.

1996 Habitat Conservation Plan for the Stephens' Kangaroo Rat

The Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County (SKR HCP) was prepared by the Riverside County Habitat Conservation Agency (RCHCA) for the USFWS and in agreement with the CDFG and was approved in 1996 (RCHCA 1996). The SKR HCP was developed in accordance with CESA and FESA to ensure the species' persistence

in the plan area. The SJWA is located within the plan area, and CDFG is a permittee of this SKR HCP, and as such, management of Stephens' kangaroo rat on the SJWA must be in accordance with this HCP.

2007 RCHCA Stephens' Kangaroo Rat Habitat Management Plan

The 2007 RCHCA Stephens' Kangaroo Rat Habitat Management Plan (HMP) provided the RCHCA with a plan for effective management of the SKR populations and habitat on RCHCA-owned parcels that can be implemented and monitored consistent with the SKR_HCP. The plan represents current management practices for Stephens' kangaroo rat, compliant with the SKR HCP and the MSHCP. The HMP included a summary evaluation of management strategies, and found, in the context of the study area, that the most appropriate techniques for management of Stephens' kangaroo rat habitat include grazing, prescribed burning, and mowing. CDFW is a permittee under the SKR HCP and is bound by the Implementing Agreement to ensure that their actions within the Plan Area are consistent with the Plan.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

Figure 5.3-7B.1 MSHCP Context Map – Davis Unit

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Figure 5.3-7B.2 MSHCP Cores and Linkages - Potrero Unit

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County of Riverside General Plan

Applicable biological resource policies from the Multipurpose Open Space Element of the County of Riverside General Plan (Riverside County 2015) are provided as follows:

Policy OS 5.5: Preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. Prohibit fencing that constricts flow across watercourses and their banks. Incentives shall be utilized to the maximum extent possible.

Policy OS 5.6: Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.

Policy OS 6.1: During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.

Policy OS 6.2: Preserve buffer zones around wetlands where feasible and biologically appropriate.

Policy OS 6.3: Consider wetlands for use as natural water treatment areas that will result in improvement of water quality.

Policy OS 17.1: Enforce the provisions of applicable MSHCP's and implement related Riverside County policies when conducting review of possible legislative actions such as general plan amendments, zoning ordinance amendments, etc. including policies regarding the handling of private and public stand alone applications for general plan amendments, lot line adjustments and zoning ordinance amendments that are not accompanied by, or associated with, an application to subdivide or other land use development application. Every stand-alone application shall require an initial Habitat Evaluation and Acquisition Negotiation Process (HANS) assessment and such assessments shall be made by the Planning Department's Environmental Programs Division. Habitat assessment and species specific focused surveys shall not be required as part of this initial HANS assessment for stand-alone applications but will be required when a development proposal or land use application to subsequently subdivide, grade or build on the property is submitted to the County.

Policy OS 17.2: Enforce the provisions of applicable MSHCP's and implement related Riverside County policies when conducting review of development applications.

Policy OS 18.1: Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's and through implementing related Riverside County policies.

Policy OS 18.3: Prohibit the planting or introduction of invasive, non-native species to watercourses, their banks, riparian areas, or buffering setbacks.

Policy OS 18.4: Develop standards for the management of private conservation easements and conservation lots in fee title. For areas with watercourses, apply special standards a – f (below) for their protection, and apply standards g-j (below) generally:

a. For conservation lands with watercourses, conform easement boundaries to setback conditions that will preserve natural flows and changes in the natural boundaries of a watercourse and its protective riparian habitat.

b. Use only "open" fencing that permits the movement of wildlife, and limit fencing to locations outside of setbacks to watercourses (no fencing is permitted to cross the banks or channel of a watercourse, unless no other option is available).

c. Allow fuel modification only to the outside of buffering vegetation (riparian vegetation and vegetation on slopes that buffer the watercourse from erosion and storm water pollution).

d. No planting of non-native invasive species is permitted.

e. No lighting of watercourse area is permitted.

f. Prohibit the use of pesticides and herbicides known to harm aquatic species and sensitive amphibians.

g. Ensure that lands under control of Homeowner's Associations employ an experienced nonprofit conservation group or agency to manage/maintain the land.

h. Prohibit use of recreational off-road vehicles.

i. Prohibit grazing and alterations of vegetation except for fuel and weed management under close supervision of qualified natural lands manager.

j. For private conservation lands, especially those within criteria cells of MSHCP areas, ensure that easement and fee title agreements provide funding methods sufficient to manage the land in perpetuity.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) Conservation Element includes the following policies that address biological resources.

Policy 7.4.1: Require all development, including roads, proposed adjacent to riparian and other biologically sensitive habitats to provide adequate buffers to mitigate impacts to such areas.

Policy 7.4.2: Limit the removal of natural vegetation in hillside areas when retaining natural habitat does not pose threats to public safety.

Policy 7.4.3: Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) Resource Management Element includes one policy that addresses biological resources.

Policy 11: The City of Beaumont will work with landowners and government agencies in promoting development concepts that are sensitive to the environment and give maximum consideration to the preservation of natural habitats.

5.3.4 Methodology

Surveys, and literature and database reviews, conducted to prepare the existing conditions section for biological resources are provided in Section 5.3.2 by resource topic. The methods used for impacts analyses are provided in Section 5.3.6.1.

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the draft SWJA LMP. The draft SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if

additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of the draft LMP implementation on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to California Fish and Game Code section 1600 et seq. or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.3.5 Thresholds of Significance

The State of California has developed guidelines to address the significance of biological resource impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Biological resource impacts would be considered significant if a proposed project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following criteria provide further explanation regarding how the above thresholds were used to analyze impacts to special-status plants and wildlife species, riparian or other sensitive habitat, wetlands, wildlife corridors and nursery sites, adopted plans, and HCP/NCCP.

Special-Status Plant and Wildlife Species

A substantial adverse effect to special-status plant species would occur if the draft LMP would: (1) reduce the population size or reduce the area of occupied habitat of a rare, threatened, or endangered species; or (2) reduce the population size or reduce the area of occupied habitat of a locally uncommon species.

A substantial adverse effect on a special-status wildlife species would occur if the draft LMP would: (1) reduce the known distribution of a species; (2) reduce the local or regional population of a species; (3) increase predation of a species, leading to population reduction; (4) reduce habitat availability sufficiently to affect potential reproduction; or (5) reduce habitat availability sufficiently to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.

Riparian or Other Sensitive Habitat

A substantial adverse effect on riparian habitat or other sensitive vegetation would occur if any LMP activities would result in a net loss of riparian habitat or other sensitive vegetation community on the site.

Wetlands

A substantial adverse effect to federally protected wetlands would occur if any LMP activities would result in a net loss of federally protected wetlands on the site. State protected wetlands are also addressed under this threshold.

Wildlife Corridors and Nursery Sites

Substantial interference with the movement of any native resident or migratory wildlife species or with resident or migratory wildlife corridors would occur if the ~~draft~~ LMP would prevent or hinder wildlife movement through established native resident or migratory wildlife corridors or habitat linkages. A substantial effect on wildlife nursery sites would occur if the draft LMP would prevent or hinder a wildlife species from using important sites that support reproductive activities (e.g., breeding, nesting, rearing of young). The criteria for nursery sites used in this PEIR include unique resource areas typically used by more than one individual or reproductive pair, such as tricolored blackbird nesting colonies, rookeries uses by herons and egrets, maternal roosts used by bats, or aquatic habitats used by fish for spawning. Therefore, impacts to wildlife

nursery sites could affect reproduction by several or many pairs or individuals. For the purposes of this PEIR, nursery sites do not include individual burrows, nests, or dens used by individuals or a single pair of a species. Impacts to these kinds of resources, if used by special-status species, are addressed under Issue BIO-1, below.

Adopted Plans

The lead agency, CDFW, is a state agency; therefore, it is not subject to the requirements of local policies or ordinances protecting biological resources.

NCCP or HCP

A substantial adverse effect would occur if the draft LMP was in conflict with an adopted HCP, NCCP, or other approved local, regional, or state HCP that the project's proponent was party to (such as the SKR HCP); or impacted a permittee's ability to implement an adopted HCP; NCCP; or other approved local, regional, or state HCP (such as the Western Riverside County MSHCP).

5.3.6 Impact Analysis and Mitigation

This section includes the following: (1) the methods for analyzing impacts and an overview of the impacts in Section 5.3.6.1; and (2) a description of the potential impacts to sensitive biological resources, organized by significance threshold in Sections 5.3.6.2 through 5.3.6.7.

5.3.6.1 Methods and Overview

Direct impacts are defined in Section 5.3.6.1.1, and indirect impacts are defined in Section 5.3.6.1.2. An overview of the methods used to analyze impacts and an overview of potential impacts is provided in Section 5.3.6.1.3.

5.3.6.1.1 Direct Impacts

Temporary Direct Impacts

Temporary impacts are temporary or short-term impacts that could occur during construction or management activities and result in ground disturbance, which would be restored after the impact. For example, using a disturbed portion of the SJWA for temporary parking during a duck hunting event would be considered a temporary direct impact.

Permanent Direct Impacts

Permanent direct impacts are permanent impacts that result in the direct loss of biological resources due to the draft LMP activities (i.e., the permanent loss of wildlife habitat or the permanent loss of or harm to individual special-status plant and wildlife species from grading). Impacts are generally considered permanent if they involve the conversion of land to a new use, such as with the construction of new facilities and structures.

5.3.6.1.2 Indirect Impacts

Temporary Indirect Impacts

Temporary indirect impacts are those that are immediately related to a management activity or construction of a new structure, such as the generation of dust.

Permanent Indirect Impacts

Permanent indirect impacts are those that result from operations and maintenance or changes in the land use that may have a long-term effect on biological resources. The proximity of a management action to biological resources after disturbance or construction would have an influence on the type and intensity of permanent indirect impacts. For example, increased human disturbance associated with changes in management would be considered a permanent indirect impact.

5.3.6.1.3 Methods of Analysis and Overview of Potential Impacts

Because the Davis Unit is currently managed, the impact analysis addresses the proposed management changes. Thus, potential impacts to sensitive biological resources from implementation of the draft LMP in the Davis Unit are focused on: (1) proposed management activities in areas that are not currently being managed (Figure 5.3-8A); (2) proposed management activities in areas that are being managed but the proposed management is for a different resource (Figure 5.3-9); and (3) proposed new facilities, structures, and water storage. Potential impacts to special-status species from implementation of the draft LMP in the Potrero Unit are focused on: (1) proposed management activities in areas that are not currently being managed (Figure 5.3-8B); and (2) proposed new facilities, structures, and water tanks (for the domestic water system).

As described above in Section 5.3.4, this Draft Program EIR (PEIR) is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR.

To quantitatively analyze impacts, GIS analyses were performed where proposed management has been spatially determined. For example, proposed agricultural management in habitat for special-status species in the upland guild that is not currently managed for agriculture was quantified and

is described in Section 5.3.6.2, Issue BIO-1. Table 5.3-13 lists the management elements and tasks associated with each element, whether the management is existing or proposed in the unit, and if impacts to biological resources are anticipated. A brief description of the potential impacts to sensitive biological resources is provided for each task. The potential impacts listed in Table 5.3-13, and described further in each section, will be avoided, minimized, or mitigated to less-than-significant levels through implementation of the mitigation measures.

Potential impacts to sensitive biological resources are described by each threshold of significance listed and numbered beginning in Section 5.3.6.2 (i.e., Issue BIO-1, etc.). Additionally, impacts are described by management unit (Davis and Potrero).

5.3.6.2 Issue BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Issue BIO-1 addresses both special-status plants and wildlife. Species that are Covered or Planning Species under the MSHCP, but that are not considered special-status as defined in Sections 5.3.2.4.2 and 5.3.2.4.3, are addressed under Issue BIO-6. Potential impacts to special-status plants are discussed in Sections 5.3.6.2.1 through 5.3.6.2.6, and potential impacts to special-status wildlife are discussed in Sections 5.3.6.2.7 through 5.3.6.2.12.

Special-Status Plants

On the Davis Unit, 8 special-status plant species have been observed and 14 additional special-status plant species have a moderate to high potential to occur. On the Potrero Unit, 4 special-status plant species have been observed and 17 additional special-status plant species have moderate to high potential to occur (see Tables 5.3-11 and 5.3-15).

Sections 5.3.6.2.1 thorough 5.3.6.2.3 address the potential impacts to special-status plants in the Davis Unit, and Sections 5.3.6.2.4 and 5.3.6.2.5 address the potential impacts to special-status plants in the Potrero Unit. Impacts are discussed by the proposed management, facilities and structures, and operations and maintenance. This analysis is followed by a description of impacts to special-status plants, significance, and applicable mitigation measures in Section 5.3.6.2.6.

Table 5.3-13
Summary of Potential Impacts to Biological Resources by LMP Management Goals and Tasks

Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
BE1 – Biological Element 1: SKR – Goal: Efficiently and effectively provide for conservation of SKR pursuant to approved HCPs and mitigation requirements and ensure protection of SKR during development of future SJWA facilities and other potentially non-compatible uses.	1.1 (comply with existing SKR requirements)	Consistent with the applicable requirements of the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and conservation provision of parcels acquired specifically as SKR mitigation.	X	X	X	Yes	The primary activities associated with Task BE 1.1 that could affect sensitive biological resources, in the absence of avoidance, minimization, and mitigation measures, include the maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, herbicide and burning to reduce vegetative cover). These vegetation management activities could result in impacts such as: (1) inadvertent damage to shrubs and shrub communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) mortality or injury to slow-moving species (e.g., horned lizards *(Phrynosoma* spp.), rattlesnakes (*Crotalus* spp.), and rosy boas (*Lichanura trivirgata*); (4) disturbance to nesting birds (if management is conducted during the nesting season); (5) a long-term increase in non-native seeds (if fire intervals are too short); and (6) increased fire risk, due to a spark from mowing or thatch build-up.
	1.2 (habitat restoration for SKR)	Implement adequate avoidance, minimization, and, if necessary, mitigation to offset potential future impacts to SKR within the SJWA LMP.	X	X	X	Yes	The primary activities associated with Task BE 1.2 that could affect sensitive biological resources, in the absence of avoidance, minimization, and mitigation measures, include restoration, such as the removal of non-native plant cover through mowing or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs. For example, without application of mitigation measures, misapplication or overspray of herbicide to control exotics or application of a seed mix not appropriate for the region could impact sensitive biological resources. Potential impacts include herbicide effects on non-target native and non-native plants that provide habitat for grassland-associated sensitive species, such as perching and nesting sites for grasshopper sparrows (*Ammodramus savannarum*) and habitat cover (e.g., shade and refugia) for horned lizards, whiptails (*Aspidoscelis* spp.), and rattlesnakes, and jackrabbits (*Lepus* spp.).
	1.3 (participating in SKR regional management)	Actively participate in the region's ongoing development of effective SKR management techniques by regionally coordinating management and monitoring activities.	X	X	X	No	—
BE2 – Biological Element 2: Alkali Communities – Goal: Develop and implement a program to monitor and conserve alkali community functions and services and ensure the protection of alkali resources during development of future SJWA facilities and other potentially non-compatible uses.	2.1 (inventory of alkali species and habitat)	Develop and maintain a repeatable inventory of special-status alkali species and an assessment of alkali habitat quality by community subtypes.	X	X	X	Yes	The primary activities associated with Task BE 2.1 that could affect sensitive biological resources, in the absence of avoidance, minimization, and mitigation measures, include repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce habitat quality for various sensitive alkaline and non-alkaline plants.
	2.2 (control adverse edge effects for alkali communities)	Control adverse edge effects such as to maintain or improve habitat quality within existing alkali communities.	X		X	Yes	The primary activities associated with Task BE 2.2 that could affect sensitive biological resources, in the absence of avoidance, minimization, and mitigation measures, include measures to control non-native invasive species, human activity/trampling, and altered hydrology. Measures to control non-native invasive species may include use of chemicals that may inadvertently affect sensitive plants or soil chemistry (e.g., herbicides, pesticides); mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking which could have collateral impacts if not implemented properly; grazing, which could result in inadvertent trampling and soil erosion in sensitive areas; and prescribed burning, which could escape authorized burn areas or cause off-site erosion. Measures to control human activity/trampling such as signage, fencing and other physical barriers could affect sensitive biological resources if not sited, installed, and maintained properly.

Table 5.3-13
Summary of Potential Impacts to Biological Resources by LMP Management Goals and Tasks

Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
							Measures to control altered hydrology could also have inadvertent effects, including erosion and sediment flow controls, such as installation of appropriate wattled native plant material for stream bank stabilization; installation of geotextile fabric where unstable soil will limit plant reestablishment; installation of energy dissipating features where flow velocities are expected to be erosive; installation of grade-stabilizing structures/vegetation; reseeding with appropriate native understory species; and installation of selected native container plant species. These measures could have inadvertent adverse effects on sensitive biological resources if not implemented properly; such as altering hydrology to the extent that resources are receiving poorly-timed or too little or too much water or sediment sources.
	2.3 (developing an alkali restoration program)	Develop an alkali restoration program to incrementally increase alkali habitat quality and re-establish alkali communities in existing degraded areas supporting alkali soils.		X		Yes	The primary activities associated with Task BE 2.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include activities associated with alkali restoration such as: (1) non-native invasive species eradication and control; (2) hydrology modification such as the application of artificial irrigation to mimic natural conditions that support alkali species; (3) grading to achieve optimum hydrology and soil profile; and (4) planting of appropriate vegetation. See Task BE 2.2 for examples of potential impacts that could occur from non-native species eradication and control. Hydrological modifications could affect sensitive biological resources if, for example, excessive artificial irrigation converted riparian communities to marsh, thus affecting numerous sensitive riparian species such as least Bell's vireo, southwestern willow flycatcher, yellow warbler, yellow-breasted chat, etc. Also, without application of appropriate avoidance, minimization, and mitigation measures, planting of species not appropriate for the region or planting uninspected plants that are infested with Argentine ants (*Linepithema humile*) could affect sensitive biological resources. Grading for restoration, absent appropriate measures, could have various direct impacts on sensitive biological resources, including removal of habitat occupied by sensitive species such as Stephens' kangaroo rat and northwestern San Diego pocket mouse) and other species that use non-native grasslands (e.g., grasshopper sparrows, horned lizards, rattlesnakes, etc.) and other vegetation communities. Burrowing species such as kangaroo rats, pocket mice, rattlesnakes, and slow-moving species (e.g., horned lizards, rattlesnakes), could be killed or injured by grading. Bird nests, eggs, or young could also be disturbed, injured, or killed by grading if conducted during the breeding season. Grading for restoration, absent appropriate measures, could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (2) an increase in urban species (e.g., crows and ravens (*Corvus* spp.), coyotes (*Canis latrans*) raccoons (*Procyon lotor*)) that may be attracted to trash and garbage, if left at a restoration site; (3) increased human activity and potential harassment of wildlife by construction workers; (4) increased wildlife/vehicle or fence collisions; (5) release of chemical pollutants such as fuels, oils and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (6) degradation of water quality; (7) introduction of invasive plant species that may alter the composition of the community; and (8) generation of fugitive dust.

Table 5.3-13
Summary of Potential Impacts to Biological Resources by LMP Management Goals and Tasks

Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
	2.4 (implementing alkali habitat mitigation)	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to alkali habitat within the SJWA LMP and to specifically protect designated Critical Habitat for listed alkali species.	X	X	X	Yes	Impacts to sensitive biological resource could occur if mitigation involved habitat restoration, as described for Task BE 2.3.
BE3 – Biological Element 3: **Wetland Communities – Goal:** Enhance existing and develop new wetland resources for a variety of game and nongame species and ensure the protection of wetland resources during development of future SJWA facilities and other potentially non-compatible uses.	3.1 (maintain and enhance open water and marsh habitat)	Maintain and enhance conditions of existing open water and marsh habitats to balance vegetative cover with open water and maintain water quality within managed wetlands.	X			No	This task is an existing activity. Thus, there is no impact evaluated as part of this analysis.
	3.2 (managing invasive plant and animal species)	Identify and manage non-native invasive plant and animal species affecting wetlands.	X	X	X	Yes	The primary activities associated with Task BE 3.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include activities associated with directly eradicating or controlling invasive plant and animal species. Eradication of invasive non-native plant species (primarily giant reed and salt-cedar) may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. The most likely methods to be used within the SJWA include manual removal; foliar spray; cut stem/stump spray; cut, resprout, and spray; and mechanical removal (see LMP Section 5.5, Biological Management Element (BME) 4 and Section 5.4, Facilities Maintenance Element (FME) 3). These methods could affect non-target native plants and animals if not properly implemented, such as mechanically removing or chemically treating target during the sensitive bird and arroyo toad breeding seasons or inadvertently disturbing native riparian and wetlands plant during chemical treatments. For example, while salt-cedar is considered poor habitat for most breeding birds and other native wildlife, southwestern willow flycatchers are known nest in salt-cedar. Eradication of non-native animal species (e.g., American bullfrogs (*Lithobates catesbeianus*), exotic turtles, fish, crayfish, domestic dogs, and wild pigs) may include both habitat-based methods (e.g., pond-draining following by removal of target species); various target species-specific methods, such as gill netting, water seining, gigging, electroshocking, trapping, shooting, and chemical treatments (e.g., rotenone) and fencing prior to and following eradication measures to prevent recolonizations. Each of these eradication methods have the potential for adverse effects on non-target species if not properly implemented and in the absence of avoidance and minimization measures to prevent impacts to sensitive biological resources. For example, pond draining and associated fencing could directly adversely affect larval and adult western spadefoots, western pond turtles, and nesting tricolored blackbirds, as well as remove wetland foraging habitat and prey for a variety of sensitive birds, such as American bittern (*Botaurus lentiginosus*), American peregrine falcon, black-crowned night-heron, etc. Chemical treatments of wetlands supporting native species could have broad-ranging adverse impacts.

Table 5.3-13
Summary of Potential Impacts to Biological Resources by LMP Management Goals and Tasks

Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
	3.3 (expanding open water, marsh, and green feed field habitats)	Expand open water, marsh, and green feed field habitats to support more productive wetland communities in terms of increased wildlife usage.		X		Yes	The primary activities associated with Task BE 3.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with habitat conversion, including: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7) with a management designation for alkali resources; and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields including minor grading to improve drainage/flooding and winter flooding. Although no sensitive species are known from proposed green feed fields, there is a potential for both direct and indirect impacts to sensitive biological resources as described for Task BE 2.3, including removal of habitat for some species, direct impacts to individuals, nests or eggs during grading potentially resulting in injury or mortality, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust).
	3.4 (implementing a program to provide adequate habitat for western pond turtle)	Identify opportunities and implement a program to provide adequate habitat for western pond turtle.		X	X	Yes	The primary activities associated with Task BE 3.4 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with management of urban predators and exotic animal species and removal of exotic vegetation. As described above for Task BE 3.2, some of the eradication methods for urban predators and exotic species could have inadvertent impacts on sensitive biological resources if not properly implemented. Translocation of pond turtle individuals from other areas of the SJWA may also be considered, and would need to be carried out in a manner that did not affect the health of the donor populations (e.g., removal of too many individuals or biased selection of sex and age-classes) or the health of the translocated population (sick or diseased individuals).
	3.5 (tricolored blackbird conservation measures)	Participate in regional efforts to develop and implement tricolored blackbird conservation measures.		X	X	Yes	The primary activities associated with Task BE 3.5 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with native vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird. Although the net value of these activities would be beneficial to tricolored blackbirds and likely other native species, the activity of restoration and enhancement itself could remove habitat for other sensitive species occupying subject areas. Vegetation and ground disturbances during restoration and enhancement could directly affect individuals, potentially causing displacement, injury, or mortality, as described for Task BE 2.3. Restoration and enhancement could also have indirect impacts on adjacent ponds and agricultural areas and wildlife using these areas, such noise, increased human activity, and runoff (see Task BE 2.3).
	3.6 (vernal pool enhancement)	Develop a program to manage existing vernal pool habitat to maximize habitat quality.	X		X	Yes	The primary activities associated with Task BE 3.6 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with vernal pool enhancement. Although potential enhancement methods have not been identified, they may include methods to reduce non-native grasses and exotic forbs to increase pool hydroperiods, including grazing, mowing, prescribed burning, and chemical treatments. Without proper implementation these methods could have similar adverse impacts to sensitive biological resources described for Task BE 1.1, including direct impacts to slow-moving species (e.g., reptiles)and nesting birds. Such activities would also need to be carried out in a manner that does not disturb

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
							vernal pools soils and thus adversely affect their water-holding capacity (e.g., inadvertent ripping or crushing of hardpan soils within pools). Translocation of vernal pool plants and animals (e.g., fairy shrimp) may also be considered, and would need to be carried out in a manner that did not affect the viability of populations at the donor sites.
	3.7 (protecting breeding habitat for spadefoot toad)	Identify breeding habitat for western spadefoot and ensure protection of this resource.		X		Yes	The primary activities associated with Task BE 3.7 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with management of sites occupied by western spadefoot. Management may include eradication of invasive plants and non-native predators (American bullfrogs, African clawed frogs (*Xenopus laevis*), crayfish (*Procambarus* spp.), mosquitofish (*Gambusia affinis*)) at occupied breeding sites. Management of invasive plants could have the same adverse impacts as described in Task BE 3.6 for vernal pools and Task BE 1.1 for non-native grasslands. Management of non-native predators could have the same adverse impacts as described in Task BE 3.2 for wetlands if not implemented properly.
	3.8 (identifying properties that promote conservation of wetland resources)	Identify properties for acquisition that promote conservation of wetlands resources in terms of special-status species locations and hydrologic resources such as Mystic Lake.		X		No	—
	3.9 (maintaining the ability to use reclaimed water)	Maintain the ability to use an adequate supply of reclaimed water at a reasonable cost to support existing and future wetlands habitats on the Davis Unit.	X	X		Yes	Upgrades to the existing water infrastructure may be needed t to improve efficiency in water management. See Task PUE 8.~~3~~4 for discussion of impacts.
	3.10 (ensuring compatibility of management practices)	Ensure the compatibility and coordination of SJWA management practices on both private and public lands.	X		X	No	—
	3.11 (implementing avoidance and minimization measures)	Implement avoidance and minimization measures to protect sensitive species and habitats from adverse future wetland activities.		X	X	No	—
BE4 – Biological Element 4: Riparian Communities – Goal: Enhance existing and develop new riparian resources for a variety of game and nongame species and ensure the protection of riparian resources during development of future SJWA facilities and other potentially non-compatible uses.	4.1 (maintaining riparian habitats)	Maintain new and existing managed riparian habitats by providing appropriate spring/summer irrigations (March 30–November 1). Habitat maintenance includes irrigation for plant growth and water availability for wildlife species during appropriate times of the year.	X	X		Yes	Task BE 4.1 could result in hydromodification impacts due to irrigation. For example, it is possible that some uplands could be converted due to increased water from adjacent managed riparian areas, creating a mesic habitat. Also, the timing and input of water for riparian communities may be different than what is needed for the existing vegetation community.
	4.2 (habitat restoration for wetlands/riparian habitats)	Develop plans for a joint wetlands/riparian restoration closed zone in D4 and strips of riparian habitat in D7 that will include plans for grading to achieve necessary hydrology, planting to establish riparian trees, shrubs, and herbaceous species, maintenance and monitoring to establish riparian resources in		X		Yes	The primary activities associated with Task BE 4.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include activities associated with restoration. As described for Task BE 2.3, grading for restoration, absent appropriate measures, could have various direct impacts on sensitive biological resources, including removal of habitat occupied by sensitive species. Species inhabiting restoration areas could be killed or injured by grading. Bird nests, eggs, or young could also be disturbed, injured, or killed by grading

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
		this area for the benefit of native plants, wildlife, and waterfowl.					if conducted during the breeding season. Grading for restoration, absent appropriate measures, could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (2) an increase in urban species (e.g., crows, ravens, coyotes, racoons) that may be attracted to trash and garbage, if left at a restoration site; (3) increased human activity and potential harassment of wildlife by construction workers; (4) increased wildlife/vehicle or fence collisions; (5) release of chemical pollutants such as fuels, oils and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (6) degradation of water quality; (7) introduction of invasive plant species that may alter the composition of the community; and (8) generation of fugitive dust.
	4.3 (expanding riparian habitat)	Evaluate the suitability of establishing a riparian restoration/mitigation program in D7, D13, and along Potrero Creek that expands riparian habitat and results in more stable habitat conditions. Such a restoration/mitigation program may potentially rely on funding partnerships with other entities (non-profits, municipalities, private applicants).		X	X	Yes	The primary activities associated with Task BE 4.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include activities associated with restoration. Potential impacts would be the same as described for Task BE 4.2.
	4.4 (controlling invasive exotic species within riparian corridors)	Control invasive exotics plant and animal species within riparian corridors, particularly tamarisk, brown-headed cowbird (*Molothrus ater*) and European starling, to benefit native plant and wildlife species.	X	X	X	Yes	The primary activities associated with Task BE 4.4 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include eradication of exotic plants and animals. Potential impacts would be the same as described for Task BE 3.2.
	4.5 (habitat restoration for riparian habitat)	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to riparian habitat within the SJWA LMP.	X	X	X	Yes	Although there are no planned activities that would directly impact riparian habitat, if such activities were to occur in the future, such as conversion of an existing riparian area to a waterfowl pond or field, such activities will be designed and planned in a manner that avoids impacts to riparian habitat. If full avoidance cannot be achieved, impacts will be mitigated through restorations. Restoration activities associated with Task BE 4.5 that could affect sensitive biological resources would be same as described for Task BE 4.2.
BE5 – Biological Element 5: Upland Communities – Goal: Manage upland resources for a variety of game and nongame species and ensure the protection of upland resources during development of future SJWA facilities and other potentially non-compatible uses.	5.1 (conducting refinements of vegetation classification)	Conduct qualitative refinements of the vegetation classification at the alliance level to establish a measure for monitoring and managing conversion between chaparral, sage scrub, and grassland vegetation types.	X	X	X	No	Due to the qualitative nature of the field work required to refine the vegetation classification, substantial impacts from repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (e.g., creating permanent trails along survey transects) are not likely occur.
	5.2 (wildfire management measures)	Develop and implement wildfire management measures (discussed in PUE 6) that are consistent with optimum fire return intervals to maintain upland vegetation community diversity.	X	X	X	Yes	The primary activities associated with Task BE 5.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, include management of fire return intervals to maintain optimum vegetation community diversity through grazing, mowing, and other methods to maintain fire breaks and fire buffers. Potential impacts of these management activities are the same as those described for Task BE 1.1 (e.g., removal of habitat for some species, direct impacts to slow-moving animals. and nesting birds).
	5.3 (vegetation management)	Assess erosion and type-conversion issues within upland communities and develop appropriate vegetation management	X	X	X	Yes	The primary activities associated with Task BE 5.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are erosion controls that may include establishment of native plant

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
		measures to minimize adverse effects, particularly with attention to sage scrub and chaparral post-fire recovery at the Potrero Unit.					communities through application of native seed mixes and weed management during the maintenance period. Using a seed mix not appropriate for the region could impact sensitive biological resources. Weeding activities, as described for Task BE 2.2, may include use of chemicals that could inadvertently affect sensitive plants or soil chemistry (e.g., herbicides) and mechanical removal of weeds through pulling or weed-whacking which could have collateral impacts if not implemented properly,
	5.4 (control adverse edge effects for uplands)	Control adverse edge effects, including establishment of invasive exotic species and trails, to protect upland habitats.	X	X	X	Yes	The primary activities associated with Task BE 5.4 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are management measures for non-native invasive plants and animals (e.g., Argentine ants, wild pigs) along habitat edges. Potential management for invasive plants would be similar to those described for Tasks BE 2.2 and BE 3.2. Management for Argentine ants may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants) and chemical treatments (insecticides) of nest mounds if necessary. Management of moisture regimes could adversely affect riparian and wetland resources that depend on artificial runoff. Inappropriate application of insecticides to control Argentine ants could have adverse impacts on native species (e.g., native ants, beetles, and other flying insects) that are important for ecosystem processes such as pollination or seed dispersal. Control of wild pigs (e.g., shooting, use of tracking dogs) could have adverse indirect effects of sensitive biological resources from human activity, noise, and harassment by dogs.
	5.5 (raptor protection measures)	Implement raptor protection measures including protection of prey, nesting, roosting, perching opportunities, and protection of electrocution.	X		X	No	—
	5.6 (maintain and manage burrowing owl habitat)	Maintain and manage suitable habitat for burrowing owl in a manner that allows life cycle activities for the species.	X		X	Yes	The primary activities associated with Task BE 5.6 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are habitat management activities for burrowing owl. These management activities would be similar to those conducted for SKR described for Task BE 1.1 (grazing, mowing and burning to reduce vegetative cover), resulting in potential impacts such as: (1) inadvertent damage to shrubs and shrub communities; (2) inadvertent soil disturbance and water quality degradation; (3) mortality or injury to slow-moving species; (4) disturbance to nesting birds (if management is conducted during the nesting season); (5) a long-term increase in non-native seeds (if fire intervals are too short); and (6) increased fire risk, due to a spark from mowing or thatch build-up.
	5.7 (uplands restoration)	Implement adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to upland habitats supporting special-status species within the SJWA LMP.	X	X	X	Yes	The primary activities associated with Task BE 5.7 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are habitat restoration activities undertaken as a mitigation for unavoidable planned activities and management impacts. Restoration activities, including grading and vegetation removal, may adversely affect sensitive biological resources as described for Task BE 2.3. Species inhabiting restoration areas could be killed or injured by grading. Bird nests, eggs, or young could also be disturbed, injured or killed by grading if conducted during the breeding season. Grading for restoration, absent appropriate measures, could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (2) an increase in urban species (e.g., crows, ravens, coyotes, racoons) that may be attracted to trash and garbage, if left

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
							at a restoration site; (3) increased human activity and potential harassment of wildlife by construction workers; (4) increased wildlife/vehicle or fence collisions; (5) release of chemical pollutants such as fuels, oils and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (6) degradation of water quality; (7) introduction of invasive plant species that may alter the composition of the community; and (8) generation of fugitive dust.
PUE1 – Public Use Element 1: **Trail Use and Wildlife Viewing) – Goal:** Maintain and improve recreation opportunities, access, and education.	1.1 (maintenance and public use of existing trails)	Implement maintenance and improvements to existing opportunities and access for a diversity of authorized trails recreation.	X		X	Yes	The primary activities associated with Task PUE 1.1 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures are maintenance, and public use of existing trails. Potential impacts to sensitive biological resources could occur during these activities. Direct removal habitat for sensitive resources may occur during trail maintenance. Construction and maintenance activities may result indirect effects, similar to those that could occur during habitat restoration, as described for Task BE 2.3. Public uses of trails could have adverse effects on sensitive biological resources as a result of increased human activity, noise, and pets (e.g., near bird nests), collection of native wildlife (e.g., pond turtles, toads), and trampling of vegetation or creation of unauthorized trails by off-trail uses.
	1.2 (construction of new facilities)	Construct new facilities to access the SJWA and facilitate passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources.		X	X	Yes	The primary activities associated with Task PUE 1.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures are construction, maintenance, and public use of new trails and associated facilities such as parking and staging areas. Potential impacts to sensitive biological resources could occur during these activities, as described for Task PUE 1.1, and in particular construction of new facilities, as described for Task BE 2.3. While new facilities would be designed to avoid sensitive resources (e.g., alkali resources along the shoreline of Mystic Lake), unavoidable impacts would be mitigated through restoration, which could have inadvertent impacts described for Task BE 2.3.
	1.3 (soliciting input)	Regularly solicit input and survey SJWA visitors regarding public use programs and recommendations for improvements.	X		X	No	—
	1.4 (developing education program)	Continue to develop an education program that informs the public at all age levels and user interests.	X		X	No	—
	1.5 (utilize funding and volunteer opportunities)	Utilize funding and volunteer opportunities from recreation groups.	X		X	No	—
PUE2 –Public Use Element 2: Waterfowl Hunting – Goal: Safely manage existing and new waterfowl hunting opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.	2.1 (operating and managing a waterfowl hunting program)	Safely operate and manage a waterfowl hunting program; conduct hunter education, program supervision, habitat monitoring, and maintain adequate records of hunter harvest, hunter satisfaction, and hunt quality to ensure that the hunting experience is sustainable and consistent with ~~CDFW~~Fish and Game Commission code.	X	X		Yes	The primary activities associated with Task PUE 2.1 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures are potential unauthorized hunting activities such as taking of native non-game species, general increases in human and hunting dog activities, and hunting during sensitive periods some species. (e.g., certain seasons).
	2.2 (improving hunting infrastructure)	Maintain and improve existing hunting infrastructure within waterfowl areas including blinds, parking areas, trash cans, etc.	X	X		Yes	The primary activities associated with Task PUE 2.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures are maintenance and public use of existing hunting facilities, including blinds, parking areas, and trash cans. A main concern is trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, racoons) that prey on

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
							native wildlife. Construction of new blinds could result in direct and indirect impacts to sensitive biological resources similar to those described for other construction activities in Task BE 2.3.
	2.3 (developing non-motorized boat access)	In coordination with PUE 1, consider development of non-motorized boat access to Mystic Lake from Gilman Spring Road through a new road, parking area, and dock structure.		X		Yes	The primary activities associated with Task PUE 2.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures would be construction of a new road, parking area, and dock structure for access to Mystic Lake. Construction of these new facilities could result in direct and indirect impacts to sensitive biological resources, including jurisdictional wetlands, similar to those described for other construction activities in Task BE 2.3.
PUE3 – Public Use Element 3: Agriculture – Goal: Maintain and expand agricultural leases and CDFW food plots to provide multiple benefits to multiple wildlife species while protecting other biological, cultural, and recreational resources.	3.1 (developing and maintaining agricultural leases)	Develop and maintain an agricultural lease such that contributions are made to overall management goals of the SJWA in terms of providing forage for wildlife and a financial resource to CDFW while protecting biological, cultural, and recreational resources.	X	X		Yes	The primary activities associated with Task PUE 3.1 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with habitat conversion, including conversion of dry wheat fields to triticale and alfalfa crops. There is some potential for impacts to sensitive biological resources, including removal of foraging habitat for some species if the prey bases for raptors, for example, of the new crops are different.
	3.2 (reconfiguring existing CDFW food plots)	Continue, but reconfigure, existing CDFW food plots, to provide forage for wildlife while protecting SJWA biological, cultural, and recreational resources.	X	X		Yes	The primary activities associated with Task PUE 3.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with habitat conversion similar to Task PUE 3.1and expansion of food plots, which could affect alkali resources.
	3.3 (expansion of agriculture leases)	Consider the expansion of leases to provide additional wildlife forage and a financial resource to CDFW while protecting biological, cultural, and recreational resources.		X		Yes	The primary activities associated with Task PUE 3.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with habitat conversion similar to Task PUE 3.1and expansion of food plots.
	3.4 (expansion of CDFW food plots)	Consider the expansion of CDFW food plots to provide additional wildlife forage while protecting SJWA biological, cultural, and recreational resources.		X		Yes	The primary activities associated with Task PUE 3.4 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are activities associated with habitat conversion similar to Task PUE 3.1 and expansion of food plots, which could affect alkali resources and SKR habitat.
	3.5 (development of grazing permits)	Consider the development of grazing permits to maintain SKR habitat and to provide a financial resources to CDFW.		X	X	Yes	The primary activities associated with Task PUE 3.5 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, and mitigation measures, are grazing activities to maintain SKR habitat. Grazing may have inadvertent impacts on other sensitive biological resources, including ground-nesting birds (e.g., horned lark, grasshopper sparrow), slow-moving animals (e.g., western spadefoots, horned lizards) and vegetation and soil damage, and erosion (resulting in water quality impacts) if areas are over-grazed, stock are allowed to congregate in areas too long, or stocking rates are too high.
PUE4 – Public Use Element 4: Upland Small Game Hunting – Goal: Safely manage existing and new upland hunting opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.	4.1 (operating and managing upland game hunting program)	Safely operate and manage the upland small game hunting program in a manner that avoids or minimizes impacts to other resources.	X	X	X	Yes	The primary activity associated with Task PUE 4.1 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, is public use of existing hunting facilities, including parking areas, and trash cans. Main concerns are trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, racoons) that prey on native wildlife and ensuring that hunters adhere to laws and regulations.

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	4.2 (opening portions of Potrero Unit to upland game hunting)	Incrementally open portions of the Potrero Unit to upland small game hunting and evaluate the management requirement and environmental effects before future expansions.		N/A	X	Yes	The primary activities associated with Task PUE 4.2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, are public use of new hunting facilities and potential impacts to sensitive biological resources resulting from expansion and management of hunting in the Potrero Unit. Main concerns related to public uses are trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, racoons) that prey on native wildlife and ensuring that hunters adhere to laws and regulations. Expansion may require installation of fencing and signage that may affect sensitive biological resources if not properly sited and installed.
	4.3 (development of agricultural and wildlife food crop)	Maintain and develop agricultural and wildlife food crop production as identified in PUE 3.1 – 3.4, to ensure the proper mixture of successional stages of vegetation is available to meet upland game food and cover needs throughout the year. Also, evaluate the adequacy of cover for upland game and utilize rock piles, tree planting, and brush piles, to provide cover.	X	X		Yes	The primary activities associated with Task PUE 4.3 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, including habitat conversion, could affect sensitive biological resources, including raptor foraging habitat and alkali resources, as described in Tasks PUE 3.1 through PUE 3.4.
	4.4 (installation of guzzlers)	Maintain and install guzzlers to provide a water source for birds, small game and in some instances for big game, particularly during the summer months at locations throughout the SJWA.	X	X	X	Yes	Task PUE 4.4 could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, by attracting incompatible groups of species and through other effects. For example, guzzlers may be attractants to predators of native species (including crows and ravens) and Argentine ants, and may facilitate growth of invasive exotic species such as salt-cedar if not properly maintained. Some smaller species may drown if trapped in guzzlers.
	4.5 (providing hunting opportunities)	Work cooperatively with the Department of Parks and Recreation staff to assist with their obligations of providing hunting opportunities, as required by the State Water Project mitigation, within the overall SJWA–Lake Perris State Recreation Area by monitoring hunter satisfaction and hunt quality.	X			No	—
	4.6 (implementing additional game programs)	Evaluate the potential for ~~two~~ one additional game programs~~:~~ ~~(1)~~ supplementation of the ring-necked pheasant population on the Davis and Potrero Units ~~and (2) implementation of deer hunting on the Potrero Unit only.~~	X	X	X	Yes	Task PUE 4.6 could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures. Increasing hunting activities overall, including pheasant ~~and deer~~ hunting, could generally increase the pressure of human activity on sensitive biological resources, including trash and garbage and other hunter violations of laws and regulations. Increased trash and garbage could attract, and serve as subsidies, for urban mesopredators such as racoons, striped skunks, and opossums that also prey on small native species.
PUE5 – Public Use Element 5: Hunting Dog Training and Field Trials – Goal: Safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA.	5.1 (expansion of dog training facilities)	Maintain and improve existing and proposed new hunting dog training facilities to provide adequate habitat types including open water, marsh, and upland areas.	X	X		Yes	The primary activities associated with Task PUE 5.1 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, include improvement and expansion of existing and new dog training facilities and conversion of existing vegetation to create green feed fields and ponds with points, dikes, and islands for dog water exit and re-entry. Grading and other construction activities to create these facilities may have direct and indirect impacts to sensitive biological resources as restoration activities described for Task BE 2.3. At least one of the proposed sites (in D7) may have sensitive biological

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Management Element	Task #	Description	Davis Unit Existing	Davis Unit Proposed	Potrero Unit Proposed*	Impacts to Biological Resources Anticipated?	Examples of Potential Impacts
							resources, including alkali communities and burrowing owl resources. In addition, increased human activity, parking and staging areas, and trash and garbage may adversely affect sensitive biological resources.
	5.2 (managing hunting dog training programs)	Manage hunting dog training events to ensure compatible use with other resource protection goals.	X	X		Yes	The primary activities associated with Task PUE 5.1~~2~~2 that could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures, include dog training activities in Subunit D13 that contain alkali resources and training activities that generally can disrupt breeding bird activities.
	5.3 (soliciting input)	Regularly solicit input and participation from field trial organizations and hunting dog trainers regarding recommendations for improvements.	X			No	—
PUE6 – Public Use Element 6: Fire Management – Goal: Develop a fire management program to ensure readiness for wildfire, implement fire prevention measures, and maintain appropriate fire return intervals, to the extent feasible.	6.1 (transferring information)	Transfer critical SJWA site, habitat, access, and sensitive resources information to CAL FIRE and other likely fire responders.	X		X	No	—
	6.2 (pre-fire management activities)	Avoid catastrophic wildfires that negate the habitat management goals of the SJWA through fire prevention activities and targeted suppression activities.	X		X	Yes	The primary activities associated with Tasks PUE 6.2 through PUE 6.6 could affect sensitive biological resources, in the absence of appropriate avoidance, minimization, or mitigation measures. Pre-fire management activities that could affect sensitive biological resources include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on sensitive biological resources as described for Task BE 1.1. Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers/road graders) and fire crews. These activities could cause soil and vegetation damage in sensitive biological resource areas, and could directly affect individuals of less mobile sensitive species (e.g., plants, rodents, reptiles, amphibians), including injury and mortality. Fire retardants may also damage vegetation. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian areas. Disturbed areas are also more vulnerable to invasion by non-native plant species. Restoration and enhancement following fire may include native plant seeding, which could adversely affect sensitive biological resources if seeded species are not appropriate for the region.
	6.3 (restoration and enhancement)	Restore or enhance the quality of degraded vegetation communities and habitat types in a manner consistent with overall conservation goals for species and natural communities.	X		X	Yes	
	6.4 (developing fuel loading reduction methods)	Develop fuel loading reduction methods that are consistent with overall SJWA management goals for habitat needs, wildlife sensitivities, and public safety, amongst others.	X	X	X	Yes	
	6.5 (pre-response plans and pre-fire management activities)	Provide for public safety through pre-response plans and fire prevention activities.	X		X	Yes	
	6.6 (adaptive fire management)	Provide for adaptive fire management should goal achievement be affected by uncontrollable or unforeseen factors.	X		X	Yes	
PUE7 – Public Use Element 7: Cultural Resources – Goal: Identify and protect cultural resources.	7.1 (identifying archaeological resources)	Identify all potentially significant archaeological resources within proposed new grading and new agricultural use areas and provide avoidance or, if unavoidable, provide mitigation in consultation with the Native American community.		X	X	No	—
	7.2 (providing communication to SJWA users)	Provide communications to SJWA users regarding the sensitivity and importance of Native American and historical archaeological resources.		X	X	No	—

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	7.3 (monitoring of archaeological resources)	Monitor areas of likely significant archaeological resources and ensure that public access and natural environmental conditions do not adversely affect preservation of those resources.		X		No	—
PUE8 – Public Use Element 8: Agency Coordination – Goal: Maximize multi-agency synergies and protect SJWA resources through cooperation and communication with other agencies.	8.1 (maintaining relationship with RCA)	Maintain a mutually beneficial, cooperative relationship with RCA to allow ongoing monitoring of MSHCP species and to coordinate management with other regional reserve managers.	X		X	No	—
	8.2 (maintaining communications with RCFCWCD)	Maintain communications with RCFCD to understand flood control requirements and potential for flood control maintenance or infrastructure development.	X		X	No	—
	8.3 (construction of water storage)	Renew agreement with Eastern Municipal Water District (EMWD) for reclaimed water and develop a potential water storage project on the Davis Unit.		X		Yes	The water storage on the Davis Unit could result in ground-disturbing activities within Davis Unit. With respect to proposed recycled water storage, there are two proposed options: (1) an approximately 275-acre uncovered reservoir to support waterfowl within Subunit D2 and (2) a 235-acre covered reservoir within Subunits D1 and D2. The water storage is described in more detail in Section 5.3.6.2.3 and is an element of Task BE 3.9.
	8.4 (maintaining communications with municipalities)	Establish and maintain active lines of communication with municipalities to advocate for compatible land uses adjacent and near the SJWA.	X		X	No	—
	8.5 (maintaining communications with utilities)	Establish and maintain active lines of communication with utilities that maintain facilities within and adjacent to the SJWA to advocate for compatible facilities and operations and maintenance practice within and near the SJWA.	X		X	No	—
	8.6 (maintaining communications with private land owners)	Establish and maintain lines of communication with private landowners within and adjacent to the SJWA to advocate for compatible land use practices within and near the SJWA.	X		X	No	—

Note:
* All management goals and tasks in the Potrero Unit are proposed as none have been developed or are currently implemented on the Potrero Unit, with the exception of some limited mowing to clear vegetation along access roads.

Figure 5.3-8A Proposed Management Activities in Areas Not Currently Managed - Davis Unit

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Figure 5.3-8B Proposed Management Activities in Areas Not Currently Managed - Potrero Unit

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Figure 5.3-9 Proposed Changes to Existing Managed Resource Areas – Davis Unit

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Special-Status Wildlife

As discussed in Section 5.3.2.5.1, special-status wildlife species known to occur or with a moderate to high potential to occur on the SJWA are organized by guilds, which identify groups of species that rely on similar resources regardless of taxonomic category. Therefore, the impacts analysis for special-status wildlife species in this PEIR is analyzed by impacts to each guild.

Sections 5.3.6.2.7 thorough 5.3.6.2.9 address the potential impacts to special-status wildlife in the Davis Unit, and Sections 5.3.6.2.10 and 5.3.6.2.11 address the potential impacts to special-status wildlife in the Potrero Unit. Impacts are discussed by the proposed management, facilities and structures, and operations and maintenance. This analysis is followed by a description of impacts to special-status plants, significance, and applicable mitigation measures in Section 5.3.6.2.12.

5.3.6.2.1 Davis Unit Special-Status Plants: Proposed Management for Areas Not Currently Managed

In the Davis Unit, there are five special-status plant species that occur within proposed biological resource management areas and two special-status species that occur within proposed public use management areas that are not currently managed, but that are proposed to be managed. Table 5.3-14 summarizes the documented occurrences of special-status plant species in the Davis Unit that are within proposed management areas, but that are not currently managed (Figure 5.3-8A).

Table 5.3-14
Known Occurrences of Special-Status Plants in Proposed Management Areas in the Davis Unit

Proposed Management	Common Name	Status (Federal/State/CRPR/ MSHCP)	No. of Occurrences
Biological Resource Management			
Alkali Communities	Coulter's goldfields	None/1B.1/Covered	4
	Davidson's saltscale	None/1B.2/Covered	2
	San Jacinto Valley crownscale	FE/1B.1/Covered	7
	smooth tarplant	None/1B.1/Covered	6
	Spreading navarretia	FT/1B.1/Covered	2
		Alkali Subtotal	*21*
Upland	Coulter's goldfields	None/1B.1/Covered	13
	Davidson's saltscale	None/1B.2/Covered	1
	San Jacinto Valley crownscale	FE/1B.1/Covered	4
	smooth tarplant	None/1B.1/Covered	4
	Spreading navarretia	FT/1B.1/Covered	7

Table 5.3-14
Known Occurrences of Special-Status Plants in Proposed Management Areas in the Davis Unit

Proposed Management	Common Name	Status (Federal/State/CRPR/ MSHCP)	No. of Occurrences
		Upland Subotal	*29*
Wetland	Coulter's goldfields	None/1B.1/Covered	5
	San Jacinto Valley crownscale	FE/1B.1/Covered	1
		Wetland Subotal	*3*
		Biological Resource Management Total	**56**
Public Use Management			
Agriculture	Coulter's goldfields	None/1B.1/Covered	1
	San Jacinto Valley crownscale	FE/1B.1/Covered	1
		Agriculture Total	*2*
		Public Use Management Total	**2**
		TOTAL	**58**

Status:
None: No state or federal designation
FE: Federally listed as endangered.
FT: Federally listed as threatened.
CRPR: California Rare Plant Rank
1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere
Threat Rank:
1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
2: Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
3: Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
MSHCP
Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

Additionally, as described in Section 5.3.2.4.2, the special-status species listed in Table 5.3-15 have a moderate to high potential to occur in the Davis Unit. Table 5.3-15 is organized by alkali plants and by other plants, consistent with the draft LMP.

Table 5.3-15
Special-Status Plants in Proposed Management Areas in the Davis Unit with a Moderate to High Potential to Occur

Common Name (Scientific Name, Federal/State/CRPR/MSHCP Covered)
Alkali Plants
Parish's brittlescale (*Atriplex parishii*; None/1B.1/Covered)
Other Plants
chaparral ragwort (*Senecio aphanactis*; None/2B.2/None)
San Bernardino aster (*Symphyotrichum defoliatum*; None/1B.2/None)
round-leaved filaree (*California macrophylla*; None/None/1B.2/Covered)

Table 5.3-15
Special-Status Plants in Proposed Management Areas in the Davis Unit with a Moderate to High Potential to Occur

Common Name (Scientific Name, Federal/State/CRPR/MSHCP Covered)
Parish's bush-mallow (*Malacothamnus parishii*; None/1A/None)
Salt Spring checkerbloom (*Sidalcea neomexicana*; None/2B.2/None)
chaparral sand-verbena (*Abronia villosa* var. *aurita*; None/1B.1/None)
California satintail (*Imperata brevifolia*; None/2B.1/None)
long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*; None/1B.2/Covered)
Parry's spineflower (*Chorizanthe parryi* var. *parryi*; None/1B.1/Covered)
mesa horkelia (*Horkelia cuneata* var. *puberula*; None/1B.1/None)
Parish's desert-thorn (*Lycium parishii*; None/2B.3/None)
White rabbit-tobacco (*Pseudognaphalium leucocephalum*; None/2B.2/None)

Status:
None: No state or federal designation
CRPR: California Rare Plant Rank
1A (formerly List 1A): Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere
2B (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
Threat Rank:
1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
2: Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
3: Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
MSHCP
Covered: Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

Alkali resources are areas identified in the LMP as having the highest potential for alkali resources to be present based on a review of vegetation communities, soils, and the presence of special-status alkali plants. In the Davis Unit, there are 747 acres of alkali resources, considered suitable habitat for special-status alkali plants, that are not currently managed, but that are proposed to be managed. Approximately 631 acres of alkali resources (85% of the 747 acres) not currently managed are proposed to be managed as alkali communities, which would directly benefit alkali plants. Approximately 48 acres of alkali resources (6% of the 747 acres) not currently managed are proposed to be managed as agriculture. Approximately 33 acres of alkali resources (4% of the 747 acres) are proposed to be managed for waterfowl hunting, and 35 acres of alkali resources (5% of 747 acres) are proposed to be managed for wetlands communities. The potential effects of these proposed management activities on special-status plants are described in Sections 5.3.6.2.1.1 and 5.3.6.2.1.2.

There are 2,559 acres of land outside of the alkali resource areas in the Davis Unit that are not currently managed, but that are proposed to be managed. Not all of this land is habitat for non-alkaline or "other" special-status plants (see Table 5.3-6 for a description of suitable habitat by species). However, for purposes of this analysis, it is assumed that non-alkali special-status plants could occur within all of the 2,559 acres of non-alkali habitat areas on the Davis Unit. Approximately 2,512 acres, or 98%, of the 2,559 acres of the non-alkali habitat areas that are not

currently managed are proposed to be managed for biological resources, including SKR, and riparian, upland, and wetlands communities. Approximately 47 acres, or 2%, of the 2,559 acres of non-alkali habitat areas not currently managed are proposed to be managed for public use. The potential effects of these proposed management activities on special-status plants are described in Sections 5.3.6.2.1.1 and 5.3.6.2.1.2.

5.3.6.2.1.1 Proposed Biological Resources Management

In total, five special-status plant species, including Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, smooth tarplant, and spreading navarretia, all of which are categorized as alkali plants, occur on the Davis Unit in 56 locations within areas that are not currently being managed but where biological resources management is proposed. Additionally, 3,178 acres (96%) of the 3,305 acres of land not currently managed on the Davis Unit would be managed for biological resources, 631 acres of which is alkali habitat. Table 5.3-14 summarizes the known occurrences of special-status plant species that occur within proposed biological resources management areas that are not currently managed in the Davis Unit. A discussion of the proposed biological resource management in relation to special-status plants and their potentially suitable habitat is provided below by management element.

Proposed SKR Management (Biological Element 1)

No special-status plant occurrences have been documented in the Davis Unit in areas that are not currently managed, but are proposed to be managed for SKR. Approximately 15 acres of non-alkali habitat areas, where special-status plants have the potential to occur, that are not currently managed on the Davis Unit, would be managed for SKR.

The goal for management of SKR is to provide conservation of SKR pursuant to approved HCPs and mitigation requirements and to ensure protection of SKR. To reach this goal, three tasks were identified in the draft LMP. Task BE 1.3, which includes actively participating in the region's ongoing development of effective SKR management techniques by regionally coordinating management and monitoring activities, would not result in substantial impacts to special-status plants.

The management activities associated with SKR management elements that could result in impacts to special-status plant species, if appropriate mitigation measures are not implemented, include (1) complying with requirements of the SKR HCP, applicable State and Federal laws, and conservation provisions of parcels acquired specifically as SKR mitigation (Task BE 1.1); and (2) implementing adequate avoidance, minimization, and, if necessary, mitigation to offset potential future impacts to SKR within the SJWA LMP (Task BE 1.2). These management activities could potentially impact special-status plant species.

Task BE 1.1: The primary activity associated with Task BE 1.1 (i.e., comply with existing SKR requirements) that could affect special-status plants is maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, herbicide and burning to reduce vegetative cover). These vegetation management activities could result in impacts such as: (1) inadvertent damage to suitable habitat for special-status plants, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch build-up.

Task BE 1.2: Task BE 1.2 (habitat restoration for SKR), such as the removal of non-native plant cover through mowing, herbicide or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs could impact special-status plants. For example, without application of appropriate mitigation measures, misapplication or overspray of herbicide to control exotics or application of a seed mix not appropriate for the region could impact special-status plants and their habitat.

Proposed Alkali Communities Management (Biological Element 2)

The following special-status plant species, which are categorized as alkali plants, have been previously documented within the proposed alkali management areas: Coulter's goldfields, San Jacinto Valley crownscale, Davidson's saltscale, smooth tarplant, and spreading navarretia. These special-status species occur in 21 locations in the proposed alkali management area. Additionally, 631 acres of alkali resources, or 84% of the alkali resources mapped in the Davis Unit, are within proposed alkali management areas.

The goal for management of alkali communities was developed to ensure the long-term protection and viability of the community. To reach this goal, three tasks were identified in the draft LMP for proposed alkali communities management in the Davis Unit. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit. All of these tasks would directly benefit these species because they are alkali plants and the management goals are specifically designed to protect these species. However, these tasks could result in inadvertent impacts to special-status plants.

Task BE 2.1: The primary activities associated with Task BE 2.1 (inventory of alkali species and habitat) that could affect special-status plants include repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce habitat quality for various sensitive alkaline and non-alkaline plants.

Tasks BE 2.3 and BE 2.4: The primary activities associated with Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation) that could affect

special-status plants include activities associated with alkali restoration such as: (1) non-native invasive species eradication and control; (2) hydrology modification such as the application of artificial irrigation (reclaimed water)to mimic natural conditions that support alkali species; (3) grading to achieve optimum hydrology and soil profile; and (4) planting of appropriate vegetation. Measures to control non-native invasive species that could impacts special-status plants: (1) use of chemicals that may inadvertently affect special-status plants or soil chemistry (e.g., herbicides, pesticides); (2) mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking which could have collateral impacts to special-status plants, if not implemented properly; (3) grazing, which could result in inadvertent trampling of special-status plant species and their habitat and soil erosion that could degrade habitat quality; and (4) prescribed burning, which could escape authorized burn areas or cause off-site erosion. Hydrological modifications could modify suitable habitat for special-status plants. Also, planting of species not appropriate for the region could affect sensitive biological resources. Grading for restoration, could have various direct impacts on special-status plants, including removal of habitat and the individuals. Grading for restoration could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) increased human activity that could result in trampling of individuals or suitable habitat; (3) release of chemical pollutants and pesticides, including herbicides, that can harm individuals or reduce pollinators; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

Proposed Wetland Communities Management (Biological Element 3)

Two special-status species have been documented within proposed wetland management areas—Coulter's goldfields (two locations) and San Jacinto Valley crownscale (one location)—both of which are considered alkali plants. Approximately 782 acres of non-alkali habitat area, where non-alkali special-status plants have the potential to occur, that are not currently managed on the Davis Unit would be managed as wetland communities. However, it is important to note that approximately 606 acres, or 78%, of this non-alkali habitat area is mapped as water, a resource that would directly benefit from wetlands community management.

The goal for management of wetland communities is to enhance and develop new wetland resources for a variety of game and nongame species. Wetlands management activities that would not result in substantial impacts to special-status plants in the Davis Unit include the following: identifying properties within the CDFW's Conceptual Area Acquisition Plan that promote conservation of wetlands resources (Task BE 3.8); and implementing avoidance and minimization measures to protect sensitive species and habitats from adverse future wetland activities (Task BE 3.11). Task BE 3.10 is not proposed on the Davis Unit and that task itself would not result in inadvertent impacts to special-status plants if it were to occur.

The management activities associated with wetland communities management elements that could result in impacts to special-status plant species, if appropriate mitigation measures are not implemented, include (1) managing non-native invasive plant and animal species (Task BE 3.2); (2) expanding open water, marsh, and green feed field habitats (Task BE 3.3); (3) implementing a program to provide adequate habitat for southwestern pond turtle (Task BE 3.4); (4) participating in regional efforts for tricolored blackbird conservation (Task BE 3.5); (5) identifying and protecting breeding habitat for spadefoot toad (Task BE 3.7); and (6) maintaining the ability to use an adequate supply of reclaimed water at a reasonable cost to support wetlands (Task BE 3.9).

Tasks BE 3.2, BE 3.4, and BE 3.7: Task BE 3.2, eradication of invasive non-native plant species, may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. The most likely methods to be used within the SJWA include manual removal; foliar spray; cut stem/stump spray; cut, resprout, and spray; and mechanical removal (see draft LMP Section 5.5, BME 4, and Section 5.4, FME 3). These methods could affect non-target native plants if not properly implemented. Eradication of non-native animal species may include habitat-based methods (e.g., pond-draining followed by removal of target species), which could result in hydromodification and affect habitat for special-status plants. Similarly, for Task BE 3.4 (provide adequate habitat for western pond turtle) and Task BE 3.7 (ensure protection of western spadefoot) some of the eradication methods for urban predators and exotic species could have inadvertent impacts on special-status plants, if not properly implemented. Management of invasive plants, described in Task BE 3.7, could have the following effects on special-status plants: (1) the use of chemicals may inadvertently affect special-status plants or soil chemistry; (2) mechanical removal of weeds through pulling or weed-whacking could have collateral impacts if not implemented properly; (3) grazing could result in inadvertent trampling and soil erosion in areas with special-status plants or their suitable habitat; (4) prescribed burning could escape authorized burn areas or cause off-site erosion; (5) signage, fencing, and other physical barriers could affect special-status plants if not sited, installed, and maintained properly; and (6) measures to control altered hydrology could also have inadvertent effects on special-status plants or suitable habitat listed in Table 5.3-13.

Tasks BE 3.3 and BE 3.5: The habitat conversion associated with Task BE 3.3 (expanding open water, marsh, and green feed field habitats) could affect special-status plants including: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7) with a management designation for alkali resources; and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields, including minor grading to improve drainage/flooding and winter flooding. Although no special-status plants are known from proposed green feed fields, there is a potential for both direct and indirect impacts to habitat as described for Task BE 2.3 (developing an alkali restoration program), including removal of habitat for some species, direct impacts to individuals, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust). Similarly, Task BE 3.5 (tricolored blackbird

conservation measures), which could include vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird, could remove habitat for or directly impact for special-status plants.

Task BE 3.9: If CDFW were to develop storage ponds, ground-disturbance in areas where adequate inventory of the special-status plants had not occurred previously could result in impacts to special-status plant species.

Proposed Riparian Communities Management (Biological Element 4)

No special-status plants have been documented in areas that are not managed, but are proposed to be managed for riparian communities. Approximately 84 acres of non-alkaline land where other special-status plants have the potential to occur that are not currently managed on the Davis Unit, would be managed for riparian communities on the Davis Unit.

The goal for management of riparian communities was developed to manage riparian resources for a variety of game and nongame species and to ensure the long-term protection of riparian resources. The identified tasks for riparian communities management could result in direct and indirect impacts to special-status plant species if appropriate measures are not implemented, including: (1) developing plans for a joint wetlands/riparian restoration in D4 and D7 (Task BE 4.2); (2) evaluating the suitability of establishing a riparian restoration/mitigation program in D7 and D13 that expands riparian habitat and results in more stable habitat conditions (Task BE 4.3); (3) controlling invasive exotic plant and animal species within riparian corridors to benefit native plant and wildlife species (Task BE 4.4); and (4) implementing adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to riparian habitat within the SJWA LMP) (Task BE 4.5). These management activities could impact special-status plant species, should they be present, and without appropriate measures if, for example, herbicide was misapplied or oversprayed or ground-disturbing activities were required to maintain, mitigate, or expand riparian resources.

Task BE 4.1: Task BE 4.1 could result in hydromodification impacts due to irrigation which could change suitable habitat for special-status plants from a drier condition to a mesic condition.

Tasks BE 4.2 and BE 4.3: The primary activities associated with Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) that could affect special-status plants include activities associated with restoration. As described for Task BE 2.3 (developing an alkali restoration program), grading for restoration could have various direct impacts on special-status plants, including removal of special-status plants or their suitable habitat. Grading for restoration could also result in various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) increased human activity by construction workers that could result in trampling of special-status plants or habitat for the species; (3) release

of chemical pollutants that could impact species or reduce their pollinators; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

Task BE 4.4: The potential impacts to special-status plants for Task BE 4.4 (control exotic species) would be the same as that described under Task BE 3.2 (managing invasive plant and animal species). Eradication of invasive species could affect non-target native plants if not properly implemented.

Task BE 4:5: Although there are no planned activities that would directly impact riparian habitat, if such activities were to occur in the future such as conversion of an existing riparian area to a waterfowl pond or field, such activities would be designed and planned in a manner that avoids impacts to riparian habitat. If full avoidance cannot be achieved, impacts would be mitigated through restoration. Restoration activities associated with Task BE 4.5 (habitat restoration for riparian habitat) that could affect special-status plants would be the same as Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat).

Proposed Uplands Communities Management (Biological Element 5)

Five special-status species, all of which are considered alkali species, have been documented within proposed uplands management areas: San Jacinto Valley crownscale, Davidson's saltscale, smooth tarplant, Coulter's goldfields, and spreading navarretia; there are 29 locations of these special-status species in this management area. Approximately 1,628 acres of non-alkaline areas where other special-status plants have the potential to occur that are not currently managed on the Davis Unit, would be managed as upland communities on the Davis Unit.

The goal for management of upland communities was developed to ensure the protection of upland resources during development of future SJWA facilities and other potentially non-compatible uses. To reach this goal, five tasks were identified in the draft LMP for proposed uplands communities management in the Davis Unit. Task BE 5.1 (conducting refinements of vegetation classification) would not result in substantial direct and indirect impacts to special-status plants. Due to the qualitative nature of the field work required to refine the vegetation classification, impacts from repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas) are not likely to be significant. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status plants if it were to occur.

The management activities associated with uplands communities management elements that could result in impacts to these special-status plant species if appropriate mitigation measures are not implemented include (1) wildfire management activities, such as grazing and mowing (Task BE

5.2); (2) erosion and type-conversion management actions, such as establishment of erosion control, exotic species control, establishment of weed control buffer, reseeding with appropriate native species, and installation of selected native species with container plants (Task BE 5.3); (3) controlling invasive exotic plant and animal species (Task BE 5.4); and (4) implementing mitigation, if necessary, to offset potential future impacts to upland habitats, which could result in ground disturbance depending on the proposed mitigation (Task BE 5.7).

Task BE 5.2: Task BE 5.2 (wildfire management measures), which could include grazing, mowing, and other methods to maintain fire breaks and fire buffers, would have the same potential impacts to special-status plants as Task BE 1.1 (comply with existing SKR requirements) (e.g., removal of habitat for special-status plants).

Task BE 5.3: Task 5.3 (vegetation management) includes erosion controls that may include establishment of native vegetation communities through application of native seed mixes and weed management during the maintenance period. Using a seed mix not appropriate for the region could impact the habitat for special-status plants. Weeding activities, as described for Task BE 2.2 (control adverse edge effects for alkali communities), may include use of chemicals that could inadvertently affect special-status plants or soil chemistry (e.g., herbicides) and mechanical removal of weeds through pulling or weed-whacking which could have collateral impacts to special-status plants, if not implemented properly.

Task BE 5.4: Task BE 5.4 (control adverse edge effects for uplands) could affect special-status plants, inadvertently, though management measures to control non-native invasive plants and animals along habitat edges. Potential impacts to special-status plants resulting from management of invasive plants would be similar to those described for Task BE 3.2 (managing invasive plant and animal species). Management for Argentine ants (*Linepithema humile*) may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants) and chemical treatments (insecticides) of nest mounds if necessary. Management of moisture regimes could adversely hydrology where special-status plants occur or have the potential to occur. Inappropriate application of insecticides to control Argentine ants could have adverse impacts on native species (e.g., native ants, beetles, and other flying insects) that are important for ecosystem processes such as pollination or seed dispersal. Control of wild pigs (e.g., shooting, use of tracking dogs) could have adverse indirect effects on special-status plants from human and dog activity (e.g., trampling of plants and habitat).

Task BE 5.7: Task BE 5.7 (uplands restoration) may include habitat restoration. The potential impacts from habitat restoration are described in Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat).

5.3.6.2.1.2 Proposed Public Use Management

Of the 3,305 acres of land on the Davis Unit that would be managed, but is not currently managed, 128 acres, or 4%, would be managed for public use; in this 128 acres, there are 2 occurrences of special-status plants, including Coulter's goldfields and San Jacinto Valley crownscale. Approximately 48 acres, or 6%, of the 747 acres of alkali resources not currently managed are proposed to be managed as agriculture, and approximately 33 acres or 4% of the 747 acres of alkali resources are proposed to be managed for waterfowl hunting. Approximately 46 acres, or 2%, of the 2,559 acres of non-alkali habitat areas not currently managed are proposed to be managed for agriculture. There is no upland small game hunting (Public Use Element 4) proposed on lands that are not currently managed on the Davis Unit. Additionally cultural resource management (Public Use Element 7) would not result in impacts to special-status plants. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.3 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status plants.

A discussion of the proposed public use management in relation to special-status plants and their potentially suitable habitat is provided below by management element.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and facilitate passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources. The management activity associated Public Use Element 1 that could result in impacts to special-status plant species on the Davis Unit is construction of new facilities to access the SJWA (Task PUE 1.2). Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result impacts to special-status plants nor are they proposed on the Davis Unit.

Task PUE 1.2: Task PUE 1.2 (construction of new facilities) could affect special-status plants during construction, maintenance, and public use of new trails and associated facilities, such as parking and staging areas. Potential impacts to special-status plants that could occur during construction of new facilities, as described for grading activities in Task BE 2.3 (developing an alkali restoration program). While new facilities would be designed to avoid impacts to special-status plants, unavoidable impacts would be mitigated through restoration, which could have inadvertent impacts to species as described for Task BE 2.3.

Proposed Waterfowl Hunting (Public Use Element 2)

No special-status plant species have been documented within proposed waterfowl hunting management areas. Approximately 33 acres of land where special-status plants have the potential to occur that are not currently managed on the Davis Unit, would be managed for waterfowl hunting on the Davis Unit; all 33 acres is considered habitat for alkali plants.

All of the proposed tasks associated with waterfowl hunting could potentially impact special-status plants: (1) safely operating and managing a waterfowl hunting program (Task PUE 2.1); (2) improving hunting infrastructure (Task PUE 2.2); and (3) developing non-motorized boat access to Mystic Lake (Task PUE 2.3).

Task PUE 2.1: The primary activity associated with Task PUE 2.1 (operating and managing a waterfowl hunting program) that could affect special-status plants is a general increase in human and hunting dog activities that could result in trampling of habitat.

Task PUE 2.2: Task PUE 2.2 (improving hunting infrastructure) includes maintenance and public use of existing hunting facilities, including blinds, parking areas, and trash cans. Construction of new blinds could result in direct and indirect impacts to special-status plants similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Task PUE 2.3: Task PUE 2.3 (developing non-motorized boat access to Mystic Lake) includes construction of a new road, parking area, and dock structure for access to Mystic Lake. Construction of these new facilities could result in direct and indirect impacts to special-status plants similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Proposed Agriculture Management (Public Use Element 3)

Two special-status plants have been documented in areas that are not managed, but are proposed to be managed as an agricultural resource, including one location of Coulter's goldfields and one location of San Jacinto Valley crownscale. Approximately 94 acres of land where special-status plants have the potential to occur that are not currently managed on the Davis Unit, would be managed for agriculture on the Davis Unit; approximately 48 acres of this area is considered habitat for alkali plants, and 46 acres of this area is considered habitat for other special-status plants.

The goal for management of agriculture was developed to maintain and expand agricultural leases and CDFW food plots to provide multiple benefits to multiple wildlife species while protecting other biological, cultural, and recreational resources. To reach this goal, five tasks were identified for proposed areas in the draft LMP. All of the tasks identified in the LMP could result in impacts

to special-status plant species, should they be present if appropriate mitigation measures are not implemented, and include (1) developing and maintaining agricultural leases (Task PUE 3.1), (2) reconfiguring existing CDFW food plots (Task PUE 3.2), (3) expansion of leases (Task PUE 3.3), (4) expansion of CDFW food plots (Task PUE 3.4), and (5) development of grazing permit (Task PUE 3.5).

Task PUE 3.1: Task PUE 3.1 (developing and maintaining agricultural leases) includes activities associated with habitat conversion, including conversion of dry wheat fields to triticale and alfalfa crops, which could impact special-status plants and their suitable habitat.

Task PUE 3.2: Task PUE 3.2 (reconfiguring existing CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect alkali resources and, thus, special-status alkali plants.

Task PUE 3.3: Task PUE 3.3 (expansion of agriculture leases) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots.

Task PUE 3.4: Task PUE 3.4 (expansion of CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect alkali resources and, thus, special-status alkali plants.

Task PUE 3.5: Task PUE 3.5 (development of grazing permits) includes grazing activities to maintain SKR habitat. Grazing could result in inadvertent trampling of special-status plant species and their habitat and soil erosion that could degrade habitat quality.

Hunting Dog Training and Field Trials (Public Use Element 5)

No special-status plants have been documented in areas that are not managed, but are proposed to be managed as hunting dog training and field trials resource. Less than 1 acre of land where special-status plants have the potential to occur that are not currently managed on the Davis Unit, would be managed for hunting dog training and field trials on the Davis Unit; approximately 0.5 acre of this area is considered habitat for alkali plants and 0.2 acre of this area is considered habitat for other special-status plants.

The goal for management of hunting dog training and field trials was developed to safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA. To reach this goal, two tasks were identified in the draft LMP. All of the tasks identified in the LMP could result in impacts to special-status plants.

Task PUE 5.1: The primary activities associated with Task PUE 5.1 are improvement and expansion of existing and new dog training facilities and conversion of existing vegetation to create green feed fields and ponds with points, dikes, and islands for dog water exit and re-entry. Grading and other construction activities to create these facilities may have direct and indirect impacts to special-status plants as restoration activities described for Task BE 2.3 (developing an alkali restoration program). At least one of the proposed sites (in D7) has alkali habitat for special-status plants. In addition, increased human activity (effects described in Tasks BE 4.2 and BE 4.3) and parking and staging areas (effects described in Task BE 1.2) may adversely affect special-status plants.

Task PUE 5.2: The primary activities (managing hunting dog training programs) associated with Task PUE 5.1 (expansion of dog training facilities) that could affect special-status plants include dog training activities in D13 that contain alkali habitat for special-status plants.

Fire Management (Public Use Element 6)

Fire management could affect special-status plants in the absence of other avoidance, minimization, or mitigation measures. Pre-fire management activities that could affect special-status plants include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on special-status plants as described for Task BE 1.1 (comply with existing SKR requirements). Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers/road graders) and fire crews could also impact special-status plants. These activities could cause soil and vegetation damage, degrading habitat for special-status plants, and could directly impact individuals. Fire retardants may also damage habitat for special-status plants. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian habitat for special-status wildlife. Disturbed areas are also more vulnerable to invasion by non-native plant species, degrading suitable habitat for special-status plants. Restoration and enhancement following fire may include native plant seeding, which could adversely affect habitat for special-status plants if seeded species are not appropriate for the region.

5.3.6.2.2 Davis Unit Special-Status Plants: Proposed Management for Areas Currently Managed for Different Resources

There are eight special-status plant species that have been previously identified in the Davis Unit that are currently being managed for a different resource than the proposed management activity. Table 5.3-16 includes the existing and proposed management, status, and the number of occurrences for each known location of special-status plants. Additionally, as described in Section

5.3.2.4.2, the special-status species listed in Table 5.3-15 (see Section 5.3.6.2.1) have a moderate to high potential to occur in the Davis Unit. With respect to special-status plant species in the Davis Unit, the proposed management activities changes from existing to proposed are primarily more beneficial for the resources because the management proposed would be biological resource management where it is currently public use management. Figure 5.3-9 shows the changes in management type on the Davis Unit.

There are 1,146 acres of alkali resources in the Davis Unit that are currently being managed for a different resource than the proposed management activity. More specifically, 1,106 acres, or 97%, were managed for public use and are proposed to be managed as alkali communities, which would directly benefit alkali plants. The remainder of these alkali resources would be managed for agriculture (6 acres or 0.5%), hunting dog training and trials (6 acres or 0.5%), waterfowl hunting (23 acres or 2%), riparian communities and waterfowl hunting (3 acres or 0.2%), SKR (1 acre or <0.5%), and upland communities (1 acre or <0.5%). The potential effects of these proposed management activities on special-status plants is described in Sections 5.3.6.2.2.1, 5.3.6.2.2.2, and 5.3.6.2.2.3.

There are 3,917 acres of land outside of the alkali resource areas in the Davis Unit that are currently being managed for a different resource than the proposed management activity. Not all of this land is habitat for non-alkaline special-status plants. However, for purposes of this analysis, it assumed that these species could occur within all of the 3,917 acres of non-alkaline areas on the Davis Unit. Approximately 89% of the 3,917 acres, or 3,480 acres, of the non-alkaline areas are proposed to be managed for biological resources, 11% of the 3,917 acres, or 432 acres, will be managed for public use, and 0.1% of the 3,917 acres, or 4 acres, will be managed for public use and biological resources. Table 5.3-17 provides the acreages of alkaline and non-alkaline potentially suitable habitat for special-status plants, the proposed management activity and the existing management activity for the Davis Unit. The potential effects of these proposed management activities on special-status plants are described in Sections 5.3.6.2.2.1, 5.3.6.2.2.2, and 5.3.6.2.2.3.

Table 5.3-16

Known Occurrences of Special-Status Plants in

Proposed Management for Areas Currently Managed for Different Resources in Davis Unit

Existing Management		Proposed Management		Common Name	Status (Federal, State/CRPR/MSHCP)	No. of Occurrences
Public Use Management	Agriculture & Upland Game Hunting	Biological Resource	Alkali Communities	Coulter's goldfields	None/1B.1/Covered	2
				San Jacinto Valley crownscale	FE/1B.1/Covered	1
				smooth tarplant	None/1B.1/Covered	1
				spreading navarretia	FT/1B.1/Covered	1
				Wright's trichocoronis	None/2B.1/Covered	2
		Biological Resource Management Subtotal				7
		Public Use Management	Waterfowl Hunting	Coulter's goldfields	None/1B.1/Covered	3
				San Jacinto Valley crownscale	FE/1B.1/Covered	1
		Public Use Management Subtotal				4
	Upland Game Hunting	Biological Resource Management	Alkali Communities	Coulter's goldfields	None/1B.1/Covered	7
				Davidson's saltscale	None/1B.2/Covered	8
				mud nama	None/2B.2/Covered	1
				San Jacinto Valley crownscale	FE/1B.1/Covered	18
				smooth tarplant	None/1B.1/Covered	10
				spreading navarretia	FT/1B.1/Covered	1
				thread-leaved brodiaea	FE, CE/1B.1/Covered	14
			Upland Communities	Coulter's goldfields	None/1B.1/Covered	8
				mud nama	None/2B.2/Covered	2
				San Jacinto Valley crownscale	FE/1B.1/Covered	2
				smooth tarplant	None/1B.1/Covered	4

Table 5.3-16

Known Occurrences of Special-Status Plants in

Proposed Management for Areas Currently Managed for Different Resources in Davis Unit

Existing Management		Proposed Management		Common Name	Status (Federal, State/CRPR/MSHCP)	No. of Occurrences
	Upland Game Hunting & Hunting Dog Training and Trials		Alkali Communities	San Jacinto Valley crownscale	FE/1B.1/Covered	2
				spreading navarretia	FT/1B.1/Covered	1
				thread-leaved brodiaea	FE/CE/1B.1/Covered	1
			Upland Communities	Coulter's goldfields	None/1B.1/Covered	10
		Biological Resource Management Subtotal				*89*
					Total Occurrences	**100**

Status

None: No state or federal designation.

Federal:

FE: Federally listed as endangered.

FT: Federally listed as threatened.

State:

CE: State listed as endangered.

CRPR: California Rare Plant Rank

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Threat Rank

1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

2 – Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

MSHCP

Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

Table 5.3-17

Alkali Resources and Other Resources for Special-Status Plants in Proposed Management Areas in the Davis Unit that are Currently Managed for Different Resources (Acres)

Proposed Management Type	Proposed Management Activity	Existing Management Type	Existing Management Activity	Acres
Alkali Resources				
Biological Resources	Alkali Communities	Public Use	Agricultural and Upland Game Hunting	206
			Upland Game Hunting	875
			Upland Game Hunting & Hunting Dog Training and Trials	24
			Alkali Communities Subtotal	*1,106*
	SKR	Public Use	Upland Game Hunting	1
			SKR Subtotal	*1*
	Upland Communities	Public Use	Upland Game Hunting	1
			Upland Communities Subtotal	*1*
			Biological Resources Total	**1,108**
Public Use	Agriculture	Public Use	Upland Game Hunting	5
		Public Use and Biological Resources	Wetlands Communities and Waterfowl Hunting	1
			Agriculture Subtotal	*6*
	Hunting Dog Training and Trials	Public Use	Upland Game Hunting	6
			Hunting Dog Training and Trials Subtotal	6
	Waterfowl Hunting	Public Use	Agricultural	2
			Agricultural and Upland Game Hunting	21
			Waterfowl Hunting Subtotal	*23*
			Public Use Total	**35**
Public Use and Biological Resources	Riparian Communities and Waterfowl Hunting	Public Use	Agricultural and Upland Game Hunting	3
			Riparian Communities and Waterfowl Hunting Subtotal	*3*
			Public Use and Biological Resources Total	**3**

Table 5.3-17

Alkali Resources and Other Resources for Special-Status Plants in Proposed Management Areas in the Davis Unit that are Currently Managed for Different Resources (Acres)

Proposed Management Type	Proposed Management Activity	Existing Management Type	Existing Management Activity	Acres
			TOTAL ALKALINE RESOURCES	**1,146**
Non-alkaline Resources				
Biological Resources	Riparian Communities	Public Use	Agricultural	0
			Agricultural and Upland Game Hunting	4
			Upland Game Hunting	18
		Public Use and Biological Resources	Wetlands Communities and Waterfowl Hunting	6
	Riparian Communities Total			*28*
	SKR	Biological Resources	Riparian Communities	15
		Public Use	Agricultural and Upland Game Hunting	427
			Upland Game Hunting	190
			SKR Total	*632*
	Upland Communities	Public Use	Agricultural and Upland Game Hunting	63
			Upland Game Hunting	2,510
			Upland Game Hunting & Hunting Dog Training and Trials	242
			Upland Communities Total	*2,816*
	Wetland Communities	Public Use	Agricultural	2
			Upland Game Hunting	2
			Wetland Communities Total	*4*
			Biological Resources Total	**3,480**
Public Use	Agriculture	Public Use	Upland Game Hunting	163
		Public Use and Biological Resources	Wetlands Communities and Waterfowl Hunting	6
			Agriculture Total	*169*
	Hunting Dog Training and Field Trials	Public Use	Upland Game Hunting	213
			Hunting Dog Training and Field Trials Total	*213*
	Waterfowl Hunting	Public Use	Agricultural	6

Table 5.3-17

Alkali Resources and Other Resources for Special-Status Plants in Proposed Management Areas in the Davis Unit that are Currently Managed for Different Resources (Acres)

Proposed Management Type	Proposed Management Activity	Existing Management Type	Existing Management Activity	Acres
			Agricultural and Upland Game Hunting	43
			Waterfowl Hunting Total	*50*
			Public Use Total	**432**
Public Use and Biological Resources	Riparian Communities and Waterfowl Hunting	Public Use	Agricultural and Upland Game Hunting	4
			Riparian Communities and Waterfowl Hunting Total	*4*
			Public Use and Biological Resources Total	**4**
			TOTAL NON-ALKALINE RESOURCES	**3,917**
			GRAND TOTAL	***5,062***

5.3.6.2.2.1 Proposed Biological Resources Management

In total, 8 special-status plant species, including Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, smooth tarplant, spreading navarretia, thread-leaved brodiaea, mud nama, and Wright's trichocoronis, all of which are categorized as alkali plants, occur on the Davis Unit in 100 locations, all of which are within areas that are currently being managed for public use that are proposed for biological resource management. There are 1,146 acres of alkali resources in the Davis Unit that are currently being managed for a different resource than the proposed management activity. More specifically, 1,108 acres, or 97%, are currently managed for public use and are proposed to be managed for biological resources, specifically alkali communities, which would directly benefit alkali plants. There are 3,917 acres of land outside of the alkali resource areas in the Davis Unit that are currently being managed for a different resource than the proposed management activity, and approximately 89% of the 3,917 acres, or 3,480 acres, of the non-alkaline areas are proposed to be managed for biological resources.

Proposed SKR Management (Biological Element 1)

No special-status plant occurrences have been documented in the Davis Unit in areas where the management activity is proposed to change to SKR management. Approximately 617 acres (16% of 3,917 acres) of non-alkaline habitat, where other special-status plants have the potential to occur, and 1 acre (less than 1% of 1,146 acres) of alkali habitat, where special-status alkali species have the potential to occur, that are currently managed for public resources are proposed to be managed for SKR (Table 5.3-17). Approximately 15 acres (less than 1% of 3,917 acres) of non-alkaline areas that are currently managed for riparian communities would be managed for SKR.

Task BE 1.3 (participating in SKR regional management) would not result in substantial direct and indirect impacts to special-status plants. Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to special-status plants. Potential impacts to special-status plants from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.1.1 and Table 5.3-13.

Proposed Alkali Communities Management (Biological Element 2)

Eight special-status plant species in 70 locations, including Davidson's saltscale, thread-leaved brodiaea, smooth tarplant, Coulter's goldfields, spreading navarretia, mud nama, Wright's trichocoronis, and San Jacinto Valley crownscale, have been previously identified in areas designated for public use management, including agriculture, uplands game hunting, and hunting dog training and field trials, that are proposed to be designated as biological resource management areas for alkali communities which will directly benefit these special-status alkali plant species. Of the 1,146 acres of alkali resources in the Davis Unit where the proposed management activity is changing, 1,106 acres, or 97%, would be managed as an alkali community (Table 5.3-17).

Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status plants. Potential impacts to special-status plants from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.1.1. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit. Task BE 2.3 (developing an alkali restoration program) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.1.1 and not in this section.

Proposed Wetland Communities Management (Biological Element 3)

No special-status plant occurrences have been documented in areas where the management activity is proposed to change. Approximately 4 acres of non-alkaline land (less than 1% of 3,917 acres) where other special-status plants have the potential to occur that are managed for public use would be managed as wetland communities (Table 5.3-17).

Tasks BE 3.8 (identifying properties that promote conservation of wetland resources) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to special-status plants, should they be present. Tasks BE 3.2 (managing invasive plant and animal species) and BE 3.9 (maintaining the ability to use reclaimed water) could result in impacts to special-status plants and their suitable habitat should they be present, if appropriate mitigation measures are not implemented. Potential impacts from implementation of these tasks are described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.1.1. Tasks BE 3.1 (maintain and enhance open water and marsh habitat) and BE 3.6 (vernal pool enhancement) are not proposed on the Davis Unit. Task BE 3.10 (ensuring compatibility of management practices) is not proposed on the Davis Unit and that task itself would not result in inadvertent impacts to special-status plants if it were to occur. Tasks BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), and BE 3.5 (tricolored blackbird conservation measures) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.1.1 and not in this section.

Proposed Riparian Communities Management (Biological Element 4)

No special-status plant occurrences have been documented in areas where the management activity is proposed to change. Approximately 28 acres of non-alkaline land (1% of 3,917 acres) where other special-status plants have the potential to occur that are managed for public use, or public use together with biological resources, would be managed as riparian communities (Table 5.3-17).

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status plant species, should they be present, if appropriate mitigation

measures are not implemented. Potential impacts to special-status plants from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.1.1 and not in this section.

Proposed Uplands Management (Biological Element 5)

Four special-status plant species, all of which are considered alkali species, have been documented in areas that are designated as uplands game hunting or dog training that are proposed to be managed as uplands communities: smooth tarplant, Coulter's goldfields, mud nama, and San Jacinto Valley crownscale. There are 26 locations of these special-status species in this management area. Approximately 2,816 acres (72% of 3,917 acres) of non-alkaline land where other special-status plants have the potential to occur that are managed for public use would be managed as upland communities (Table 5.3-17). Approximately 1 acre (less than 1% of 1,146 acres) of alkaline resources where other special-status plants have the potential to occur that are currently managed for upland game hunting would be managed as upland communities.

Task BE 5.1 (conducting refinements of vegetation classification) would not result inadvertent impacts to special-status plants. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), and BE 5.7 (uplands restoration) could result in inadvertent impacts to special-status plants. Potential impacts to special-status plants from implementation of these tasks are described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.2.1.1. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status plants if it were to occur.

5.3.6.2.2.2 Proposed Public Use Management

Of the 5,062 acres of land on the Davis Unit that are currently being managed for a different resource than the proposed management activity, 468 acres, or 9%, would be managed for public use; on this 468 acres of land, there are 4 occurrences of special-status plants, including Coulter's goldfields and San Jacinto Valley crownscale. Additionally, of these 468 acres of proposed public use management, 35 acres are alkali habitat for special-status plants and 432 acres are non-alkaline habitat for special-status plants.

Approximately 6 acres, or 16%, of the 35 acres of alkali resources proposed for public use management are, more specifically, proposed to be managed as agriculture; approximately 23 acres, or 66%, are proposed to be managed for waterfowl hunting; approximately 6 acres, or 18%, are proposed to be managed for hunting dog training and trials. Approximately 169 acres, or 39%, of the 432 acres of non-alkali habitat areas proposed for public use management are, more

specifically, proposed to be managed for agriculture; approximately 213 acres, or 49% of the 432 acres, are proposed to be managed for hunting dog training and field trials and 50 acres, or 12%, are proposed to be managed for waterfowl hunting. Cultural resource management (Public Use Element 7) would not result in impacts to special-status plants. The water storage component (Public Use Element 8) is described in Section 5.3.6.2.3 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status plants.

A discussion of the proposed public use management in relation to special-status plants and their potentially suitable habitat is provided below by management element.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and the locations have not been determined. As described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.1.2, Task PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status plants, should they be present, or their suitable habitat. Task PUE 1.1 (maintenance and public use of existing trails) is not proposed on the Davis Unit. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result impacts to special-status plants nor are they proposed on the Davis Unit.

Proposed Waterfowl Hunting (Public Use Element 2)

Two special-status plant species, both of which are considered alkali species, San Jacinto Valley crownscale and Coulter's goldfields, 23 acres of alkaline resources, and 50 acres of non-alkaline resources have been previously identified in areas that are designated as agricultural and upland game hunting that are proposed to be managed as waterfowl hunting.

As described under Proposed Waterfowl Hunting Management (Public Use Element 2), in Section 5.3.6.2.1.2, Tasks PUE 2.1 (operating and managing a waterfowl hunting program) and PUE 2.2 (improving hunting infrastructure) could result in inadvertent impacts to special-status plants. Task PUE 2.3 (developing non-motorized boat access) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.1.2 and not in this section.

Proposed Agriculture Management (Public Use Element 3)

No special-status plant occurrences have been documented in areas where the management activity is proposed to change to agricultural management. Approximately 169 acres (39% of the 432 acres) of non-alkaline land where other special-status plants have the potential to occur and 6 acres (16% of the 35 acres) of alkali resources where special-status alkali species have the potential to

occur that are managed for upland game hunting, waterfowl hunting, or wetlands communities would be managed as an agricultural resource (Table 5.3-17).

As described under Agriculture (Public Use Element 3), in Section 5.3.6.2.1.2, Tasks PUE 3.1 (developing and maintaining agricultural leases) and PUE 3.2 (reconfiguring existing CDFW food plots) could result in inadvertent impacts to special-status plants, should they be present, in the absence of mitigation. Tasks PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5 (development of grazing permits) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.1.2 and not in this section.

Proposed Upland Small Game Hunting (Public Use Element 4)

On the Davis Unit, upland small game hunting is proposed to continue in the areas that it currently is allowed and, thus, there is no change in management goals. However, while the location of upland small game hunting is not changing, there are changes in the tasks that could impact special-status plants including: (1) safely operating and managing the upland small game hunting program (Task PUE 4.1); (2) maintaining and developing agricultural and wildlife food crop production (Task PUE 4.3); (3) maintaining and installing guzzlers (Task PUE 4.4); and (4) evaluating the potential for three additional game programs (Task PUE 4.6). Supplementation of the ring-necked pheasant population on the Davis and Potrero Units; Task PUE 4.2 is proposed on the Potrero Unit only, and Task PUE 4.5 would not impact special-status plants.

Task PUE 4.1: The safe operation and management of upland small game hunting requires the maintenance of facilities that offer access to the SJWA, such as roads and parking lots, which could result in ground disturbance as described in Task PUE 1.2.

Task PUE 4.3: This task could result in habitat conversion, which could impact special-status plants, as described in Tasks PUE 3.1 through PUE 3.4.

Task PUE 4.4: This task could impact special-status plants by attracting incompatible groups of species and through other effects. For example, guzzlers may facilitate growth of invasive exotic species such as salt-cedar, if not properly maintained, that could degrade habitat for special-status plants. Six existing guzzlers would require replacement over time; in addition, five new locations are proposed for guzzler installation to enhance resource availability for upland species, both game and non-game. Installation of new guzzlers could also result in ground disturbance.

Task PUE 4.6: Increasing hunting activities overall could generally increase the pressure of human activity on special-status plants and their habitat.

Proposed Hunting Dog Training and Trials (Public Use Element 5)

No special-status plant occurrences have been documented in areas where the management activity is proposed to change to management for hunting dog training and trials. Approximately 6 acres (18% of 35 acres) of alkaline land and 213 acres (49% of 432 acres) of non-alkaline land where other special-status plants have the potential to occur that is managed as upland game hunting would be managed for hunting dog training and trials (Table 5.3-17).

As described under Hunting Dog Training and Trials (Public Use Element 5), in Section 5.3.6.2.1.2, Tasks PUE 5.1 (expansion of dog training facilities) and PUE 5.2 (managing hunting dog training programs) could result in inadvertent impacts to special-status plants, should they be present, in the absence of mitigation.

Fire Management (Public Use Element 6)

The precise location of fire management on the Davis Unit has not been determined. As described under Fire Management (Public Use Element 6) in Section 5.3.6.2.1.2, fire management could result in inadvertent impacts to special-status plants, should they be present, or their suitable habitat.

5.3.6.2.2.3 Proposed Public Use and Biological Resource Management

Of the 5,062 acres of land on the Davis Unit that are currently being managed for a different resource than the proposed management activity, 6 acres, or less than 1%, would be co-managed for public use and biological resources. More specifically, 6 acres are proposed to be managed for riparian communities and waterfowl hunting. The potential impacts to special-status plants from this change in management are described below.

Riparian Communities and Waterfowl Hunting (Biological Element 4 and Public Use Element 2)

No special-status plant occurrences have been documented in areas where the management activity is proposed to change to riparian communities and waterfowl hunting. Approximately 6 acres of land that is managed as agriculture and upland game hunting would be managed for riparian communities and waterfowl hunting (Table 5.3-17), 2.6 acres of which is alkaline resource areas and 3.6 acres of which is non-alkaline areas.

As described under Proposed Riparian Communities Management (Biological Element 4), in Section 5.3.6.2.2.1, and Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.2.2.2, these management elements could result in inadvertent impacts to special-status plants, should they be present, or their habitat.

5.3.6.2.3 Davis Unit Special-Status Plants: Public Use and Administrative Facilities

Between 1,500 square feet and 3,600 square feet of land could be impacted by constructing three new homes and approximately 3,600 square feet of land could be impacted from the shade structures due to reduction in light. Additionally, as described in Chapter 2 of this document either one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems are proposed to be constructed. These ground-disturbing activities would occur within D8 of the Davis Unit.

With respect to proposed recycled water storage, there are two proposed options:

An approximately 275-acre uncovered reservoir to support waterfowl within Subunit D2.

A 235-acre covered reservoir within Subunits D1 and D2.

New road, access, and trail infrastructure within the Davis Unit including approximately 5 miles of new trails around Mystic Lake (proposed feature), a new parking and access area from Gilman Springs Road, and new interpretive signage throughout the unit is proposed (Figure 2-15A). Improvement to the auto-tour loop road providing primary visitor access to the SJWA may include elevating and graveling the roadway to facilitate year-round public access. A new SJWA entrance sign is planned for the intersection of Marvin Road and Davis Road. Following construction, these new facilities would represent a 10% to 20% increase in maintenance requirements from current practices. These ground-disturbing activities would occur within D4 and D5. Only one special-status species, Coulter's goldfields, has been previously identified within proposed public use management areas. Impacts to special-status plant species due to constructing the proposed structures could occur.

5.3.6.2.4 Potrero Unit Special-Status Plants: Proposed Management for Areas Not Currently Managed

There are 3 special-status species (5 occurrences) that occur within proposed biological resources management areas, 4 special-status species (12 occurrences) that occur within proposed public use management areas in the Potrero Unit, and 1 species-status species (2 occurrences) within proposed biological and public use management that are not managed, but are proposed to be managed as described below by management type. Table 5.3-18 summarizes the special-status plant species that occur within proposed management areas in the Potrero Unit. Figure 5.3-8B shows the locations of the proposed management on the Potrero Unit.

Table 5.3-18
Known Occurrences of Special-Status Plants in
Newly Proposed Management Areas in the Potrero Unit

Proposed Management	Common Name	Status* (Federal/State/CRPR/MSHCP)	No. of Occurrences
Biological Resource Management			
Upland	smooth tarplant	None/1B.1/PS	3
	Parry's spineflower	None/1B.1/PS	1
	Jaeger's milkvetch	None/1B.1/PS	1
		Upland Subtotal	5
Biological Resource & Public Use Management			
SKR & Upland Small Game Hunting	smooth tarplant	None/1B.1/PS	2
		SKR & Upland Small Game Hunting Subtotal	*2*
Public Use Management			
Upland Small Game Hunting	smooth tarplant	None/1B.1/PS	3
	Parry's spineflower	None/1B.1/PS	1
	Yucaipa onion	None/1B.2/PS	7
	Jaeger's milkvetch	None/1B.1/PS	1
		Upland Small Game Hunting Subtotal	*12*
		Grand Total	**19**

Status:
CRPR: California Rare Plant Rank
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
Threat Rank
.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
MSHCP
Covered: Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

Additionally, as described in Section 5.3.2.4.2, the special-status species listed in Table 5.3-19 have a moderate to high potential to occur in the Potrero Unit. The list of special-status plants with a moderate to high potential to occur in the Potrero Unit is organized by alkali plants and by other plants consistent with the draft LMP in Table 5.3-19.

Table 5.3-19
Special-Status Plants in Newly Proposed Management Areas in
the Potrero Unit with a Moderate to High Potential to Occur

Common Name (Scientific Name; Federal/State/CRPR/MSHCP Covered)
Alkali Plants
mud nama (*Nama stenocarpa*; None/2B.2/Covered)
Other Plants
San Bernardino aster (*Symphyotrichum defoliatum*; None/1B.2/None)

Table 5.3-19
Special-Status Plants in Newly Proposed Management Areas in the Potrero Unit with a Moderate to High Potential to Occur

Common Name (Scientific Name; Federal/State/CRPR/MSHCP Covered)
round-leaved filaree (*California macrophylla*; None/1B.1/Covered)
~~heart-leaved pitcher sage (*Lepechinia cardiophylla*; None/1B.2/Covered)~~
Hall's monardella (*Monardella macrantha* ssp. *hallii*; None/1B.3/Covered)
southern mountains skullcap (*Scutellaria bolanderi* ssp. *austromontana*; None/1B.2/None)
Munz's onion (*Allium munzii*; FE /CT, 1B.1/Covered)
~~lemon lily (*Lilium parryi*; None/1B.2/Covered)~~
Mojave tarplant (*Deinandra mohavensis*; None/CE, 1B.3/Covered)
Parish's bush-mallow (*Malacothamnus parishii*; None/1A/None)
Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*; None/CR, 1B.2/None)
Salt Spring checkerbloom (*Sidalcea neomexicana*; None/2B.2/None)
chaparral sand-verbena (*Abronia villosa* var. *aurita*; None/1B.1/None)
California satintail (*Imperata brevifolia*; None/2B.1/None)
~~Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*; FE/CE, 1B.1/Covered)~~
long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*; None/1B.2/Covered)
slender-horned spineflower (*Dodecahema leptoceras*; FE/CE, 1B.1/Covered)
mesa horkelia (*Horkelia cuneata* ssp. *puberula*; None/1B.1/Covered)
White rabbit-tobacco (*Pseudognaphalium leucocephalum*; None/2B.2/None)

Status:
None: No state or federal designation.
Federal:
FE: Federally listed as endangered.
State:
CE: State listed as endangered
CT: State listed as threatened
CR: State Rare
CRPR: California Rare Plant Rank (previously known as the CNPS List)
1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
Threat Rank
.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
MSHCP
Covered: Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

There are 148 acres of alkali resources in the Potrero Unit that are not currently managed, but that are proposed to be managed. Approximately 140 acres or 95% of the 148 acres of alkali resources not currently managed are proposed to be managed as alkali communities, which would directly benefit alkali plants that have potential to occur in these areas. The other 8 acres of alkali resources in the Potrero Unit not currently managed are proposed to be managed as riparian communities (7

acres) and wetland communities (1 acre). The potential effects of these proposed management activities on special-status plants are described in Section 5.3.6.2.4.1.

There are 8,982 acres of land outside of the alkali resource areas in the Potrero Unit that are not currently managed, but that are proposed to be managed. Not all of this land is habitat for non-alkaline or "other" special-status plants (see Table 5.3-5 for a description of suitable habitat by species). However, for purposes of this analysis, it assumed that these species could occur within all of the 8,982 acres of non-alkaline areas on the Potrero Unit. Approximately 7,846 acres or 87% of the 8,982 acres of the non-alkaline land that are not currently managed are proposed to be managed for biological resources, including SKR, and riparian, upland, and wetlands communities. Approximately 1,136 acres or 13% of the 8,982 acres of non-alkali land not currently managed are proposed to be managed for upland game hunting. The potential effects of these proposed management activities on special-status plants is described in Sections 5.3.6.2.4.1 and 5.3.6.2.4.2.

5.3.6.2.4.1 Proposed Biological Resources Management

In total, 3 special-status plant species, including smooth tarplant, Parry's spineflower, and Jaeger's milkvetch, occur on the Potrero Unit in 5 locations within areas that are not currently being managed for biological resources but where biological resources management is proposed. Table 5.3-18 summarizes the special-status plant species that occur within proposed biological resources management areas in the Potrero Unit. Additionally, 7,994 acres (88%) of the 9,130 acres of land not currently managed on the Potrero Unit would be managed for biological resources, 148 acres of which is alkali habitat and 7,846 acres of non-alkaline areas. A discussion of the proposed biological resource management in relation to special-status plants and their potentially suitable habitat is provided below by management element.

Proposed SKR Management (Biological Element 1)

SKR is proposed to be co-managed with upland game hunting and is addressed in Section 5.3.6.2.4.3.

Proposed Alkali Communities Management (Biological Element 2)

No special-status plants have been documented in areas that are not managed, but are proposed to be managed in the Potrero Unit, for alkali communities. Approximately 140 acres (95% of 148 acres) of alkali resources in the Potrero Unit are proposed to be managed as alkali communities, which would directly benefit alkali plants that have potential to occur in these areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), and 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status plants. Potential impacts to special-status plants from implementation of Tasks BE 2.1

(inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.1.1, and Task BE 2.2 (control adverse edge effects for alkali communities) is described below. Task BE 2.3 (developing an alkali restoration program) is not proposed on the Potrero Unit.

Task BE 2.2: The primary activities associated with Task BE 2.2 (control adverse edge effects for alkali communities) that could affect special-status plants or their suitable habitat include measures to control non-native invasive species, human activity/trampling, and altered hydrology. Measures to control non-native invasive species may include use of chemicals that may inadvertently affect special-status plants or soil chemistry (e.g., herbicides, pesticides); mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking which could have collateral impacts to special-status plants if not implemented properly; grazing, which could result in inadvertent trampling and soil erosion in sensitive areas; and prescribed burning, which could escape authorized burn areas or cause off-site erosion. Measures to control human activity/trampling such as signage, fencing, and other physical barriers could affect special-status plants, if not sited, installed, and maintained properly. Measures to control altered hydrology could also have inadvertent effects, including erosion and sediment flow controls, such as installation of appropriate wattled native plant material for stream bank stabilization; installation of geotextile fabric where unstable soil will limit plant reestablishment; installation of energy dissipating features where flow velocities are expected to be erosive; installation of grade-stabilizing structures/vegetation; reseeding with appropriate native understory species; and installation of selected native container plant species. These measures could have inadvertent adverse effects on special-status plants if not implemented properly; such as altering hydrology to the extent that resources are receiving poorly timed or too little or too much water or sediment sources.

Proposed Wetland Communities Management (Biological Element 3)

No special-status plant occurrences have been documented in areas where wetlands communities management is proposed. Approximately 6 acres (less than 1% of 7,846 acres) of non-alkaline habitat where other special-status plants have the potential to occur and 1 acre (1% of 148 acres) of alkali habitat where special-status alkali plants have the potential to occur would be managed as wetland communities.

Tasks BE 3.10 (ensuring compatibility of management practices) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to special-status plants, should they be present. Tasks BE 3.2 (managing invasive plant and animal species), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), and BE 3.6 (vernal pool enhancement) could result in impacts to these special-status plant species, should they be present, if appropriate mitigation measures are not implemented. Potential impacts from implementation of Tasks BE 3.2, BE 3.4, and BE 3.5 are

described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.1.1, and Task BE 3.6 is described below. Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.7 (protecting breeding habitat for spadefoot toad), BE 3.8 (identifying properties that promote conservation of wetland resources), and BE 3.9 (maintaining the ability to use reclaimed water) are not proposed on the Potrero Unit.

Task BE 3.6: The primary activities associated with Task BE 3.6 (vernal pool enhancement) that could affect special-status plants, in the absence of appropriate mitigation or other measures, are activities associated with vernal pool enhancement. Although potential enhancement methods have not been identified, they may include methods to reduce non-native grasses and exotic forbs to increase pool hydroperiods, including grazing, mowing, prescribed burning, and chemical treatments. Without proper implementation these methods could have similar adverse impacts to sensitive biological resources described for Task BE 1.1 (comply with existing SKR requirements). Such activities would also need to be carried out in a manner that does not disturb vernal pools soils and thus adversely affect their water-holding capacity (e.g., inadvertent ripping or crushing of hardpan soils within pools).

Proposed Riparian Communities Management (Biological Element 4)

Although no special-status plants have been previously documented in areas proposed for riparian communities management in the Potrero Unit, the riparian habitat in these areas potentially provides suitable habitat for special-status plants. Approximately 196 acres (2% of 7,846 acres) of non-alkaline habitat where other special-status plants have the potential to occur and 7 acres of alkali habitat (1% of 148 acres) where special-status alkali plants have the potential to occur would be managed as riparian communities on the Potrero Unit.

Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status plant species, should they be present, if appropriate mitigation measures are not implemented. Potential impacts to special-status plants from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.1.1. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit.

Proposed Uplands Management (Biological Element 5)

Three special-status plant species have been previously observed within areas proposed for uplands communities management in Subunits P4, P7, and P10: smooth tarplant, Parry's spineflower, and Jaeger's milkvetch. There are five locations of these special-status species in this management area. Approximately 7,340 acres (94% of 7,846 acres) of non-alkaline land where

other special-status plants have the potential to occur would be managed as upland communities on the Potrero Unit.

Tasks BE 5.1 (conducting refinements of vegetation classification) and BE 5.5 (uplands restoration) would not result inadvertent impacts to special-status plants in the absence of mitigation measures. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), BE 5.6 (maintain and manage burrowing owl habitat), and BE 5.7 (uplands restoration) could result in inadvertent impacts to special-status plants in the absence of mitigation measures. Potential impacts to special-status plants from implementation of Tasks BE 5.2, BE 5.3, BE 5.4, and BE 5.7 are described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.2.1.1, and Task BE 5.6 is described below.

Task BE 5.6: The primary activities associated with Task BE 5.6 (maintain and manage burrowing owl habitat) that could affect sensitive biological resources, in the absence of appropriate mitigation measures or other measures, are habitat management activities for burrowing owl. These management activities would be similar to those conducted for SKR described for Task BE 1.1 (grazing, mowing, herbicide and burning to reduce vegetative cover), resulting in potential impacts such as: (1) inadvertent damage to shrubs and shrub communities; (2) inadvertent soil disturbance and water quality degradation; (3) a long-term increase in non-native seeds (if fire intervals are too short); and (4) increased fire risk, due to a spark from mowing or thatch build-up.

5.3.6.2.4.2 Proposed Public Use Management

Of the 9,130 acres of land on the Potrero Unit that would be managed, but are not currently managed, 1,136 acres, or 12%, would be managed for public use; on these 1,136 acres, there are 12 occurrences of special-status plants, including smooth tarplant, Parry's spineflower, Yucaipa onion, and Jaeger's milkvetch. All 1,136 acres not currently managed that would be managed for public use are non-alkali habitat areas proposed to be managed for upland small game hunting.

No waterfowl hunting (Public Use Element 2) or hunting dog training and field trials (Public Use Element 5) are proposed on the Potrero Unit. Additionally, cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to special-status plants on the Potrero Unit. A discussion of the proposed public use management in relation to special-status plants and their potentially suitable habitat is provided below by management element.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

The management activities associated Public Use Element 1 that could result in impacts to special-status plant species on the Potrero Unit, if appropriate mitigation or other measures are not

implemented are Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities). Potential impacts to special-status plants from implementation of Task PUE 1.2 are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.1.2 and Task PUE 1.1 below. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result impacts to special-status plants.

Task PUE 1.1: Potential impacts to special-status plants could occur during maintenance activities and public use associated with Task PUE 1.1 (maintenance and public use of existing trails). Direct removal habitat for special-status plants may occur during trail maintenance. Construction and maintenance activities may result indirect effects, similar to those that could occur during habitat restoration, as described for Task BE 2.3 (developing an alkali restoration program). Public uses of trails could have adverse effects on special-status plants as a result of trampling of habitat or creation of unauthorized trails by off-trail uses that could degrade habitat for special-status plants.

Agriculture (Public Use Element 3)

The precise location of agricultural resource management on the Potrero Unit has not been determined. Task PUE 3.5 (development of grazing permits) is proposed on the Potrero Unit, which is to consider the development of grazing permits to maintain SKR habitat and to provide a financial resources to CDFW. The potential impacts to special-status plants from grazing are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.1.1. Tasks PUE 3.1 (developing and maintaining agricultural leases), PUE 3.2 (reconfiguring existing CDFW food plots), PUE 3.3 (expansion of agriculture leases), and PUE 3.4 (expansion of CDFW food plots) are not proposed on the Potrero Unit.

Proposed Upland Game Hunting (Public Use Element 4)

Four special-status plant species have been previously documented in areas proposed for upland game hunting management in Subunits P5 and P6: smooth tarplant, Parry's spineflower, Jaeger's milkvetch, and Yucaipa onion. Approximately 1,136 acres of non-alkaline land where other special-status plants have the potential to occur would be managed as upland game hunting on the Potrero Unit.

Task PUE 4.5 (providing hunting opportunities) would not result in inadvertent impacts to special-status plants. Tasks PUE 4.1 (operating and managing upland game hunting program), PUE 4.2 (opening portions of Potrero Unit to upland game hunting), PUE 4.3 (development of agricultural and wildlife food crop), and PUE 4.4 (installation of guzzlers) could result in inadvertent impacts to special-status plants in the absence of mitigation or other measures. Potential impacts to special-status plants from implementation of Tasks PUE 4.1, PUE 4.3, and PUE 4.4 are described under

Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.2.2.2, and Task PUE 4.2 is described below.

Task PUE 4.2: The primary activities associated with Task PUE 4.2 (opening portions of Potrero Unit to upland small game hunting) that could affect special-status plants, in the absence of appropriate mitigation or other measures, are public use of new hunting facilities and management of hunting in the Potrero Unit. The primary concerns related to public uses are ensuring that hunters adhere to laws and regulations. Expansion may require installation of fencing and signage that directly impacts special-status plants and their suitable habitat, if not properly sited and installed.

Fire Management (Public Use Element 6)

The precise location of fire management on the Potrero Unit has not been determined. As described under Fire Management (Public Use Element 6) in Section 5.3.6.2.1.2, fire management could result in inadvertent impacts to special-status plants, should they be present, or their suitable habitat.

5.3.6.2.4.3 Proposed Public Use and Biological Resources Management

Of the 9,130 acres of land on the Potrero Unit that would be managed, but are not currently managed, 304 acres (3%) would be co-managed for public use and biological resources. More specifically, these areas would be managed for SKR and upland small game hunting. The potential impacts to special-status plants from this change in management are described below.

SKR and Upland Small Game Hunting (Biological Element 1 and Public Use Element 4)

One special-status plant species, smooth tarplant, at two locations in P5 has been documented in areas where the management activity is proposed to change to SKR and upland small game hunting. The approximately 304 acres of land that would be managed for SKR and upland small game hunting in Potrero are also non-alkaline areas.

As described under Proposed SKR Management (Biological Element 1), in Section 5.3.6.2.2.1, and Proposed Upland Small Game Hunting (Public Use Element 4) in Sections 5.3.6.2.2.2 and 5.3.6.2.4.2, these management elements could result in inadvertent impacts to special-status plants, should they be present, or their habitat.

5.3.6.2.5 Potrero Unit Special-Status Plants: Public Use and Administrative Facilities

No special-status plant species have been observed within areas proposed for public use and administrative facilities in the Potrero Unit; however, potentially suitable habitat for special-status plant species is present in these areas. Proposed facilities in the Potrero Unit include two new

residences, an office, a workshop, and a warehouse in Subunit P5. Additionally, proposed infrastructure improvements necessary to support the new facilities include a 1,500-gallon domestic water system within Subunit P5 and a power system within Subunits P5 and P6. Although no new roads are proposed for the Potrero Unit, a new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4. New facilities within the unit would primarily consist of access control such as gates and fences, parking, and signage (both boundary and interpretive signage). A visitors' center/interpretive area is a proposed feature in Subunit P5 located south of the northeastern entrance gate to the Potrero Unit. The proposed facilities and structures in the Potrero Unit could impact special-status plants and their suitable habitat. The proposed facilities and structures in the Potrero Unit could impact special-status plants and their suitable habitat.

5.3.6.2.6 Impacts to Special-Status Plants

Proposed management could result in significant direct and indirect impacts to special-status plants and suitable habitat for special-status plants without mitigation and other measures, as described by proposed management element and task in Sections 5.3.6.2.1 through 5.3.6.2.5. While each management task is unique to the specific goal of the overall element, the potential impacts to special-status plants are generally the same. A summary of potentially significant impacts to special-status plants is provided below.

Grading, Trail Maintenance and Other Ground-Disturbance

Grading for restoration; construction of new facilities, structures, and infrastructure; and trail maintenance activities could have various direct impacts on special-status plants, including temporary or permanent removal of suitable habitat and the individual plants. Grading for restoration could also result in various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) increased human activity that could result in trampling of individuals or suitable habitat; (3) release of chemical pollutants and pesticides, including herbicides, that can harm individuals or reduce pollinators; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

Habitat Conversion

Agriculture management, resulting in habitat conservation, could result in direct impacts to special-status plants and their habitat. Additionally, impacts associated with other management activities that may not require grading but would result in ground-disturbance (e.g., fire suppression activities), would also result in direct impacts to special-status plants and their habitat.

Hydrological Modifications

Various management tasks could result in hydromodification, which could impact special-status plants and their habitat. Maintaining riparian habitat could result in hydromodification impacts due to irrigation, which could change suitable habitat for special-status wildlife from a drier condition to a mesic condition. Additionally, eradication of non-native animal species may include habitat-based methods (e.g., pond-draining following by removal of target species), which could result in hydromodification and affect habitat for special-status plants.

Installation of Physical Barriers and Signage

Signage, fencing, and other physical barriers to reduce adverse edge effects or direct the public could affect special-status plants if not sited, installed, and maintained properly. Installation of these features would result in minor ground-disturbance activities and could result in direct impacts to special-status plants and their habitat. Maintenance could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas) and could reduce habitat quality for special-status plants.

Installation of fencing or other physical barriers could impede movement of larger mammals. Additionally, installation of fencing and sign posts etc., may attract Argentine ants by creating microhabitats at the base of these features which could lead to inappropriate application of insecticides to control Argentine ants, and this could have adverse impacts on native species (e.g., native ants, beetles, and other flying insects) that are important for ecosystem processes such as pollination or seed dispersal.

Non-native Invasive Species Eradication and Control

Measures to control non-native invasive species that could impact special-status plants include (1) use of chemicals that may inadvertently affect special-status plants or soil chemistry; (2) mechanical or hand removal of weeds through pulling or weed-whacking which could have collateral impacts to special-status plants, if not implemented properly; (3) grazing, which could result in inadvertent trampling of special-status plant species and their habitat and soil erosion that could degrade habitat quality; (4) prescribed burning, which could escape authorized burn areas or cause off-site erosion; (5) eradication of non-native animal species may include habitat-based methods (e.g., pond-draining following by removal of target species), which could result in hydromodification and affect habitat for special-status plants; (6) management for Argentine ants may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants), which could result in hydromodification impacts, and chemical treatments (insecticides) of nest mounds if necessary; and (7) control of wild pigs (e.g., shooting, use of tracking dogs) could have adverse indirect effects on special-status plants from human and dog activity (e.g., trampling of plants and habitat).

Planting and Seeding

Planting or seeding of species not appropriate for the region could impact special-status plants. Additionally, planting of material with Argentine ants could introduce or increase the number of this invasive species on the SJWA.

Trampling and Soil Compaction

Repeated surveys in certain areas could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce habitat quality for special-status plants. Public uses of trails could have adverse effects on special-status plants as a result of trampling of habitat or creation of unauthorized trails by off-trail uses that could degrade habitat for special-status plants or directly impact individual plants. Public use elements may result in increases in human and hunting dog activities that could result in trampling of habitat.

Vegetation and Fire Management

Vegetation management, such as the maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, and burning to reduce vegetative cover) could result in impacts to special-status plants and their suitable habitat. These vegetation management activities could result in impacts such as: (1) inadvertent damage to suitable habitat for special-status plants or individuals, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch build-up.

Fire management could also impact special-status plants and their suitable habitat. Pre-fire management activities that could affect special-status plants include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on special-status plants as described above. Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could also impact special-status plants. These activities could cause soil and vegetation damage, degrading habitat for special-status plants, and could directly impact individuals. Fire retardants may also damage habitat for special-status plants. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to habitat for special-status plants. Disturbed areas are also more vulnerable to invasion by non-native plant species, degrading suitable habitat for special-status plants.

5.3.6.2.6.1 Temporary Impacts to Special-Status Plants

Implementation of the draft LMP could result in **potentially significant temporary direct and indirect impacts (Class II)** to special-status plant species and suitable habitat, in the absence of appropriate mitigation measures. Temporary impacts to special-status plant species and habitat would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-20.

MM-BIO-1a (general construction-related avoidance and minimization measures)

MM-BIO-1b (restoration of temporary impacts)

MM-BIO-1c (environmental awareness training)

MM-BIO-1d (pre-construction surveys and avoidance and minimization measures)

MM-BIO-1e (siting and design criteria)

MM-BIO-1f (restrictions on landscaping or restoration palettes and plants)

MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)

MM-BIO-1h (preparation and implementation of a grazing management plan (GMP))

MM-BIO-1i (practices for the control of invasive and non-native species)

MM-BIO-1j (preparation and implementation of an alkali habitat management plan)

MM-BIO-1k (management and monitoring of trail use)

MM-BIO-1l (management and monitoring of hunting)

MM-BIO-1m (minimize effect of repeated surveys)

Potential temporary direct and indirect impacts to special-status plant species would be reduced to a less-than-significant level with incorporation of the mitigation measures listed above (please see Section 5.3.6.8 for details of the specific mitigation measures).

5.3.6.2.6.2 Permanent Impacts to Special-Status Plants

Implementation of the draft LMP could result in **potentially significant (Class II) permanent direct and indirect impacts** to special-status plant species and suitable habitat, in the absence of appropriate mitigation measures. Temporary impacts to special-status plant species and habitat would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-20.

MM-BIO-1a (general construction-related avoidance and minimization measures)

MM-BIO-1b (restoration of temporary impacts)

MM-BIO-1c (environmental awareness training)

MM-BIO-1d (pre-construction surveys and avoidance and minimization measures)

MM-BIO-1e (siting and design criteria)

MM-BIO-1f (restrictions on landscaping or restoration palettes and plants)

MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)

MM-BIO-1h (preparation and implementation of a GMP)

MM-BIO-1i (practices for the control of invasive and non-native species).

MM-BIO-1j (preparation and implementation of an alkali habitat management plan)

MM-BIO-1k (management and monitoring of trail use)

MM-BIO-1l (management and monitoring of hunting)

Potential permanent direct and indirect impacts to special-status plant species would be reduced to a less-than-significant level with incorporation of the mitigation measures listed above (please see Section 5.3.6.8 for details of the specific mitigation measures).

5.3.6.2.7 Davis Unit Special-Status Wildlife: Proposed Management for Areas Not Currently Managed

Special-status wildlife species known to occur or with a moderate to high potential to occur on the Davis Unit are organized by guilds in Table 5.3-21.

Table 5.3-20
Summary of Potential Impacts to Special-Status Plants, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
Temporary Direct and Indirect Permanent Direct and Indirect	• Grading, trail maintenance, or other ground-disturbing activities • Hydrological modifications • Installation of physical barriers and signage • Non-native invasive species eradication and control • Planting and seeding • Trampling and soil compaction Vegetation and fire management	MM-BIO-1a (general construction-related avoidance and minimization measures) MM-BIO-1b (restoration of temporary impacts) MM-BIO-1c (environmental awareness training) MM-BIO-1d (pre-construction surveys and avoidance and minimization measures) MM-BIO-1e (siting and design criteria) MM-BIO-1f (restrictions on landscaping or restoration palettes and plants) MM-BIO-1h (preparation and Implementation of a GMP) MM-BIO-1i (practices for the control of invasive and non-native species) MM-BIO-1m (BMPs to minimize effect of repeated surveys) MM-BIO-1j (preparation and implementation of an alkali habitat management plan) MM-BIO-1k (management and monitoring of trail use) MM-BIO-1l (management and monitoring of hunting) MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)	**With implementation of the following MMs, potential significant temporary direct and indirect impacts to special-status plant species would be reduced to less-than-significant levels**: • MM-BIO-1a would avoid and minimize the potential significant effects to special-status species through demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to species and habitat outside the designated disturbance area, and requiring vehicle maintenance restrictions to avoid chemical spills, which would reduce potential impacts to water quality and thus indirectly to special-status plants. MM-BIO-1b would avoid and minimize potential significant effects of temporary ground disturbance on special-status plants by preventing future adverse effects associated with leaving bare ground, such as increased dust and erosion, and would help prevent adverse effects of invasive plant species that may alter the composition of the habitat if introduced during restoration or allowed to passively colonize the area post-construction. MM-BIO-1c would avoid and minimize the potential significant effects to special-status plants by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps, of special-status plants and exclusion areas. MM-BIO-1d would avoid and minimize potential significant effects to species from implementing the LMP by requiring review of existing species data, habitat assessments and, if needed, focused surveys, as well as avoidance, minimization, mitigation, and monitoring requirements, if species or habitat are present prior to conducting an activity that could impact special-status plants. MM-BIO-1e would avoid and minimize potential significant effects to special-status plants by siting impacts in disturbed areas, such as existing roads and trails, and minimizing vegetation removal and ground disturbance, if feasible. MM-BIO-1f would avoid and minimize potential significant effects of seeding or planting by restricting the use of invasive plants or plants with high irrigation rates, requiring the use of native species compatible with the region and requiring container plants are weed-, disease-, and pest-free. MM-BIO-1h would avoid and minimize potential significant impacts to special-status plants by requiring any new grazing activities be preceded by the adoption of a grazing management plan (GMP), which will require that appropriate measures are implemented to protect special-status plants. For example, the GMP may exclude livestock from areas where special-status plants may be negatively impacted by grazing. MM-BIO-1i would avoid and minimize potential significant impacts to special-status plants by requiring CDFW to implement an Integrated Pest Management Program (IPM) to control invasive species, including mechanical, chemical, and other accepted control methods while minimizing herbicide use and associated impacts on non-target species, encouraging other authorized users and visitors to employ management practices that minimize the spread of weeds, and generally prohibiting the release of non-native animal species other unless used for bio-control or hunting. MM-BIO-1m would avoid and minimize potential significant impacts to special-status plants from repeated surveys in certain areas by requiring biologists to park and drive on existing dirt roads and modify survey efforts if excessive vegetation trampling is noted in survey plots. MM-BIO-1j (preparation and implementation of an alkali habitat management plan) would avoid and minimize potential significant impacts to special-status plants that occur in alkaline habitats because a delineation of the current alkaline communities would be conducted as part of this BMP. Thus, direct and indirect impacts could be avoided. Additionally a focal management plan for alkali communities would be prepared to avoid the degradation of alkaline habitat, provide criteria to enhance the value of the existing alkali habitat, and require a monitoring program. MM-BIO-1k (management and monitoring of trail use) would reduce adverse effects of the public on the species, including trampling and collection. MM-BIO-1l (management and monitoring of hunting) would reduce adverse effects of the public on the species, including trampling, collection, intentional feeding, harassment, etc. MM-BIO-1g would avoid and minimize potential significant impacts to special-status plants by requiring vehicles be operated and maintained on existing road, if feasible, and if not feasible ensuring appropriate surveys are conducted to avoid species and habitat.

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Table 5.3-21
Special-Status Wildlife Known to Occur or with a Moderate to High Potential to Occur in the Davis Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Wetland Guild					
Actinemys marmorata	western pond turtle	None	SSC	Covered	Observed
Agelaius tricolor	tricolored blackbird	BCC (nesting colony)	~~SCE, SSC~~ ST ~~(nesting)~~	Covered	Observed
Aythya americana	redhead	None	SSC (nesting)	Not Covered	Observed
Branta bernicla	brant	None	SSC (wintering & staging)	Not covered	Observed
Falco peregrinus anatum	American peregrine falcon	Delisted, BCC	Delisted; FP	Covered (nesting)	Observed
Gavia immer	Common loon	None	SSC (nesting)	Not Covered	Observed
Haliaeetus leucocephalus	bald eagle	Delisted; BCC (nesting and nonbreeding/ wintering)	SE; FP (nesting and nonbreeding/wintering)	Covered	Observed
Hydroprogne caspia	Caspian tern	BCC (nesting colony)	None	Not Covered	Observed
Numenius americanus	long-billed curlew	BCC (nesting)	WL (nesting)	Not Covered	Observed
Pelecanus erythrorhynchos	American white pelican	None	SSC (nesting)	Not Covered	Observed
Spea hammondii	western spadefoot	None	SSC	Covered	Observed
Thamnophis hammondii	two-striped garter snake	None	SSC	Not Covered	Potential to occur
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	SSC (nesting)	Not Covered	Observed
Riparian Guild					
Elanus leucurus	white-tailed kite	None	FP (nesting)	Covered	Observed
Empidonax traillii extimus	Southwestern willow flycatcher	FE	SE	Covered	Observed
Icteria virens	yellow-breasted chat	None	SSC (nesting)	Covered (nesting)	Observed
Pyrocephalus rubinus	vermilion flycatcher	None	SSC (nesting)	Not Covered	Observed
Setophaga petechia	yellow warbler	BCC (nesting)	SSC (nesting)	Covered	Observed

Table 5.3-21
Special-Status Wildlife Known to Occur or with a
Moderate to High Potential to Occur in the Davis Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Vireo bellii pusillus	least Bell's vireo	FE	SE	Covered (nesting)	Observed
Upland Guild					
Ammodramus savannarum	grasshopper sparrow	None	SSC (nesting)	Covered*	Observed
Anniella pulchra pulchra	silvery legless lizard	None	SSC	Not Covered	Potential to occur
Antrozous pallidus	pallid bat	None	SSC	Not Covered	Potential to occur
Aquila chrysaetos	golden eagle	BCC (Nesting, Nonbreeding and Wintering)	FP, WL	Covered	Observed
Artemisiospiza belli belli	Bell's sage sparrow	BCC (nesting)	WL (nesting)	Not Covered	Potential to occur
Asio flammeus	short-eared owl	None	SSC (nesting)	Not Covered	Observed
Asio otus	long-eared owl	None	SSC (nesting)	Not Covered	Observed
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None	SSC	Covered	Observed
Athene cunicularia	burrowing owl	BCC (burrow sites and some wintering sites)	SSC (nesting)	Covered	Observed
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	None	Not Covered	Potential to occur
Buteo regalis	ferruginous hawk	BCC (nonbreeding/ wintering)	WL (nonbreeding/ wintering)	Covered	Observed
Buteo swainsoni	Swainson's hawk	BCC (nesting)	ST	Covered	Observed
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	SSC	Covered	Potential to occur
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	SSC	Covered	Observed
Chaetura vauxi	Vaux's swift	None	SSC (nesting)	Not Covered	Observed
Circus cyaneus	northern harrier	None	SSC (nesting)	Covered	Observed
Crotalus ruber	red diamondback rattlesnake	None	SSC	Covered	Observed
Cypseloides niger	black swift	BCC (nesting)	SSC (nesting)	Covered (nesting)	Observed
Dipodomys stephensi	Stephens' kangaroo rat	FE	ST	Covered	Observed

Table 5.3-21
Special-Status Wildlife Known to Occur or with a Moderate to High Potential to Occur in the Davis Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Euphydryas editha quino	Quino checkerspot butterfly	FE	None	Covered	Potential to occur
Falco mexicanus	prairie falcon	BCC (nesting)	WL (nesting)	Covered	Observed
Lanius ludovicianus	loggerhead shrike	BCC (nesting)	SSC (nesting)	Covered	Observed
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	SSC	Covered	Observed
Nyctinomops femorosaccus	pocketed free-tailed bat	None	SSC	Not Covered	Potential to occur
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	SSC	Covered	Observed
Phrynosoma blainvillii	Blainville's horned lizard	None	SSC	Covered	Potential to occur
Polioptila californica californica	coastal California gnatcatcher	FT	SSC (nesting)	Covered	Observed
Progne subis	purple martin	None	SSC (nesting)	Covered	Observed
Salvadora hexalepis virgultea	coast patch-nosed snake	None	SSC	Not Covered	Potential to occur
Spinus lawrencei	Lawrence's goldfinch	BCC (nesting)	None	Not Covered	Observed
Spizella atrogularis	black-chinned sparrow	BCC (nesting)	None	Not Covered	Potential to occur
Streptocephalus woottoni	Riverside fairy shrimp	FE	None	Covered	Potential to occur
Taxidea taxus	American badger	None	SSC	Not Covered	Observed

Status:
None: No state or federal designation.
Federal:
BCC: USFWS Birds of Conservation Concern
FE: Federal listing as endangered
FT: Federal listing as threatened
Delisted: Federally delisted
State:
FP: CDFW listing as fully protected
SE: State listing as endangered
ST: State listing as threatened
SCE: State candidate for listing as endangered
SSC: CDFW listing as species of special concern
WL: CDFW listing as watch list
Delisted: State delisted

MSHCP
Covered: Covered under the Western Riverside County MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.
Covered*: considered adequately conserved when certain conservation requirements are met.

On the Davis Unit, there are 3,178 acres of land not currently managed within proposed biological resource management areas and 128 acres of land not currently managed within proposed public use management areas; each area is described below by guild and proposed management type. Table 5.3-22 summarizes the guilds that occur within proposed biological resources management and public use management areas in the Davis Unit.

Table 5.3-22
Acreage of Guilds in Proposed Management for Areas that are Not Currently Managed in Davis Unit

Proposed Management Type	Proposed Management	Acres	% by Guild
Upland Guild			
Biological Resource	Alkali Communities	192	12%
	Riparian Communities	38	2%
	SKR	15	1%
	Upland Communities	1,258	77%
	Wetland Communities	67	4%
	Biological Resource Subtotal	*1,569*	*96%*
Public Resource Management	Agriculture	26	2%
	Dog Training	0.2	0%
	Waterfowl Hunting	31	2%
	Public Resource Management Subtotal	*57*	*4%*
	Upland Guild Subtotal	*1,626*	*100%*
Wetland Guild			
Biological Resource	Alkali Communities	438	27%
	Riparian Communities	15	1%
	SKR	0.1	<0.1%
	Upland Communities	369	22%
	Wetlands Communities	754	46%
	Biological Resource Subtotal	1,577	96%
Public Resource Management	Agriculture	68	4%
	Hunting Dog Training and Trials	0.5	<0.1%
	Waterfowl Hunting	2	0.1%
	Public Resource Management Subtotal	*71*	*4%*
	Wetland Guild Subtotal	*1,648*	*100%*
Riparian Guild			
Biological Resources	Alkali Communities	1	1%
	Riparian Communities	31	97%
	Upland Communities	0.1	<0.1%
	Biological Resource Subtotal	*32*	*100%*

Table 5.3-22
Acreage of Guilds in Proposed Management for Areas that are Not Currently Managed in Davis Unit

Proposed Management Type	Proposed Management	Acres	% by Guild
	Riparian Guild Subtotal	*32*	*100%*
	TOTAL	**3,305**	**—**

5.3.6.2.7.1 Upland Guild

On the Davis Unit, there are 1,626 acres of habitat for upland guild special-status species that are not currently managed, but would be managed under the draft LMP. A discussion of the proposed management in relation to upland special-status wildlife and their potentially suitable habitat is provided below by management type in Sections 5.3.6.2.7.1.1 and 5.3.6.2.7.1.2.

5.3.6.2.7.1.1 Proposed Biological Resources Management

Approximately 1,569 acres, or 96% of the 1,626 acres of land in the upland guild on the Davis Unit that are not currently managed, but are proposed to be managed, would be managed for biological resources under the draft LMP. Table 5.3-22 summarizes the guilds that occur within proposed biological resources management areas that are not currently managed in the Davis Unit. A discussion of the proposed biological resource management in relation to upland special-status wildlife and their potentially suitable habitat is provided below by management element.

Proposed SKR Management (Biological Element 1)

Of the 1,626 acres of habitat for upland guild special-status wildlife species that would be managed under the draft LMP, 15 acres, or 1%, are within proposed SKR management areas. Management activities associated with SKR management elements that could result in impacts to upland guild special-status wildlife species, if appropriate mitigation or other measures are not implemented, include (1) the maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, herbicide and burning to reduce vegetative cover) (Task BE 1.1); and (2) SKR habitat restoration if mitigation to offset potential future impacts to SKR is necessary (Task BE 1.2). Task BE 1.3, which includes actively participating in the region's ongoing development of effective SKR management techniques by regionally coordinating management and monitoring activities, would not result in substantial impacts to special-status wildlife.

Task BE 1.1: The primary activities associated with Task BE 1.1 (comply with existing SKR requirements) that could affect upland guild special-status wildlife species include (1) inadvertent damage to shrubs and shrub communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) mortality or injury to slow-moving species (e.g., horned lizards, rattlesnakes and rosy boas); (4) disturbance to nesting birds

if management is conducted during the nesting season; (5) a long-term increase in non-native seeds if fire intervals are too short; and (6) increased fire risk, due to a spark from mowing or thatch build-up.

Task BE 1.2: The primary activity that could affect upland guild special-status wildlife species is restoration, such as the removal of non-native plant cover through mowing or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs. For example, without application of appropriate mitigation or other measures, misapplication or overspray of herbicide to control exotics or application of a seed mix not appropriate for the region could impact sensitive biological resources. Potential impacts include herbicide effects on non-target native and non-native plants that provide habitat for grassland-associated sensitive species, such as perching and nesting sites for grasshopper sparrows and habitat cover (e.g., shade and refugia) for horned lizards, whiptails, and rattlesnakes, and jackrabbits.

Proposed Alkali Communities Management (Biological Element 2)

Of the 1,626 acres of habitat for upland guild special-status wildlife species that are proposed to be managed under the LMP, 192 acres, or 12%, are within proposed alkali management areas. The management activities associated with alkali management elements that could result in impacts to upland guild special-status wildlife species include (1) developing and maintaining an inventory of special-status alkali species and habitat (Task BE 2.1); (2) developing an alkali restoration program (Task BE 2.3); and (3) implementing mitigation to offset potential future impacts to alkali habitat (Task BE 2.4). Task BE 2.2 is not proposed on the Davis Unit.

Task BE 2.1: The primary activities associated with Task BE 2.1 (inventory of alkali species and habitat) that could affect special-status wildlife include repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce habitat quality for various special-status wildlife species.

Tasks BE 2.3 and BE 2.4: The primary activities associated with Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation) that could affect special-status wildlife include activities associated with alkali restoration such as (1) non-native invasive species eradication and control; (2) hydrology modification, such as the application of artificial irrigation to mimic natural conditions that support alkali species; (3) grading to achieve optimum hydrology and soil profile; and (4) planting of appropriate vegetation.

Potential impacts that could occur from non-native species eradication and control include use of chemicals that may inadvertently affect soil chemistry (e.g., herbicides, pesticides); mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking, which could have collateral impacts if not implemented properly; grazing, which could result in inadvertent

trampling and soil erosion in sensitive areas; and prescribed burning, which could escape authorized burn areas or cause off-site erosion.

Hydrological modifications could affect special-status wildlife such as (1) excessive artificial irrigation to convert riparian communities to marsh, thus affecting numerous sensitive riparian species such as least Bell's vireo, southwestern willow flycatcher, yellow warbler, yellow-breasted chat, etc.; and (2) planting of species not appropriate for the region or planting uninspected plants that are infested with Argentine ants, which could affect special-status wildlife, such as Blainville's horned lizard.

Grading for restoration could have various direct impacts on special-status wildlife species such as (1) removal of habitat occupied by special-status species (e.g., Stephens' kangaroo rat and northwestern San Diego pocket mouse); other species that use non-native grasslands (e.g., grasshopper sparrows, horned lizards, rattlesnakes, etc.) and other vegetation communities; (2) injury to or death of burrowing species, such as kangaroo rats, pocket mice, rattlesnakes, and slow-moving species (e.g., horned lizards, rattlesnakes), from grading.; and (3) disturbance during the breeding season to nests, eggs, or young by grading activity or injury or death to the species.

Additionally, grading for restoration could result in various temporary indirect impacts to special-status wildlife, including: (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (2) an increase in urban species (e.g., crows, ravens, coyotes, raccoons) that may be attracted to trash and garbage, if left at a restoration site; (3) increased human activity and potential harassment of wildlife by construction workers; (4) increased wildlife/vehicle or fence collisions; (5) release of chemical pollutants such as fuels, oils, and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (6) degradation of water quality; (7) introduction of invasive plant species that may alter the composition of the community; and (8) generation of fugitive dust.

Proposed Wetlands Communities Management (Biological Element 3)

Of the 1,626 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 67 acres, or 4%, are within proposed wetlands management areas. Tasks BE 3.1 and BE 3.6 are not proposed on the Davis Unit. Task BE 3.10 (ensuring compatibility of management practices) is not proposed on the Davis Unit and that task itself would not result in inadvertent impacts to special-status wildlife if it were to occur. Wetlands management activities that would not result in substantial impacts to special-status wildlife in the Davis Unit include the following: (1) identifying properties within the CDFW's Conceptual Area Acquisition Plan that promote conservation of wetlands resources (Task BE 3.8), and (2) implementing avoidance and minimization measures to protect sensitive species and habitats from adverse future wetland activities (Task BE 3.11).

The management activities associated with wetland communities management elements that could result in impacts to upland guild special-status wildlife species if appropriate mitigation measures are not implemented include (1) managing non-native invasive plant and animal species (Task BE 3.2); (2) expanding open water, marsh, and green feed field habitats (Task BE 3.3); (3) implementing a program to provide adequate habitat for southwestern pond turtle (Task BE 3.4); (4) implementing tricolored blackbird conservation measures (Task BE 3.5); (5) identifying breeding habitat for western spadefoot (Task BE 3.7); and (6) maintaining the ability to use an adequate supply of reclaimed water at a reasonable cost to support wetlands (Task BE 3.9).

Because there is only 67 acres (4%) of upland habitat in the proposed wetlands communities management areas, impacts to special-status wildlife in the uplands guild are not likely to be significant. However, these potential impacts are analyzed to ensure a conservative analysis under CEQA.

Tasks BE 3.2, BE 3.4, and BE 3.7: Task BE 3.2 (managing invasive plant and animal species), may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. The most likely methods to be used within the SJWA include manual removal; foliar spray; cut stem/stump spray; cut, resprout, and spray; and mechanical removal (see LMP Section 5.5, BME 4, and Section 5.4, FME 3). These methods could affect non-target native plants and animals if not properly implemented, such as mechanically removing or chemically treating target during the bird breeding seasons. For Task BE 3.4 (provide adequate habitat for western pond turtle), some of the eradication methods for urban predators and exotic species could have inadvertent impacts on special-status plants, if not properly implemented. Management of invasive plants, described in Task BE 3.7, could have the following effects on special-status upland wildlife: (1) the use of chemicals may inadvertently affect special-status wildlife species; (2) mechanical removal of weeds through pulling or weed-whacking could have collateral impacts if not implemented properly; (3) grazing could result in inadvertent trampling and soil erosion in areas with suitable habitat for special-status wildlife in the upland guild; (4) prescribed burning could escape authorized burn areas or cause off-site erosion; (5) signage, fencing, and other physical barriers could affect habitat for special-status wildlife in the upland guild if not sited, installed, and maintained properly; and (6) measures to control altered hydrology could also have inadvertent effects on special-status wildlife in the upland guild or suitable habitat.

Tasks BE 3.3 and BE 3.5: The habitat conversion associated with Task BE 3.3 (expanding open water, marsh, and green feed field habitats) could affect special-status wildlife in the upland guild including: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7) with a management designation for alkali resources; and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields, including minor grading to improve drainage/flooding and winter flooding. Although no special-status wildlife species are known from proposed green feed fields, there is a potential for both direct and

indirect impacts to habitat as described for Task BE 3.3 (above), including removal of habitat for some species, direct impacts to individuals, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust). Similarly, Task BE 3.5 (tricolored blackbird conservation measures), which could include vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird, could remove habitat for or directly individuals, nests, or eggs during grading potentially resulting in injury or mortality, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust).

Task BE 3.9: Grading activities associated with Task BE 3.9 (maintaining the ability to use reclaimed water) could result in various direct impacts on special-status wildlife species in the upland guild including: (1) removal of habitat occupied by special-status wildlife; (2) slow-moving species (e.g., reptiles) could be killed or injured by grading; and (3) nests, eggs, or young could be also ~~be~~ disturbed, injured or killed by grading if conducted during the breeding season. Grading, absent appropriate mitigation or other measures, could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (2) an increase in urban species (e.g., crows, ravens, coyotes, raccoons) that may be attracted to trash and garbage, if left at a restoration site; (3) increased human activity and potential harassment of wildlife by construction workers; (4) increased wildlife/vehicle or fence collisions; (5) release of chemical pollutants such as fuels, oils, and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (6) degradation of water quality; (7) introduction of invasive plant species that may alter the composition of the community; and (8) generation of fugitive dust.

Proposed Riparian Communities Management (Biological Element 4)

Of the 1,626 acres of habitat for upland guild special-status wildlife species that would be managed under the draft LMP, 38 acres, or 2%, are within proposed riparian management areas. All of the management activities associated with riparian communities management could result in impacts to upland guild special-status wildlife species and include (1) maintaining new and existing manage riparian habitats (Task BE 4.1); (2) developing plans for a joint wetlands/riparian restoration in D4 and D7 (Task BE 4.2); (3) evaluating the suitability of establishing a riparian restoration/mitigation program in D7 and D13 that expands riparian habitat and results in more stable habitat conditions (Task BE 4.3); (4) controlling invasive exotic plant and animal species within riparian corridors to benefit native plant and wildlife species (Task BE 4.4); and (5) implementing adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to riparian habitat within the SJWA (Task BE 4.5).

Because there are only 38 acres (2%) of upland habitat in the proposed riparian communities management areas, impacts to special-status wildlife in the uplands guild are not likely to be

significant. However, these potential impacts are analyzed to ensure a conservative analysis under CEQA.

Task BE 4.1: Task BE 4.1 (maintaining riparian habitats) could result in hydromodification impacts due to irrigation, which could change suitable habitat for special-status wildlife from a drier condition to a mesic condition.

Tasks BE 4.2 and BE 4.3: The primary activities associated with Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) (wetlands/riparian restoration) that could affect special-status wildlife in the upland guild include activities associated with restoration. As described for Task BE 2.3 (developing an alkali restoration program), grading for restoration could have various direct impacts on special-status wildlife, including removal of individuals or their suitable habitat. Grading for restoration could also result in various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) increased human activity by construction workers that could result in trampling and degradation of habitat for the species; (3) release of chemical pollutants that could impact species or reduce their prey; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

Task BE 4.4: The potential impacts to special-status wildlife in the upland guild for Task BE 4.4 (controlling invasive exotic species within riparian corridors) would be the same as that described under Task BE 3.2 (managing invasive plant and animal species). Eradication of invasive species could affect non-target native plants (i.e., habitat for wildlife) if not properly implemented.

Task BE 4.5: Although there are no planned activities that would directly impact riparian habitat, if such activities were to occur in the future such as conversion of an existing riparian area to a waterfowl pond or field, BE 4.5 requires that such activities are proposed to be designed and planned in a manner that avoids impacts to riparian habitat. If full avoidance cannot be achieved, impacts are proposed to be mitigated through restoration. Restoration activities associated with Task BE 4.5 (habitat restoration for riparian habitat) that could affect special-status wildlife in the upland guild would be same as described for Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat).

Proposed Uplands Communities Management (Biological Element 5)

Of the 1,626 acres of habitat for upland guild special-status species that would be managed for biological resources under the draft LMP, 1,258 acres, or 77%, are within proposed uplands management areas. Task BE 5.1 (conducting refinements of vegetation classification) would not result in substantial direct and indirect impacts to special-status wildlife. Due to the qualitative nature of the field work required to refine the vegetation classification, impacts from repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e.,

creating permanent trails in survey areas) and are not likely to be significant. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 requires that inadvertent impacts to special-status wildlife would not occur.

The management activities associated with uplands communities management that could result in impacts to upland guild special-status wildlife species include: (1) wildfire management activities, such as grazing and mowing (Task BE 5.2); (2) erosion and type-conversion management actions, such as establishment of erosion control, exotic species control, establishment of weed control buffer, reseeding with appropriate native species, and installation of selected native species with container plants (Task BE 5.3); (3) controlling invasive exotic plant and animal species (Task BE 5.4), and (4) implementing mitigation, if necessary, to offset potential future impacts to upland habitats (Task BE 5.7).

Task BE 5.2: Task BE 5.2 (wildfire management measures), which could include grazing, mowing, and other methods to maintain fire breaks and buffers, would have the same potential impacts to special-status wildlife as Task BE 1.1 (comply with existing SKR requirements) (e.g., removal of habitat for special-status wildlife).

Task BE 5.3: Task BE 5.3 (vegetation management) includes erosion controls that may include establishment of native vegetation communities through application of native seed mixes and weed management during the maintenance period. Using a seed mix not appropriate for the region could impact the habitat for special-status wildlife. Weeding activities, as described for Task BE 2.2 (control adverse edge effects for alkali communities), may include use of chemicals that could inadvertently affect special-status wildlife or soil chemistry (e.g., herbicides) and mechanical removal of weeds through pulling or weed-whacking, which could have collateral impacts to special-status wildlife, if not implemented properly.

Task BE 5.4: Task BE 5.4 (control adverse edge effects for uplands) could affect special-status wildlife, inadvertently, through management measures to control non-native invasive plants and animals along habitat edges. Potential impacts to special-status wildlife resulting from management of invasive plants would be similar to those described for Tasks BE 2.2 (control adverse edge effects for alkali communities) and BE 3.2 (managing invasive plant and animal species). Management for Argentine ants may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants) and chemical treatments (insecticides) of nest mounds if necessary. Management of moisture regimes could adversely affect hydrology for habitat where special-status wildlife occur or have the potential to occur. Inappropriate application of insecticides to control Argentine ants could have adverse impacts on native species (e.g., native ants, beetles, and other flying insects). Control of wild pigs (e.g., shooting, use of tracking dogs) could have adverse indirect effects on

special-status wildlife from human and dog activity (e.g., trampling of habitat, noise, and harassment by dogs).

Task BE 5.7: Task BE 5.7 (uplands restoration) may include habitat restoration. The potential impacts from habitat restoration are described above in Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat).

5.3.6.2.7.1.2 Proposed Public Use Management

Approximately 57 acres, or 4%, of land in the upland guild on the Davis Unit that are not currently managed, are proposed to be managed for public use under the draft LMP. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no upland small game hunting (Public Use Element 4) proposed on lands that are not currently managed in habitat for the habitat for the upland guild special-status wildlife. Additionally cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. Public Use Element 7 consists of identifying cultural resources, communicating regarding the resources and monitoring those resources; therefore Public Use Element 7 would not disturb biological resources. The water storage component (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and facilitate passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources. The management activity associated with Public Use Element 1 that is proposed on the Davis Unit that could result in impacts to special-status wildlife in the uplands guild is construction of new facilities to access the SJWA (Task PUE 1.2). Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program) and PUE 1.5 (utilize funding and volunteer opportunities) would not impact special-status wildlife, nor are they proposed on the Davis Unit.

Task PUE 1.2: Task PUE 1.2 (construction of new facilities) could affect special-status wildlife during construction, maintenance, and public use of new trails and associated facilities, such as parking and staging areas. Potential impacts to special-status wildlife that could occur during construction of new facilities, are as described for grading activities in Task BE 2.3 (developing an alkali restoration program). As required by Task PUE 1.2, while new facilities would be designed to avoid impacts to special-status wildlife, unavoidable impacts would be mitigated through restoration, which could have inadvertent impacts to species as described for Task BE 2.3.

Proposed Waterfowl Hunting (Public Use Element 2)

Of the 1,626 acres of habitat for upland guild special-status wildlife that would be managed under the draft LMP, 31 acres, or 2%, are within proposed waterfowl hunting areas. All of the proposed tasks associated with waterfowl hunting could potentially impact special-status wildlife: (1) safely operating and managing a waterfowl hunting program (PUE 2.1); (2) improving hunting infrastructure (Task PUE 2.2); and (3) developing non-motorized boat access to Mystic Lake (Task PUE 2.3). The waterfowl hunting season occurs in open zones during the four-month hunting season that runs from October through January. Waterfowl hunting currently occurs on Wednesdays and Saturdays only. The potential impact to nesting birds from waterfowl hunting is less than significant because the majority of nesting birds in southern California do not nest between October and January. In addition, MM-BIO-1l specifies the management and monitoring of hunting activities.

Task PUE 2.1: The primary activities associated with Task PUE 2.1 (operating and managing a waterfowl hunting program) that could affect special-status wildlife in the upland guild include potential unauthorized hunting activities such as taking of native non-game species; general increases in human and hunting dog activities; and hunting during sensitive periods some species (e.g., certain seasons).

Task PUE 2.2: Task PUE 2.2 (improving hunting infrastructure) includes maintenance and public use of existing hunting facilities, including blinds, parking areas, and trash cans. A main concern is trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, raccoons) that prey on native wildlife. Construction of new blinds could result in direct and indirect impacts to special-status wildlife similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Task PUE 2.3: Task PUE 2.3 (developing non-motorized boat access) includes construction of a new road, parking area, and dock structure for access to Mystic Lake. Construction of these new facilities could result in direct and indirect impacts to special-status wildlife similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Proposed Agriculture Management (Public Use Element 3)

Of the 1,626 acres of habitat that would be managed for upland guild special-status species under the LMP, 26 acres, or 2%, are within proposed agriculture areas. All of the tasks identified in the draft LMP for this public use could result in impacts to the upland guild special-status wildlife species, and include: (1) developing and maintaining agricultural leases (Task PUE 3.1); (2) reconfiguring existing CDFW food plots (Task PUE 3.2); (3) expansion of leases (Task PUE 3.3); (4) expansion of CDFW food plots (Task PUE 3.4); and (5) development of grazing permits (Task PUE 3.5).

Task PUE 3.1: Task PUE 3.1 (developing and maintaining agricultural leases) includes activities associated with habitat conversion, including conversion of dry wheat fields to triticale and alfalfa crops. There is some potential for impacts to special-status wildlife, including removal of foraging habitat for some species if the prey bases for raptors, for example, if the new crops are different.

Task PUE 3.2: Task PUE 3.2 (reconfiguring existing CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and Task PUE 3.4 (expansion of CDFW food plots). These Tasks could affect alkali resources and the special-status wildlife that depend on these resources.

Task PUE 3.3: Task PUE 3.3 (expansion of agriculture leases) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and Task PUE 3.4 (expansion of CDFW food plots).

Task PUE 3.4: Task PUE 3.4 (expansion of CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 and Task PUE 3.4 (expansion of CDFW food plots), which could affect alkali resources and SKR habitat.

Task PUE 3.5: Task PUE 3.5 (development of grazing permits) includes grazing activities to maintain SKR habitat. Grazing may have inadvertent impacts on other sensitive biological resources, including ground-nesting birds (e.g., horned lark, grasshopper sparrow), slow-moving animals (e.g., western spadefoots, horned lizards) and vegetation and soil damage, and erosion resulting in water quality impacts, if areas are over-grazed, stock are allowed to congregate in areas too long, or stocking rates are too high.

Proposed Hunting Dog Training and Trials (Public Use Element 5)

Of the approximately 1,626 acres of habitat for upland guild special-status wildlife that would be managed under the draft LMP, only 0.2 acres, or <0.1%, are within proposed hunting dog training areas.

The goal for management of hunting dog training and field trials was developed to safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA. To reach this goal, two tasks were identified in the draft LMP. All of the tasks identified in the LMP could result in impacts to special-status wildlife.

Task PUE 5.1: Task PUE 5.1 includes improvement and expansion of existing and new dog training facilities and conversion of existing vegetation to create green feed fields and ponds with points, dikes, and islands for dog water exit and re-entry. Grading and other construction activities to create these facilities may have direct and indirect impacts to special-status wildlife as

restoration activities described for Task BE 2.3 (developing an alkali restoration program). At least one of the proposed sites (in D7) may have special-status wildlife, including burrowing owl. In addition, increased human activity, parking and staging areas, and trash and garbage may adversely affect special-status wildlife.

Task PUE 5.2: The primary activity associated with Task PUE 5.1 (expansion of dog training facilities) that could affect special-status wildlife includes dog training activities that generally can disrupt breeding bird activities.

Fire Management (Public Use Element 6)

Fire management could affect special-status wildlife in the absence of appropriate mitigation or other avoidance, minimization, or mitigation measures. Pre-fire management activities that could affect special-status wildlife include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on special-status wildlife as described for Task BE 1.1 (comply with existing SKR requirements). Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could impact special-status wildlife. These activities could cause soil and vegetation damage, degrading habitat for special-status wildlife, and could directly affect individuals of less mobile sensitive species (e.g., rodents, reptiles, amphibians), including injury and mortality. Fire retardants may also damage habitat for special-status wildlife. Disturbed areas are also more vulnerable to invasion by non-native plant species. Restoration and enhancement following fire may include native plant seeding, which could adversely affect habitat for special-status wildlife if seeded species are not appropriate for the region.

5.3.6.2.7.2 Wetland Guild

On the Davis Unit, there are 1,648 acres of habitat for wetland guild special-status species that are not currently managed, but would be managed under the draft LMP.

5.3.6.2.7.2.1 Proposed Biological Resources Management

Approximately 1,577 acres, or 96%, of the 1,648 acres of land in the wetland guild on the Davis Unit is not currently managed, but is proposed to be managed for biological resources under the draft LMP. A discussion of the proposed biological resources management in relation to special-status wildlife in the wetlands guild and their potentially suitable habitat is provided below by management element. There is no SKR management (Biological Element 1) proposed on lands that are not currently managed in habitat for the wetland guild special-status wildlife.

Proposed Alkali Communities Management (Biological Element 2)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 438 acres, or 27%, are within proposed alkali management areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.3 (developing an alkali restoration program), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife in the wetlands guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit.

Proposed Wetlands Communities Management (Biological Element 3)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 754 acres, or 46%, are within proposed wetlands management areas.

Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.6 (vernal pool enhancement), and BE 3.10 (ensuring compatibility of management practices) are not proposed on the Davis Unit. Tasks BE 3.8 (identifying properties that promote conservation of wetland resources) and BE 3.11 (implementing avoidance and minimization measures) would not result in substantial impacts to special-status wildlife in the Davis Unit. Tasks BE 3.2 (managing invasive plant and animal species), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), BE 3.7 (protecting breeding habitat for spadefoot toad), and BE 3.9 (maintaining the ability to use reclaimed water) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Wetlands Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1, and additional information related to the wetlands guild special-status wildlife for some tasks is provided below.

Tasks BE 3.2, BE 3.4, and BE 3.7: Task BE 3.2 (managing invasive plant and animal species) affect non-target native animals if not properly implemented such as mechanically removing or chemically treating target during the sensitive bird and arroyo toad breeding seasons or inadvertently disturbing native riparian and wetlands plant during chemical treatments. For example, while salt-cedar is considered poor habitat for most breeding birds and other native wildlife, southwestern willow flycatchers are known nest in salt-cedar. Eradication of non-native animal species (e.g., American bullfrogs, exotic turtles, fish, crayfish, domestic dogs, and wild pigs) may include both habitat-based methods (e.g., pond-draining following by removal of target species); various target species-specific methods, such as gill netting, water seining, gigging, electroshocking, trapping, shooting, and chemical treatments (e.g., rotenone) and fencing prior to

and following eradication measures to prevent recolonizations. Each of these eradication methods have the potential for adverse effects on non-target special-status wildlife if not properly implemented and in the absence of avoidance and minimization measures. Chemical treatments of wetlands supporting native species could have broad-ranging adverse impacts. Similarly, for Task BE 3.4 (implementing a program to provide adequate habitat western pond turtle) and Task BE 3.7 (protecting breeding habitat for spadefoot toad), some of the eradication methods for urban predators and exotic species could have inadvertent impacts on special-status wildlife, if not properly implemented. For example, translocation of pond turtle individuals from other areas of the SJWA may also be considered and would need to be carried out in a manner that did not affect the health of the donor populations (e.g., removal of too many individuals or biased selection of sex and age-classes) or the health of the translocated population (sick or diseased individuals); translocation of vernal pool animals (e.g., fairy shrimp) may also be considered and would need to be carried out in a manner that did not affect the viability of populations at the donor sites.

Proposed Riparian Communities Management (Biological Element 4)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 15 acres, or 1%, are within proposed riparian community management areas.

All of the management activities associated with riparian communities management could result in impacts to upland guild special-status wildlife species and include (1) maintaining new and existing manage riparian habitats (Task BE 4.1); (2) developing plans for a joint wetlands/riparian restoration in D4 and D7 (Task BE 4.2); (3) evaluating the suitability of establishing a riparian restoration/mitigation program in D7 and D13 that expands riparian habitat and results in more stable habitat conditions (Task BE 4.3); (4) controlling invasive exotic plant and animal species within riparian corridors to benefit native plant and wildlife species (Task BE 4.4); and (5) implementing adequate avoidance, minimization, and, if necessary, mitigation, to offset potential future impacts to riparian habitat within the SJWA LMP) (Task BE 4.5).

Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1.1.

Proposed Upland Communities Management (Biological Element 5)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 369 acres, or 22%, are within proposed upland communities management areas.

Task BE 5.1 (conducting refinements of vegetation classification) would not result in substantial direct and indirect impacts to special-status wildlife. Due to the qualitative nature of the field work required to refine the vegetation classification, impacts from repeated surveys in certain areas that

could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas) and not likely to be significant. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status wildlife if it were to occur.

Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Upland Communities Management (Biological Element 5) in Section 5.3.6.2.7.1.1.

5.3.6.2.7.2.2 Proposed Public Use Management

Approximately 71 acres, or 4%, of land in the wetland guild on the Davis Unit is not currently managed, but would be managed for public use under the draft LMP. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no upland small game hunting (Public Use Element 4) or hunting dog training and trials (Public Use Element 5) proposed on lands that are not currently managed in habitat for wetland guild special-status wildlife. Additionally, cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Task PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status wildlife in the wetlands guild. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.7.1.2 (Uplands Guild). Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result impacts to special-status wildlife, nor are they proposed on the Davis Unit.

Proposed Waterfowl Hunting (Public Use Element 2)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 2 acres, or 0.1%, are within proposed waterfowl hunting areas. All of the proposed tasks associated with waterfowl hunting could potentially impact special-status wildlife: (1) safely operating and managing a waterfowl hunting program (Task PUE 2.1); (2) improving hunting infrastructure (Task PUE 2.2); and (3) developing non-motorized boat access to Mystic Lake (Task PUE 2.3). Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.2.7.1.2. As

noted in Chapter 2, Project Description, the waterfowl hunting season occurs in open zones during the four-month hunting season that runs from October through January. Hunting currently occurs only on Wednesdays and Saturdays. The potential impact to nesting birds from waterfowl hunting is less than significant because the majority of nesting birds in southern California do not nest between October through January. In addition, MM-BIO-1l sets forth the management and monitoring of hunting activities.

Proposed Agriculture Management (Public Use Element 3)

Of the 1,648 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 68 acres, or 4%, are within proposed agriculture areas. Tasks PUE 3.1 (developing and maintaining agricultural leases), PUE 3.2 (reconfiguring existing CDFW food plots), PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5 (development of grazing permits) could result in inadvertent impacts to special-status wildlife in the wetlands guild. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Agriculture (Public Use Element 3) in Section 5.3.6.2.7.1.2 (Uplands Guild).

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in wetlands guild. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2 (Uplands Guild). Additionally, following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian habitat for special-status wildlife.

5.3.6.2.7.3 Riparian Guild

On the Davis Unit, there are 32 acres of habitat for riparian guild special-status species that are not currently managed, but would be managed under the draft LMP.

5.3.6.2.7.3.1 Proposed Biological Resources Management

Approximately 32 acres, or 100%, of land in the riparian guild on the Davis Unit are not currently managed, but would be managed for biological resources under the draft LMP. Table 5.3-21 summarizes the guilds that occur within proposed biological resources management areas that are not currently managed in the Davis Unit. A discussion of the proposed biological resource management in relation to riparian special-status wildlife and their potentially suitable habitat is provided below by management element. There is no SKR management (Biological Element 1),

wetlands community management (Biological Element 3), or uplands community management (Biological Element 5) proposed on lands that are not currently managed in habitat for the riparian guild special-status wildlife.

Proposed Alkali Communities Management (Biological Element 2)

Of the 32 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 1 acre, or 2%, are within proposed alkali communities management areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.3 (developing an alkali restoration program), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife in the wetlands guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1 (Uplands Guild). Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit.

Proposed Riparian Communities Management (Biological Element 4)

Of the 32 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 31 acres, or 97%, are within proposed riparian communities management areas.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.2 (habitat restoration for wetlands/riparian habitats), BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1.

5.3.6.2.7.3.2 Proposed Public Use Management

On the Davis Unit, there is no waterfowl hunting (Public Use Element 2), agriculture management (Public Use Element 3), upland small game hunting (Public Use Element 4), or hunting dog training and trials (Public Use Element 5) proposed on lands that are not currently managed in habitat for the riparian guild special-status wildlife. Additionally, cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Task PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status wildlife in the riparian guild. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.7.1.2. Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result impacts to special-status wildlife nor are they proposed on the Davis Unit.

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2. Additionally, following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian habitat for special-status wildlife.

5.3.6.2.8 Davis Unit Special-Status Wildlife: Proposed Management for Areas Currently Managed

There are 5,062 acres for upland, wetland, and riparian guilds in the Davis Unit that are currently being managed for a different resource than the proposed management activity. With respect to special-status wildlife species in the Davis Unit, the proposed management activities changes from existing to proposed are primarily more beneficial because the management is proposed to be biological resource management where it is currently public use management. Table 5.3-23 summarizes the guilds that occur within proposed biological resources management and public use management areas in the Davis Unit that are currently managed and the new management activities that are proposed.

Table 5.3-23

Acreage of Guilds in Proposed Management for Areas Currently Managed in Davis Unit

Proposed Management Type	Proposed Management	Existing Management Type	Existing Management	Upland	Wetland	Riparian	Total
Biological Resource	Alkali Communities	Public Use	Agriculture & Upland Game Hunting	31	175	—	206
			Upland Game Hunting	333	537	5	875
			Upland Game Hunting & Hunting Dog Training and Trials	24	—	—	24
	Riparian Communities	Public Use	Agriculture & Upland Game Hunting	4	<0.5	<0.5	4
			Upland Game Hunting	6	5	6	18
		Biological Resource and Public Use	Wetland, Waterfowl Hunting	<0.5	6	—	6
	SKR	Public Use	Agriculture & Upland Game Hunting	425	<0.5	2	427
			Upland Game Hunting	136	29	26	191
		Biological Resource	Riparian Communities	7	1	8	15
	Upland Communities	Public Use	Agriculture & Upland Game Hunting	63	—	—	63
			Upland Game Hunting	2,401	103	6	2,511
			Upland Game Hunting & Hunting Dog Training and Trials	242	—	—	242
	Wetland Communities	Public Use	Agriculture	2	—	—	2
			Upland Game Hunting	2	<0.5	—	2
			Biological Resource Subtotal	*3,677*	*857*	*53*	*4,588*
Biological Resource and Public Use	Riparian Communities & Waterfowl Hunting	Public Use	Agriculture & Upland Game Hunting	4	2	—	6
			Biological Resource and Public Use Subtotal	*4*	*2*	—	*6*

Table 5.3-23

Acreage of Guilds in Proposed Management for Areas Currently Managed in Davis Unit

Proposed Management Type	Proposed Management	Existing Management Type	Existing Management	Upland	Wetland	Riparian	Total
Public Use	Agriculture	Public Use	Upland Game Hunting	168	<0.5	—	168
		Biological Resource and Public Use	Wetland Communities & Waterfowl Hunting	—	7	—	7
	Dog Training	Public Use	Upland Game Hunting	220	<0.5	—	220
	Waterfowl Hunting	Public Use	Agriculture	8	—	—	8
			Agriculture & Upland Game Hunting	49	15	—	64
			Public Use Subtotal	*446*	*22*		*468*
			Grand Total	**4,127**	**882**	**53**	**5,062**

5.3.6.2.8.1 Upland Guild

On the Davis Unit, there are 4,127 acres of habitat for upland guild special-status species that are currently being managed for a different resource than the proposed management activity under the draft LMP.

5.3.6.2.8.1.1 Proposed Biological Resources Management

Approximately 3,677 acres, or 89%, of land in the upland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for biological resources under the draft LMP. Table 5.3-23 summarizes the guilds that occur within proposed biological resources management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource management in relation to upland special-status wildlife and their potentially suitable habitat is provided below by management element.

Proposed SKR Management (Biological Element 1)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 569 acres, or 14%, are within areas where the management activity is proposed to change to SKR management. Specifically, 425 acres of areas that are managed for agriculture and upland game hunting, 136 acres of areas that are managed for upland game hunting, and 7 acres of areas that are managed for riparian communities would be managed for SKR.

Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.7.2.1.

Proposed Alkali Communities Management (Biological Element 2)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 388 acres, or 9%, are within areas where the management activity is proposed to change to alkali management. Specifically, 31 acres of areas that are managed for agriculture and upland game hunting, 333 acres of areas managed for upland game hunting, and 24 acres of areas managed for upland game hunting and hunting dog training would be managed for alkali communities.

Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to

special-status wildlife from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit. Task BE 2.3 (developing an alkali restoration program) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.7 and not in this section.

Proposed Wetlands Communities Management (Biological Element 3)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 4 acres, or <1%, are within areas where the management activity is proposed to change to wetlands management. Specifically, 2 acres of areas that are managed for agriculture and 2 acres of areas that are managed for upland game hunting would be managed for wetland communities.

Tasks BE 3.2 (managing invasive plant and animal species) and BE 3.9 (maintaining the ability to use reclaimed water) could result in impacts to special-status wildlife and their suitable habitat should they be present. Potential impacts from implementation of these tasks are described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.7.1. Tasks BE 3.1 (maintain and enhance open water and marsh habitat) and BE 3.6 (vernal pool enhancement) are not proposed on the Davis Unit. Task BE 3.10 (ensuring compatibility of management practices) is not proposed on the Davis Unit, and that task itself would not result in inadvertent impacts to special-status wildlife. Tasks BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), and BE 3.5 (tricolored blackbird conservation measures) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Proposed Riparian Communities Management (Biological Element 4)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 10 acres, or <1%, are within areas where the management activity is proposed to change to riparian management. Specifically, 4 acres of areas that are managed for agriculture and upland game hunting and 6 acres of areas that are managed for upland game hunting would be managed for riparian communities.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife in the upland guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Proposed Uplands Communities Management (Biological Element 5)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 2,707 acres, or 66%, are within areas where the management activity is proposed to change to upland management. Specifically, 63 acres of areas managed for agriculture and upland game hunting, 2,401 acres of areas managed for upland game hunting, and 242 acres of areas managed for upland game hunting and hunting dog training would be managed for upland communities.

Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), and BE 5.4 (control adverse edge effects for uplands) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.2.7.1. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status wildlife if it were to occur.

5.3.6.2.8.1.2 Proposed Public Use Management

Approximately 446 acres, or 11%, of land in the upland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for public uses under the draft LMP. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no upland small game hunting (Public Use Element 4) proposed on lands that are being managed for a different resource than the proposed management activity for habitat for the upland guild special-status wildlife. Task PUE 1.2 (construction of new facilities) of Public Use Element 1 (proposed trail use and wildlife viewing) is the only task proposed on the Davis Unit that could impact special-status species, but Task PUE 1.2 is not a current management task and thus is not addressed in this section (see Section 5.3.6.2.7.1.2). Additionally cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. The water storage component (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife.

A discussion of the proposed public use management in relation to special-status wildlife and their potentially suitable habitat is provided below by management element.

Proposed Waterfowl Hunting (Public Use Element 2)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 58 acres, or 1%,

are within areas where the management activity is proposed to change to waterfowl hunting. Specifically, 8 acres of areas that are managed for agriculture and 49 acres that are managed for agriculture and upland game hunting would be managed for waterfowl hunting.

As described under Proposed Waterfowl Hunting Management (Public Use Element 2), in Section 5.3.6.2.7.1.2, Tasks PUE 2.1 (operating and managing a waterfowl hunting program) and PUE 2.2 (improving hunting infrastructure) could result in inadvertent impacts to special-status wildlife. Task PUE 2.3 (developing non-motorized boat access) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.7 and not in this section. Additionally, the waterfowl hunting season occurs between October through January; therefore, the potential impact to nesting birds from waterfowl hunting is less than significant because the majority of nesting birds in southern California do not nest between October and January. In addition, MM-BIO-1l sets forth the management and monitoring of hunting activities.

Proposed Agriculture Management (Public Use Element 3)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 168 acres, or 4%, are within areas where the management activity is proposed to change to agriculture. Specifically, 168 acres of areas managed for upland game hunting would be managed for agriculture.

As described under Proposed Agriculture Management (Public Use Element 3), in Section 5.3.6.2.7.1.2, Tasks PUE 3.1 (developing and maintaining agricultural leases) and PUE 3.2 (reconfiguring existing CDFW food plots) could result in inadvertent impacts to special-status wildlife. Tasks PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5 (development of grazing permits) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Proposed Hunting Dog Training and Trials (Public Use Element 5)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 220 acres, or 5%, are within areas where the management activity is proposed to change to hunting dog training. Specifically, 220 acres of areas managed for upland game hunting would be managed for hunting dog training areas.

Tasks PUE 5.1 (expansion of dog training facilities) and PUE 5.2 (managing hunting dog training programs) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Hunting Dog Training and Trials (Public Use Element 5) in Section 5.3.6.2.7.1.2.

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.8.1.3 Proposed Biological Resources and Public Use Management

Approximately 4 acres, or <1%, of land in the upland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for biological resources and public uses under the draft LMP. Table 5.3-23 summarizes the guilds that occur within proposed biological resources and public use management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource and public use management in relation to upland special-status wildlife and their potentially suitable habitat is provided below by management element.

Proposed Riparian Communities and Waterfowl Hunting (Biological Element 4 and Public Use Element 2)

Of the 4,127 acres of habitat for upland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 4 acres, or <1%, are within areas currently managed for agriculture and upland game hunting but proposed to change to riparian communities and waterfowl hunting management.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife in the upland guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Tasks PUE 2.1 (operating and managing a waterfowl hunting program), PUE 2.2 (improving hunting infrastructure), and PUE 2.3 (developing non-motorized boat access) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.2.7.1.2.

5.3.6.2.8.2 Wetland Guild

On the Davis Unit, there are 882 acres of habitat for wetland guild special-status species that are currently being managed for a different resource than the proposed management activity under the draft LMP.

5.3.6.2.8.2.1 Proposed Biological Resources Management

Approximately 857 acres, or 97%, of land in the wetland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for biological resources under the draft LMP. Table 5.3-23 summarizes the guilds that occur within proposed biological resources management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource management in relation to wetland special-status wildlife and their potentially suitable habitat is provided below by management element. There is no wetlands communities management (Biological Element 3) proposed on lands that are currently being managed for a different resource than the proposed management activity in habitat for the wetland guild special-status wildlife.

Proposed SKR Management (Biological Element 1)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 30 acres, or 3%, are within areas where the management activity is proposed to change to SKR management. Specifically, 29 acres of areas that are managed for upland game hunting and 1 acre of areas managed for riparian communities would be managed for SKR.

Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.7.2.1.

Proposed Alkali Communities Management (Biological Element 2)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 712 acres, or 81%, are within areas where the management activity is proposed to change to alkali management. Specifically, 175 acres of areas that are managed for agriculture and upland game hunting and 534 acres of areas managed for upland game hunting would be managed for alkali communities.

Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.2. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit. Task BE 2.3 (developing an alkali restoration program) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.7 and not in this section.

Proposed Riparian Communities Management (Biological Element 4)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 12 acres, or 1%, are within areas where the management activity is proposed to change to riparian management. Specifically, 5 acres of areas that are managed for upland game hunting and 6 acres of areas that are managed for wetland and waterfowl hunting would be managed for riparian communities.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife in the wetland guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Proposed Uplands Communities Management (Biological Element 5)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 103 acres, or 12%, managed for upland game hunting are proposed to change to upland communities management.

Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), and BE 5.4 (control adverse edge effects for uplands) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.2.7.2. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status wildlife if it were to occur.

5.3.6.2.8.2.2 Proposed Public Use Management

Approximately 22 acres, or 2%, of land in the wetland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for public uses under the draft LMP. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no upland small game hunting (Public Use Element 4) or hunting dog training and trials (Public Use Element 5) proposed on lands that are being managed for a different resource than the proposed management activity for habitat for the wetland guild special-status wildlife.

Task PUE 1.2 (construction of new facilities) of Public Use Element 1 (proposed trail use and wildlife viewing) is the only task proposed on the Davis Unit that could impact special-status species, but Task PUE 1.2 is not a current management task and thus is not addressed in this section (see Section 5.3.6.2.7.1.2). Additionally cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. The water storage component (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife.

Proposed Waterfowl Hunting (Public Use Element 2)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 15 acres, or 2%, are within areas where the management activity is proposed to change to waterfowl hunting. Specifically, this area is currently managed for agriculture and upland game management.

As described under Proposed Waterfowl Hunting Management (Public Use Element 2), in Section 5.3.6.2.7.1.2, Tasks PUE 2.1 (operating and managing a waterfowl hunting program) and PUE 2.2 (improving hunting infrastructure) could result in inadvertent impacts to special-status wildlife. Task PUE 2.3 (developing non-motorized boat access) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.7 and not in this section. Additionally, the waterfowl hunting season occurs between October through January; therefore, the potential impact to nesting birds from waterfowl hunting is less than significant because the majority of nesting birds in southern California do not nest between October and January. In addition, MM-BIO-1l sets forth the management and monitoring of hunting activities.

Proposed Agriculture Management (Public Use Element 3)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 7 acres, or 1%, are within areas where the management activity is proposed to change to agriculture.

Specifically, 7 acres of areas managed for wetland communities and waterfowl hunting would be managed for agriculture.

As described under Proposed Agriculture Management (Public Use Element 3), in Section 5.3.6.2.7.1.2, Tasks PUE 3.1 (developing and maintaining agricultural leases) and PUE 3.2 (reconfiguring existing CDFW food plots) could result in inadvertent impacts to special-status wildlife. Tasks PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5 (development of grazing permits) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.8.2.3 Proposed Biological Resources and Public Use Management

Approximately 2 acres, or <1%, of land in the wetland guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for biological resources and public uses under the draft LMP. Table 5.3-23 summarizes the guilds that occur within proposed biological resources and public use management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource and public use management in relation to wetland special-status wildlife and their potentially suitable habitat is provided below by management element.

Proposed Riparian Communities and Waterfowl Hunting (Biological Element 4 and Public Use Element 2)

Of the 882 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 2 acres, or <1%, are within areas currently managed for agriculture and upland game hunting but proposed to change to riparian communities and waterfowl hunting management.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife in the wetland guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1. Tasks BE 4.2 (habitat restoration for

wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Tasks PUE 2.1 (operating and managing a waterfowl hunting program), PUE 2.2 (improving hunting infrastructure), and PUE 2.3 (developing non-motorized boat access) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.2.7.1.2.

5.3.6.2.8.3 Riparian Guild

On the Davis Unit, there are 53 acres of habitat for riparian guild special-status species that are currently being managed for a different resource than the proposed management activity under the draft LMP.

5.3.6.2.8.3.1 Proposed Biological Resources Management

Approximately 53 acres, or 100%, of land in the riparian guild on the Davis Unit currently being managed for a different resource than the proposed management activity would be managed for biological resources under the draft LMP. Table 5.3-23 summarizes the guilds that occur within proposed biological resources management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource management in relation to riparian special-status wildlife and their potentially suitable habitat is provided below by management element. There is no wetlands communities management (Biological Element 3) proposed on lands that are currently being managed for a different resource than the proposed management activity in habitat for the riparian guild special-status wildlife.

Proposed SKR Management (Biological Element 1)

Of the 53 acres of habitat for riparian guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 35 acres, or 66%, are within areas where the management activity is proposed to change to SKR management. Specifically, 26 acres that are managed for upland game hunting, 8 acres that are managed for riparian communities, and 2 acres that are managed for agriculture and upland game hunting would be managed for SKR.

Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to special-status wildlife if appropriate mitigation measures are not implemented. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.7.2.1.

Proposed Alkali Communities Management (Biological Element 2)

Of the 53 acres of habitat for riparian guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 5 acres, or 9%, are within areas where the management activity, upland game hunting, is proposed to change to alkali management.

Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1. Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit. Task BE 2.3 (developing an alkali restoration program) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.2.7 and not in this section.

Proposed Riparian Communities Management (Biological Element 4)

Of the 53 acres of habitat for riparian guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 6 acres, or 1%, are within areas where the management activity is proposed to change to riparian communities management. Specifically, 6 acres of areas that are managed for upland game hunting would be managed for riparian communities.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife in the riparian guild. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.2.7.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.2.7 and not in this section.

Proposed Upland Communities Management (Biological Element 5)

Of the 53 acres of habitat for riparian guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 6 acres, or 11%, are within areas where the management activity, upland game hunting, is proposed to change to upland communities management.

Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), and BE 5.4 (control adverse edge effects for uplands) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are

described under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.2.7.1.1. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to special-status wildlife if it were to occur.

5.3.6.2.8.3.2 Proposed Public Use Management

On the Davis Unit, there is no waterfowl hunting (Public Use Element 2), agriculture management (Public Use Element 3), upland small game hunting (Public Use Element 4), or hunting dog training and trials (Public Use Element 5) proposed on lands that are currently being managed for a different resource than the proposed management activity would be managed for public uses in habitat for the habitat for the riparian guild special-status wildlife. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. Task PUE 1.2 (construction of new facilities) of Public Use Element 1 (proposed trail use and wildlife viewing) is the only task proposed on the Davis Unit that could impact special-status species, but Task PUE 1.2 is not a current management task and thus is not addressed in this section (see Section 5.3.6.2.7.1.1). Cultural resource management (Public Use Element 7) would not result in impacts to special-status wildlife. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.9 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact special-status wildlife.

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.9 Davis Unit Special-Status Wildlife: Public Use and Administrative Facilities

As described in Section 5.3.6.2.3, ground-disturbing activities associated with public use and administrative facilities would occur within the Davis Unit. Activities that would result in ground-disturbing activities would include construction of three new homes, associated shade structures, and one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems. These ground-disturbing activities would occur within D8 of the Davis Unit, and the proposed recycled water storage would occur within Subunits D1 and D2. Additionally, new road, access, and trail infrastructure and improvements to the auto-tour loop road and a new SJWA entrance sign would be constructed. These ground-disturbing activities would occur within D4 and D5.

In Subunit D1, there is approximately 1 acre of habitat for riparian guild special-status species, 27 acres of habitat for wetland guild special-status species, and 788 acres of habitat for upland guild special-status species. Within Subunit D2, there is approximately 2 acres of habitat for riparian guild special-status species and 713 acres of habitat for upland guild special-status species. Subunit D4 includes approximately 18 acres of habitat for riparian guild special-status species, 526 acres of habitat for upland guild special-status species, and 767 acres of habitat for wetland guild special-status species. Subunit D5 includes approximately 2 acres of habitat for riparian guild special-status species 332 acres of habitat for wetland guild special-status species, and 440 acres of habitat for upland guild special-status species. Finally, Subunit D8 includes approximately 161 acres of habitat for upland guild special-status species and 6 acres of habitat for wetland guild special-status species. In the absence of mitigation or other measures, impacts to special-status wildlife species due to proposed structures would be significant.

5.3.6.2.10 Potrero Unit Special-Status Wildlife: Proposed Management for Areas Not Currently Managed

Special-status wildlife species known to occur or with a moderate to high potential to occur on the Potrero Unit are organized by guilds in Table 5.3-24.

Table 5.3-24
Special-Status Wildlife Known to Occur or with a Moderate to High Potential to Occur in the Potrero Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Wetland Guild					
Agelaius tricolor	tricolored blackbird	BCC (nesting colony)	~~SCE, SSC (breeding)~~ST	Covered	Observed
Falco peregrinus anatum	American peregrine falcon	Delisted; BCC (nesting)	Delisted; FP (nesting)	Covered (Nesting)	Observed
Spea hammondii	western spadefoot	None	SSC	Covered	Observed
Thamnophis hammondii	two-striped garter snake	None	SSC	Not Covered	Potential to occur
Riparian Guild					
Elanus leucurus	white-tailed kite	None	FP (nesting)	Covered	Observed
Empidonax traillii	willow flycatcher	BCC (nesting)	SE	Not covered	Observed as southwestern willow flycatcher
Empidonax traillii extimus	southwestern willow flycatcher	FE	SE	Covered (Nesting)	Observed
Icteria virens	yellow-breasted chat	None	SSC (breeding)	Covered (Nesting)	Potential to occur
Setophaga petechia	yellow warbler	BCC (nesting)	SSC (breeding)	Covered	Observed

Table 5.3-24
Special-Status Wildlife Known to Occur or with a Moderate to High Potential to Occur in the Potrero Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Vireo bellii pusillus	least Bell's vireo	FE	SE	Covered (Nesting)	Observed
Upland Guild					
Ammodramus savannarum	grasshopper sparrow	None	SSC (breeding)	Covered*	Observed
Antrozous pallidus	pallid bat	None	SSC	Not Covered	Potential to occur
Aquila chrysaetos	golden eagle	BCC (nesting, nonbreeding, and wintering)	FP, WL	Covered	Observed
Artemisiospiza belli belli	Bell's sage sparrow	BCC (nesting)	WL (nesting)	Not Covered	Potential to occur
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None	SSC	Covered	Observed
Athene cunicularia	burrowing owl	BCC (burrow sites and some wintering sites)	SSC (burrow sites and some wintering sites)	Covered	Observed
Baeolophus inornatus	oak titmouse	BCC (nesting)	None	Not Covered	Observed
Buteo regalis	ferruginous hawk	BCC (nonbreeding/ wintering)	WL (nonbreeding/ wintering)	Covered	Observed
Calypte costae	Costa's hummingbird	BCC	None	Not Covered	Observed
Buteo swainsoni	Swainson's hawk	BCC (nesting)	ST	Covered	Potential to occur
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	SSC	Covered	Potential to occur
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	SSC	Covered	Observed
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None	SSC	Not Covered	Potential to occur
Circus cyaneus	northern harrier	None	SSC (breeding)	Covered	Observed
Corynorhinus townsendii	Townsend's big-eared bat	FT	SSC	Not Covered	Observed
Crotalus ruber	red diamondback rattlesnake	None	SSC	Covered	Observed
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE	SSC	Covered	Potential to occur

Table 5.3-24
Special-Status Wildlife Known to Occur or with a Moderate to High Potential to Occur in the Potrero Unit by Guild

Scientific Name	Common Name	Federal Status	State Status	MSHCP	Observed or Potential to Occur
Dipodomys stephensi	Stephens' kangaroo rat	FE	ST	Covered	Observed
Eumops perotis californicus	western mastiff bat	None	SSC	Not Covered	Potential to occur
Falco mexicanus	prairie falcon	BCC (nesting)	WL (nesting)	Covered	Observed
Lanius ludovicianus	loggerhead shrike	BCC (nesting)	SSC (breeding)	Covered	Observed
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	SSC	Covered	Observed
Melanerpes lewis	Lewis's woodpecker	BCC	None	Not Covered	Observed
Neotoma lepida intermedia	San Diego desert woodrat	None	SSC	Covered	Potential to occur
Onychomys torridus ramona	southern grasshopper mouse	None	SSC	Not Covered	Potential to occur
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	SSC	Covered	Potential to occur
Phrynosoma blainvillii	Blainville's horned lizard	None	SSC	Covered	Observed
Polioptila californica californica	coastal California gnatcatcher	FT	SSC (breeding)	Covered	Observed
Spinus lawrencei	Lawrence's goldfinch	BCC (nesting)	None	Not Covered	Observed
Spizella atrogularis	black-chinned sparrow	BCC (nesting)	None	Not Covered	Observed
Spizella breweri	Brewer's sparrow	BCC (nesting)	None	Not Covered	Observed
Taxidea taxus	American badger	None	SSC	Not Covered	Potential to occur

Status:
None: No state or federal designation.
Federal:
BCC: USFWS Birds of Conservation Concern
FE: Federal listing as endangered
FT: Federal listing as threatened
Delisted = federally delisted
State status codes:
FP: CDFW listing as fully protected
SE: State listing as endangered
ST: State listing as threatened
SCE: State candidate for listing as endangered
SSC: CDFW listing as species of special concern
WL: CDFW listing as watch list
Delisted: State delisted
MSHCP:

Covered: Covered under the Western Riverside MSHCP. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.
Covered*: Considered adequately conserved when certain conservation requirements are met.

On the Potrero Unit, there are 7,690 acres of land not currently managed within proposed biological resource management areas, 304 acres of land not currently managed within proposed biological resource management and public use management areas, and 1,136 acres of land not currently managed within proposed public use management areas; each area is described below by guild and proposed management type. Table 5.3-25 summarizes the guilds that occur within proposed biological resources management and public use management areas in the Potrero Unit.

Table 5.3-25
Acreage of Guilds in Proposed Management for Areas that are Not Currently Managed in the Potrero Unit

Proposed Management Type	Proposed Management	Acres	% by Guild
Riparian Guild			
Biological Resource	Alkali Communities	22	8%
	Riparian Communities	179	62%
	Upland Communities	84	29%
	Wetland Communities	2	1%
	Biological Resource Subtotal	*287*	*100%*
Public Use	Upland Game Hunting	1	<1%
	Public Use Management Subtotal	1	<1%
	Riparian Total	**288**	**100%**
Upland Guild			
Biological Resource	Alkali Communities	107	1%
	Riparian Communities	16	<1%
	Upland Communities	7,256	82%
	Wetland Communities	5	<1%
	Biological Resource Subtotal	*7,384*	*84%*
Biological Resource & Public Use	SKR & Upland Small Game Hunting	300	3%
	Biological Resource & Public Use Subtotal	*300*	*3%*
Public Use	Upland Hunting	1,133	13%
	Public Use Subtotal	*1,133*	*13%*
	Upland Total	**8,817**	**100%**
Wetlands Guild			
Biological Resource	Alkali Communities	11	45%
	Riparian Communities	8	32%
	SKR, Upland Game Hunting	4	15%
	Biological Resource Subtotal	*23*	*93%*
Public Use	Upland Game Hunting	2	7%
	Public Use Subtotal	*2*	*7%*
	Wetlands Total	**25**	**100%**
	TOTAL	**9,130**	**—**

5.3.6.2.10.1 Uplands Guild

On the Potrero Unit, there are 8,817 acres of habitat for upland guild special-status species that are not currently managed, but would be managed under the draft LMP.

5.3.6.2.10.1.1 Proposed Biological Resources Management

Approximately 7,384 acres, or 84%, of land in the upland guild on the Potrero Unit is not currently managed, but would be managed for biological resources under the draft LMP. A discussion of the proposed biological resources management in relation to upland guild special-status wildlife and their suitable habitat is provided below by management element.

Proposed SKR Management (Biological Element 1)

In habitat for the upland guild species, SKR is proposed to be co-managed with upland game hunting and is addressed in Section 5.3.6.2.10.1.3.

Proposed Alkali Communities Management (Biological Element 2)

Of the 8,817 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 107 acres, or 1%, are within proposed alkali management areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of Tasks BE 2.1 and BE 2.4 are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1 and Task BE 2.2 (controlling edge effects) is described below. Task BE 2.3 (developing an alkali restoration program) is not proposed on the Potrero Unit.

Task BE 2.2: The primary activities associated with Task BE 2.2 (control adverse edge effects for alkali communities) include measures to control non-native invasive species, human activity/trampling, and altered hydrology. Measures to control non-native invasive species may include use of chemicals that may inadvertently affect native plants or soil chemistry (e.g., herbicides, pesticides); mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking, which could have collateral impacts if not implemented properly; grazing, which could result in inadvertent trampling and soil erosion in sensitive areas; and prescribed burning, which could escape authorized burn areas or cause off-site erosion. Measures to control human activity/trampling such as signage, fencing, and other physical barriers could affect special-status wildlife if not sited, installed, and maintained properly. Measures to control altered hydrology could also have inadvertent effects, including erosion and sediment flow controls, such as

installation of appropriate wattled native plant material for stream bank stabilization; installation of geotextile fabric where unstable soil will limit plant reestablishment; installation of energy dissipating features where flow velocities are expected to be erosive; installation of grade-stabilizing structures/vegetation; reseeding with appropriate native understory species; and installation of selected native container plant species. These measures could have inadvertent adverse effects on special-status wildlife if not implemented properly, such as altering hydrology to the extent that resources are receiving poorly-timed or too little or too much water or sediment sources.

Proposed Wetlands Communities Management (Biological Element 3)

Of the 8,817 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 5 acres, or <1%, are within proposed wetlands management areas.

Tasks BE 3.10 (ensuring compatibility of management practices) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to special-status wildlife. Tasks BE 3.2 (managing invasive plant and animal species), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), and BE 3.6 (vernal pool enhancement) could result in impacts to special-status wildlife, if appropriate mitigation measures are not implemented. Potential impacts from implementation of Tasks BE 3.2, 3.4, and 3.5 are described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.7.1.1. Task BE 3.6 is described below. Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.7 (protecting breeding habitat for spadefoot toad), BE 3.8 (identifying properties that promote conservation of wetland resources), and BE 3.9 (maintaining the ability to use reclaimed water) are not proposed on the Potrero Unit.

Task BE 3.6: The primary activities associated with Task BE 3.6 (vernal pool enhancement) that could affect special-status wildlife include activities associated with vernal pool enhancement. Although potential enhancement methods have not been identified, methods to reduce non-native grasses and exotic forbs to increase pool hydroperiods, may include grazing, mowing, prescribed burning, and chemical treatments. Without proper implementation, these methods could have similar adverse impacts to special-status wildlife described for Task BE 1.1 (comply with existing SKR requirements) in Section 5.3.6.2.7.1, including direct impacts to slow-moving species (e.g., reptiles) and nesting birds. Such activities would also need to be carried out in a manner that does not disturb vernal pools soils and thus adversely affect their water-holding capacity (e.g., inadvertent ripping or crushing of hardpan soils within pools). Translocation of vernal pool plants and animals (e.g., fairy shrimp) may also be considered, and would need to be carried out in a manner that did not affect the viability of populations at the donor sites.

Proposed Riparian Communities Management (Biological Element 4)

Of the 8,817 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 16 acres, or <1%, are within proposed riparian management areas.

Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife, if appropriate mitigation measures are not implemented. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Managemen*t* (Biological Element 4) in 5.3.6.2.7.1.1. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit.

Proposed Uplands Communities Management (Biological Element 5)

Of the 8,817 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 7,256 acres, or 82%, are within proposed uplands communities management areas.

Tasks BE 5.1 (conducting refinements of vegetation classification) and BE 5.5 (uplands restoration) would not result inadvertent impacts to special-status wildlife in the absence of mitigation. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), BE 5.6 (maintain and manage burrowing owl habitat), and BE 5.7 (uplands restoration) could result in inadvertent impacts to special-status wildlife in the absence of mitigation or other measures. Potential impacts to special-status wildlife from implementation of Tasks BE 5.2, BE 5.3, BE 5.4, and BE 5.7 are described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.2.7.1. Task BE 5.6 (maintain and manage burrowing owl habitat) is described below.

Task BE 5.6: The primary activities associated with Task BE 5.6 (maintain and manage burrowing owl habitat) that could affect special-status wildlife include habitat management activities for burrowing owl. These management activities would be similar to those conducted for SKR described for Task BE 1.1 (comply with existing SKR requirements) in Section 5.3.6.2.7.2.1. (grazing, mowing and burning to reduce vegetative cover), resulting in potential impacts such as (1) inadvertent damage to shrubs and shrub communities; (2) inadvertent soil disturbance and water quality degradation; (3) mortality or injury to slow-moving species; (4) disturbance to nesting birds if management is conducted during the nesting season; (5) a long-term increase in non-native seeds if fire intervals are too short; and (6) increased fire risk, due to a spark from mowing or thatch build-up.

5.3.6.2.10.1.2 Proposed Public Use Management

Approximately 1,133 acres, or 13%, of land in the upland guild on the Potrero Unit is not currently managed, but would be managed for public use under the draft LMP. A discussion of the proposed public use management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no waterfowl hunting (Public Use Element 2), agriculture (Public Use Element 3), or hunting dog training and trials (Public Use Element 5) proposed on lands that are not currently managed in habitat for the habitat for the upland guild special-status wildlife. As discussed in Section 5.3.6.2.7.1, cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to special-status wildlife on the Potrero Unit.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.7.1.2, Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in inadvertent impacts to special-status wildlife.

Proposed Upland Small Game Hunting (Public Use Element 4)

Of the 8,817 acres of habitat for upland guild special-status species that would be managed under the draft LMP, 1,133 acres, or 13%, are within proposed upland small game hunting areas.

The goal for management of hunting dog training and field trials was developed to safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA. To reach this goal, four tasks were identified in the draft LMP. The management activities associated with upland small game hunting that could result in impacts to special-status wildlife species, if appropriate mitigation or other measures are not implemented, include (1) managing upland small game hunting program (Task PUE 4.1), (2) opening portions of the Potrero Unit to upland small game hunting (Task PUE 4.2), (3) installation of guzzlers (Task PUE 4.4), and (4) additional game programs (Task PUE 4.6). Generally, the upland small game hunting season occurs for cottontail rabbits ~~(black-tailed jackrabbit are hunted year-round)~~ from July 1 to the last Sunday in January; mourning and white wing dove (Eurasian collared dove is hunted year round <u>with area restrictions</u>) from September 1 to September 15, then the second Saturday in November for 45 days; quail and snipe from the second Saturday in October through the last Sunday in January; crow from first Saturday in December to the second Sunday in April; and ring-necked pheasant which only allows hunting on Mondays during the season that starts on the

second Saturday in November and runs for six consecutive Mondays. Where there are known nesting bird occurrences, CDFW would not allow hunting within the nesting bird season from approximately February 15 through September 1 in the Potrero Unit. ~~However, because in hunting areas this large nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant, this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit. Because there are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less than significant level. tThus impacts to nesting birds remain significant and unavoidable.~~

Task PUE 4.1: Task PUE 4.1 includes public use of existing hunting facilities, including blinds, parking areas, and trash cans. Main concerns are trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, raccoons) that prey on native wildlife and ensuring that hunters adhere to laws and regulations.

Task PUE 4.2: Task PUE 4.2 includes public use of new hunting facilities, and potential impacts to special-status wildlife could result from expansion and management of hunting in the Potrero Unit. Main concerns related to public uses are trash and garbage that may attract urban species (e.g., crows, ravens, coyotes, raccoons) that prey on native wildlife and ensuring that hunters adhere to laws and regulations. Expansion may require installation of fencing and signage that may affect special-status wildlife if not properly sited and installed.

Task PUE 4.4: Task PUE 4.4 includes installation of guzzlers, which could affect special-status wildlife by attracting incompatible groups of species. For example, guzzlers may be attractants to predators of native species, including crows and ravens, and Argentine ants, and may facilitate growth of invasive exotic species such as salt-cedar if not properly maintained. Some smaller species may drown if trapped in guzzlers.

Task PUE 4.6: Increasing hunting activities overall, including pheasant ~~and deer~~ hunting, could generally increase the pressure of human activity on sensitive biological resources, including trash and garbage and other hunter violations of laws and regulations.

Fire Management (Public Use Element 6)

Pre-fire management activities, which includes grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.10.1.3 Proposed Biological Resources and Public Use Management

Approximately 300 acres of land in the upland guild on the Potrero Unit not currently being managed would be managed for biological resources and public uses under the draft LMP. Table 5.3-25 summarizes the guilds that occur within proposed biological resources and public use management areas that are currently being managed for a different resource than the proposed management activity. A discussion of the proposed biological resource and public use management in relation to upland special-status wildlife and their potentially suitable habitat is provided below.

Proposed SKR and Upland Small Game Hunting (Biological Element 1 and Public Use Element 4)

Of the 8,817 acres of habitat for upland guild special-status species that are not currently managed under the draft LMP, 300 acres, or 3%, are proposed to be managed for SKR and upland small game hunting. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.10.2.1 and Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.2.10.2.2. Additionally, the upland small game hunting season occurs for cottontail rabbits between July 1 to the last Sunday in January; ~~jackrabbits all year;~~ mourning and white wing dove between September 1 to September 15, then the second Saturday in November for 45 days; Eurasian collared dove all year (with area restrictions); quail and snipe from the second Saturday in October through the last Sunday in January; crow from first Saturday in December to the second Sunday in April; and ring-necked pheasant which only allows hunting on Mondays during the season that starts on the second Saturday in November and runs for six consecutive Mondays. Because upland small game hunting season in the Potrero Unit may slightly overlap with the nesting bird season, CDFW will conduct nesting bird surveys to determine if they need to modify hunting activities due to the presence of nesting birds. ~~However, because in hunting areas this large nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant, this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit. Because there are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less-than significant level and thus impacts to nesting birds remain significant and unavoidable.~~

5.3.6.2.10.2 Wetlands Guild

On the Potrero Unit, there are 25 acres of habitat for wetland guild special-status species that are not currently managed, but would be managed under the draft LMP.

5.3.6.2.10.2.1 Proposed Biological Resources Management

Approximately 23 acres, or 93%, of land in the wetland guild on the Potrero Unit is not currently managed, but would be managed for biological resources under the draft LMP. A discussion of the proposed biological resources management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no wetland communities management (Biological Element 3) or uplands communities management (Biological Element 5) proposed on lands that are not currently managed in habitat for wetland guild special-status wildlife.

Proposed SKR Management (Biological Element 1)

Of the 25 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 4 acres, or 15%, are within proposed SKR management areas (also proposed to be managed as upland game hunting).

Task BE 1.3 (soliciting input) would not result in substantial direct and indirect impacts to special-status wildlife. Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.2.7.2.1.

Proposed Alkali Communities Management (Biological Element 2)

Of the 25 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 11 acres, or 45%, are within proposed alkali management areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1.1, and Task BE 2.2 (control adverse edge effects for alkali communities) is described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.10.1.1.

Proposed Riparian Communities Management (Biological Element 4)

Of the 25 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 8 acres, or 32%, are within proposed riparian management areas.

Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and

indirect impacts to special-status wildlife, if appropriate mitigation measures are not implemented. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in 5.3.6.2.7.1.1. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit.

5.3.6.2.10.2.2 Proposed Public Use Management

A discussion of the proposed public use management elements that could result in impacts to special-status wildlife and their suitable habitat is provided below by management element. There is no waterfowl hunting (Public Use Element 2), agriculture (Public Use Element 3), or hunting dog training and trials (Public Use Element 5) proposed on lands that are not currently managed in habitat for the habitat for the wetlands guild special-status wildlife. As discussed in Section 5.3.6.2.7.1, cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to special-status wildlife.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status wildlife in the absence of mitigation. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.7.1.2; Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in inadvertent impacts to special-status wildlife.

Proposed Upland Small Game Hunting (Public Use Element 4)

Of the 25 acres of habitat for wetland guild special-status species that would be managed under the draft LMP, 2 acres, or 7%, are within proposed upland small game hunting areas.

The goal for management of hunting dog training and field trials was developed to safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA. To reach this goal, four tasks were identified in the draft LMP. The management activities associated with upland small game hunting that could result in impacts to special-status wildlife species, if appropriate mitigation or other measures are not implemented, include (1) managing upland small game hunting program (Task PUE 4.1), (2) opening portions of the Potrero Unit to upland small game hunting (Task PUE 4.2), (3) installation of guzzlers (Task PUE 4.4), and (4) additional game programs (Task PUE 4.6). Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.2.10.1.2. Additionally, the upland small game hunting season occurs for cottontail

rabbits between July 1 to the last Sunday in January~~, jackrabbits year round~~; mourning and white wing dove from September 1 to September 15 then the second Saturday in November for 45 days, Eurasian collared dove is hunted year round (with area restrictions); quail and snipe from the second Saturday in October through the last Sunday in January; crow from first Saturday in December to the second Sunday in April; and ring-necked pheasant which generally only allows hunting on Mondays during the season that starts on the second Saturday in November and runs for six consecutive Mondays. Because upland small game hunting season in the Potrero Unit may slightly overlap with the nesting bird season, CDFW will conduct nesting bird surveys to determine if they need to modify hunting activities due to the presence of nesting birds. ~~However, , because in hunting areas this large nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant, this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit. There are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less-than-significant level. tThus impacts to nesting birds remain significant and unavoidable.~~

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation measures. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.10.2.3 Proposed Biological Resources and Public Use Management

Approximately 4 acres of land in the wetland guild on the Potrero Unit not currently being managed would be managed for biological resources and public uses under the draft LMP. Table 5.3-25 summarizes the guilds that occur within proposed biological resources and public use management areas that are not currently being managed. A discussion of the proposed biological resource and public use management in relation to wetland special-status wildlife and their potentially suitable habitat is provided below.

Proposed SKR and Upland Small Game Hunting (Biological Element 1 and Public Use Element 4)

Of the 25 acres of habitat for wetland guild special-status species that would be managed for a different resource than the proposed management activity under the draft LMP, 4 acres, or 15%, are proposed to be managed for SKR and upland small game hunting. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.10.2.1 and Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.2.10.2.2. Additionally, the upland small game hunting season occurs

between for cottontail rabbits July 1 to the last Sunday in January~~, jackrabbits year round~~; mourning and white wing dove from September 1 to September 15 then from the second Saturday in November for 45 days, Eurasian collared dove is hunted year round (with area restrictions); quail and snipe from the second Saturday in October through the last Sunday in January; crow from first Saturday in December to the second Sunday in April; and ring-necked pheasant which only allows hunting on Mondays during the season that starts on the second Saturday in November and runs for six consecutive Mondays. Because upland small game hunting season in the Potrero Unit may overlap with the nesting bird season, CDFW will conduct nesting bird surveys to determine if they need to modify hunting activities due to the presence of nesting birds. ~~, because in hunting areas this large nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant, this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit. There are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less-than-significant level. and tThus, impacts to nesting birds remain significant and unavoidable.~~

5.3.6.2.10.3 Riparian Guild

On the Potrero Unit, there are 288 acres of habitat for riparian guild special-status species that are not currently managed, but would be managed under the draft LMP.

5.3.6.2.10.3.1 Proposed Biological Resources Management

Approximately 287 acres, or almost 100%, of land in the riparian guild on the Potrero Unit is not currently managed, but would be managed for biological resources under the draft LMP. A discussion of the proposed biological resources management in relation to special-status wildlife and their suitable habitat is provided below by management element. There is no SKR management (Biological Element 1) proposed on lands that are not currently managed in habitat for the riparian guild special-status wildlife.

Proposed Alkali Communities Management (Biological Element 2)

Of the 288 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 22 acres, or 8%, are within proposed alkali management areas.

Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to special-status wildlife. Potential impacts to special-status wildlife from implementation of Tasks BE 2.1 (inventory of alkali species and habitat) and BE 2.4 (implementing alkali habitat mitigation) are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.7.1, and Task BE 2.2 (control adverse edge

effects for alkali communities) is described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.2.10.1.1.

Proposed Wetlands Communities Management (Biological Element 3)

Of the 288 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 2 acres, or 1%, are within proposed wetlands management areas.

Tasks BE 3.10 (ensuring compatibility of management practices) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to special-status wildlife. Tasks BE 3.2 (managing invasive plant and animal species), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), and BE 3.6 (vernal pool enhancement) could result in impacts to special-status wildlife, if appropriate mitigation measures are not implemented. Potential impacts from implementation of Tasks BE 3.2, BE 3.4, and BE 3.5 are described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.7.1.1. Task BE 3.6 is described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.2.10.1.1. Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.7 (protecting breeding habitat for spadefoot toad), BE 3.8 (identifying properties that promote conservation of wetland resources), and BE 3.9 (maintaining the ability to use reclaimed water) are not proposed on the Potrero Unit.

Proposed Riparian Communities Management (Biological Element 4)

Of the 288 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 179 acres, or 62%, are within proposed riparian management areas.

Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to special-status wildlife, if appropriate mitigation measures are not implemented. Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in 5.3.6.2.7.1. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit.

Proposed Uplands Communities Management (Biological Element 5)

Of the 288 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 84 acres, or 29%, are within proposed uplands communities management areas.

Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), BE 5.6 (maintain and manage burrowing owl habitat), and BE 5.7 (uplands restoration) could result in inadvertent impacts to special-status wildlife in the absence of mitigation or other measures. Potential impacts to special-status wildlife from implementation of Tasks BE 5.2, BE 5.3, BE 5.4, and BE 5.7 are described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.2.7.1, and Task BE 5.6 (maintain and manage burrowing owl habitat) is described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.2.10.1.1.

5.3.6.2.10.3.2 Proposed Public Use Management

A discussion of the proposed public use management elements that could result in impacts to special-status wildlife and their suitable habitat is provided below by management element. There is no waterfowl hunting (Public Use Element 2), agriculture (Public Use Element 3), or hunting dog training and trials (Public Use Element 5) proposed on lands that are not currently managed in habitat for the habitat for the riparian guild special-status wildlife. As discussed in Section 5.3.6.2.7.1, cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to special-status wildlife.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities) could result in inadvertent impacts to special-status wildlife in the absence of mitigation measures. Potential impacts to special-status wildlife from implementation of this task are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.2.7.1.2. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in inadvertent impacts to special-status wildlife.

Proposed Upland Small Game Hunting (Public Use Element 4)

Of the 25 acres of habitat for riparian guild special-status species that would be managed under the draft LMP, 1 acre, or <1%, are within proposed upland small game hunting areas.

The goal for management of hunting dog training and field trials was developed to safely manage existing and new hunting dog training opportunities, to meet public demands up to a level that does not compromise protection of other natural resource values within the SJWA. To reach this goal, four tasks were identified in the draft LMP. The management activities associated with upland small game hunting that could result in impacts to special-status wildlife species, if appropriate mitigation or other measures are not implemented, include (1) managing upland small game hunting program (Task PUE 4.1), (2) opening portions of the Potrero Unit to upland small game hunting (Task PUE

4.2), (3) installation of guzzlers (Task PUE 4.4), and (4) additional game programs (Task PUE 4.6). Potential impacts to special-status wildlife from implementation of these tasks are described under Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.2.10.1.12. Additionally, the upland small game hunting season occurs for cottontail rabbits between July 1 to the last Sunday in January~~, jackrabbits year round~~; mourning and white wing dove from September 1 to September 15, then from the second Saturday in November for 45 days, Eurasian collared dove is hunted year round (with area restrictions); quail and snipe from the second Saturday in October through the last Sunday in January; crow from first Saturday in December to the second Sunday in April; and ring-necked pheasant which only allows hunting on Mondays during the season that starts on the second Saturday in November and runs for six consecutive Mondays. Where there are known nesting bird occurrences, CDFW would not allow hunting within the nesting bird season from approximately February 15 through September 1 in the Potrero Unit. Because upland small game hunting season in the Potrero Unit may slightly overlap with the nesting bird season, CDFW will conduct nesting bird surveys to determine if they need to modify hunting activities due to the presence of nesting birds. ~~However, , because in hunting areas this large nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant, this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit. There are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less than significant level.~~ and ~~t~~Thus, ~~impacts to nesting birds remain significant and unavoidable.~~

Fire Management (Public Use Element 6)

Pre-fire management activities, which include grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to special-status wildlife in the absence of mitigation measures. Potential impacts to special-status wildlife from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.2.7.1.2.

5.3.6.2.11 Potrero Unit Special-Status Wildlife: Public Use and Administrative Facilities

As described in Section 5.3.6.2.5, a new domestic water system is proposed within Potrero Subunit P5; a power system is proposed within Potrero Subunits P5 and P6; and two new residences and an office is proposed within Subunit P5. A new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4. New facilities would be built in Subunit P5.

In Subunit P4, there are approximately 1,251 acres of habitat for upland guild special-status species and 50 acres of habitat for riparian special-status species. Within Subunit P5, there are approximately 21 acres of habitat for wetland guild special-status species, 17 acres of habitat for riparian guild special-

status species, and 1,033 acres of habitat for upland guild special-status species. Finally, Subunit P6 includes approximately 8 acres of habitat for riparian guild special-status species and 428 acres of habitat for upland guild special-status species. In the absence of mitigation measures, impacts to special-status wildlife species due to proposed structures would be significant.

5.3.6.2.12 Impacts to Special-Status Wildlife

Proposed management could result in significant direct and indirect impacts to special-status wildlife and their suitable habitat without mitigation and other measures, as described by proposed management element and task in Sections 5.3.6.2.7 through 5.3.6.2.11. While each management task is unique to the specific goal of the overall element, the potential impacts to special-status wildlife are generally the same. A summary of potentially significant impacts to special-status wildlife is provided below.

Grading, Trail Maintenance, and Other Ground-Disturbance

Grading for restoration, construction of new facilities, structures, and infrastructure, and trail maintenance activities, could have various temporary or permanent direct impacts on special-status wildlife, including removal of suitable habitat. Grading for SKR restoration could result in various temporary indirect impacts, including the removal of non-native plant cover through mowing or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs. Misapplication or overspray of herbicide to control exotics could directly impact wildlife or their prey base. Other potential impacts from exotics control include herbicide effects on non-target native and non-native plants that provide habitat for grassland-associated sensitive species, such as perching and nesting sites for grasshopper sparrows and habitat cover (e.g., shade and refugia) for horned lizards, whiptails, and rattlesnakes, and jackrabbits. Additionally, the application of a seed mix not appropriate for the region could modify and potentially degrade suitable habitat for special-status wildlife.

Grading activities associated with the construction of new facilities, structures, and infrastructure could result various direct impacts on special-status wildlife species including: (1) removal of habitat occupied by special-status wildlife, such as Stephens' kangaroo rat and northwestern San Diego pocket mouse, and other species that use non-native grasslands (e.g., grasshopper sparrows, horned lizards, rattlesnakes etc.); (2) injury to or death of burrowing species, such as kangaroo rats, pocket mice, rattlesnakes and slow-moving species (e.g., horned lizards, rattlesnakes), from grading; and (3) nests, eggs, or young could also be disturbed, injured, or killed by grading if conducted during the breeding season.

Grading, absent appropriate mitigation or other measures, could also result in various temporary indirect impacts, including (1) unintentional grading outside the restoration area; (2) construction-related noise and vibration; (3) an increase in urban species (e.g., crows, ravens, coyotes, raccoons)

that may be attracted to trash and garbage, if left at the site; (4) increased human activity and potential harassment of wildlife by construction workers; (5) increased wildlife/vehicle or fence collisions; (6) release of chemical pollutants such as fuels, oils and grease from vehicles and pesticides, including herbicides, that can harm individuals or reduce their prey; (7) degradation of water quality; (8) introduction of invasive plant species that may alter the composition of the community; and (9) generation of fugitive dust.

Habitat Conversion

Habitat conversion associated with expanding open water, marsh, and green feed field habitats could affect special-status wildlife including through: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7) with a management designation for alkali resources; and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields, including minor grading to improve drainage/flooding and winter flooding. Although no special-status wildlife species are known from proposed green feed fields, there is a potential for both direct and indirect impacts to habitat including removal of habitat for some species, direct impacts to individuals, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust). Similarly, tricolored blackbird conservation measures could include vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird and could remove habitat directly for individuals, nests or eggs during grading potentially resulting in injury or mortality, and temporary indirect impacts during grading (e.g., noise, vibration, increased human activity, dust). Additionally, agriculture management, resulting in habitat conservation, could result in direct impacts to special-status wildlife and their habitat, such as removal of foraging habitat for some species if the prey bases for raptors, for example, of the new crops are different.

Hydrological Modifications

Various management tasks could result in hydromodification, which could impact special-status wildlife and their habitat. Eradication of non-native animal species may include habitat-based methods (e.g., pond-draining following by removal of target species), which could result in hydromodification and affect habitat for special-status wildlife.

Installation of Physical Barriers and Signage

Signage, fencing, and other physical barriers to reduce adverse edge effects or direct the public could affect special-status wildlife if not sited, installed, and maintained properly. Installation of fencing or other physical barriers could impede movement of larger mammals. Additionally, installation of fencing and sign posts, etc. may attract Argentine ants by creating microhabitats at the base of these features which could lead to inappropriate application of insecticides to control Argentine ants. These activities could have adverse impacts on native species (e.g., native ants,

beetles, and other flying insects) that are important for ecosystem processes such as pollination or seed dispersal.

Non-native Invasive Species Eradication and Control

Measures to control non-native invasive species that could impact special-status wildlife include (1) use of chemicals that may inadvertently affect native plants or soil chemistry (e.g., herbicides, pesticides); (2) mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking, which could have collateral impacts if not implemented properly; (3) grazing, which could result in inadvertent trampling and soil erosion in sensitive areas; and (4) prescribed burning, which could escape authorized burn areas or cause off-site erosion.

Management for Argentine ants may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants) and chemical treatments (insecticides) of nest mounds if necessary. Management of moisture regimes could adversely affect hydrology for habitat where special-status wildlife occur or have the potential to occur. Inappropriate application of insecticides to control Argentine ants could have adverse impacts on native species (e.g., native ants, beetles, and other flying insects). Control of wild pigs (e.g., shooting, use of tracking dogs) could have adverse indirect effects on special-status wildlife from human and dog activity (e.g., trampling of habitat, noise, and harassment by dogs).

Mechanically removing or chemically treating target species during the sensitive bird and arroyo toad breeding seasons or inadvertently disturbing native riparian and wetlands plant during chemical treatments could impact special-status wildlife directly, as well as their habitat. For example, while salt-cedar is considered poor habitat for most breeding birds and other native wildlife, southwestern willow flycatchers are known nest in salt-cedar. Eradication of non-native animal species (e.g., American bullfrogs, exotic turtles, fish, crayfish, domestic dogs, and wild pigs) may include both habitat-based methods (e.g., pond-draining following by removal of target species); various target species-specific methods, such as gill netting, water seining, gigging, electroshocking, trapping, shooting, and chemical treatments (e.g., rotenone); and fencing prior to and following eradication measures to prevent recolonizations. Each of these eradication methods have the potential for adverse effects on non-target special-status wildlife if not properly implemented and in the absence of avoidance and minimization measures. For example, pond draining and associated fencing could directly adversely affect larval and adult western spadefoots, western pond turtles, and nesting tricolored blackbirds, as well as remove wetland foraging habitat and prey for a variety of sensitive birds, such as American bittern, American peregrine falcon, black-crowned night-heron, etc. Chemical treatments of wetlands supporting native species could have broad-ranging adverse impacts. Similarly, some of the eradication methods for urban predators and exotic species could have inadvertent impacts on special-status wildlife, if not properly implemented. For example, translocation of pond turtle individuals from other areas of

the SJWA may also be considered, and would need to be carried out in a manner that does not affect the health of the donor populations (e.g., removal of too many individuals or biased selection of sex and age-classes) or the health of the translocated population (sick or diseased individuals). Translocation of vernal pool animals (e.g., fairy shrimp) may also be considered and would need to be carried out in a manner that does not affect the viability of populations at the donor sites.

Planting and Seeding

Planting or seeding of species not appropriate for the region could impact special-status wildlife. Additionally, planting of material with Argentine ants could introduce or increase the number of this invasive species on the SJWA.

Trampling and Soil Compaction

Repeated surveys in certain areas could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce habitat quality for special-status wildlife. Public uses of trails could have adverse effects on special-status wildlife as a result of trampling of habitat or creation of unauthorized trails by off-trail uses that could degrade habitat for special-status wildlife. Public use elements may result in increases in human and hunting dog activities that could result in trampling of habitat. Grazing could result in inadvertent trampling in areas with suitable habitat for special-status wildlife.

Vegetation and Fire Management

Vegetation management, such as the maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, and burning) to reduce vegetative cover could result in impacts to special-status wildlife and their suitable habitat. These vegetation management activities could result in impacts such as (1) inadvertent damage to shrubs and shrub communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) mortality or injury to slow-moving species (e.g., horned lizards, rattlesnakes and rosy boas); (4) disturbance to nesting birds (if management is conducted during the nesting season); (5) a long-term increase in non-native seeds (if fire intervals are too short); and (6) increased fire risk, due to a spark from mowing or thatch build-up.

Fire management could also impact special-status wildlife and their suitable habitat. Pre-fire management activities that could affect special-status wildlife include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on special-status wildlife as described above. Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers/road graders), and fire crews could impact special-

status wildlife. These activities could cause soil and vegetation damage, degrading habitat for special-status wildlife, and could directly affect individuals of less-mobile sensitive species (e.g., plants, rodents, reptiles, amphibians), including injury and mortality. Fire retardants may also damage habitat for special-status wildlife. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian habitat for special-status wildlife. Disturbed areas are also more vulnerable to invasion by non-native plant species. Restoration and enhancement following fire may include native plant seeding, which could adversely affect habitat for special-status wildlife if seeded species are not appropriate for the region.

5.3.6.2.12.1 Temporary Impacts to Special-Status Wildlife

Implementation of the draft LMP could result in **potentially significant (Class II) temporary direct and indirect impacts** to special-status wildlife and suitable habitat, in the absence of appropriate mitigation measures. Temporary impacts to special-status wildlife and habitat would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-26 and in Section 5.3.6.8~~ with the exception of temporary direct and indirect impacts to nesting birds associated with upland small game hunting in the Potrero Unit. This is considered a **significant and unavoidable impact (Class I)**.~~.

MM-BIO-1a (general construction-related avoidance and minimization measures)

MM-BIO-1b (restoration of temporary impacts)

MM-BIO-1c (environmental awareness training)

MM-BIO-1d (pre-construction surveys and avoidance and minimization measures)

MM-BIO-1e (siting and design criteria)

MM-BIO-1f (restrictions on landscaping or restoration palettes and plants)

MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)

MM-BIO-1h (preparation and implementation of a GMP)

MM-BIO-1i (practices for the control of invasive and non-native species)

MM-BIO-1j (preparation and implementation of an alkali habitat management plan)

MM-BIO-1k (management and monitoring of trail use)

MM-BIO-1l (management and monitoring of hunting)

MM-BIO-1m (minimize effect of repeated surveys)

MM-BIO-1n (compliance with existing regulations)

MM-BIO-1o (reduce raptor electrocution)

Potential temporary direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level with incorporation of the mitigation measures listed above (please see Section 5.3.6.8 for details of the specific mitigation measures~~) with the exception of impacts to nesting birds on Potrero.~~).

5.3.6.2.12.2 Permanent Impacts to Special-Status Wildlife

Implementation of the draft LMP could result in **potentially significant (Class II) permanent direct and indirect impacts** to special-status wildlife and suitable habitat, in the absence of appropriate mitigation measures. Permanent impacts to special-status wildlife and habitat would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-26 and in Section 5.3.6.8~~ with the exception of permanent direct and indirect impacts to nesting birds associated with upland small game hunting in the Potrero Unit. This is considered a **significant and unavoidable impact (Class I)**.~~.

MM-BIO-1a (general construction-related avoidance and minimization measures)

MM-BIO-1b (restoration of temporary impacts)

MM-BIO-1c (environmental awareness training)

MM-BIO-1d (pre-construction surveys and avoidance and minimization measures)

MM-BIO-1e (siting and design criteria)

MM-BIO-1f (restrictions on landscaping or restoration palettes and plants)

MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)

MM-BIO-1h (preparation and implementation of a GMP)

MM-BIO-1i (practices for the control of invasive and non-native species)

MM-BIO-1j (preparation and implementation of an alkali habitat management plan)

MM-BIO-1k (management and monitoring of trail use)

MM-BIO-1l (management and monitoring of hunting)

MM-BIO-1n (compliance with existing regulations)

MM-BIO-1o (reduce raptor electrocution)

MM-BIO-1p (restrictions on lighting)

MM-BIO-1q (trash abatement)

Potential permanent direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level with incorporation of the mitigation measures listed above (please

see Section 5.3.6.8 for details of the specific mitigation measures~~) with the exception of impacts to nesting birds on Potrero.~~).

Table 5.3-26
Summary of Potential Impacts to Special-Status Wildlife, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
Temporary Direct and Indirect Permanent Direct and Indirect	Grading, trail maintenance, or other ground-disturbing activities Hydrological modifications Installation of physical barriers and signage Non-native invasive species eradication and control Planting and seeding Trampling and soil compaction Vegetation and fire management Lighting and trash	MM-BIO-1n(compliance with existing regulations) MM-BIO-1a (general construction-related avoidance and minimization measures) MM-BIO-1b (restoration of temporary impacts) MM-BIO-1c (environmental awareness training) MM-BIO-1d (pre-construction surveys and avoidance and minimization measures) MM-BIO-1e (siting and design criteria) MM-BIO-1p (restrictions on lighting) MM-BIO-1o (reduce raptor electrocution) MM-BIO-1f (restrictions on landscaping or restoration palettes and plants) MM-BIO-1h (preparation and Implementation of a GMP)	**With implementation of the following MMs, potential significant temporary direct and indirect impacts to special-status wildlife species would be reduced to less-than-significant levels (Class III)**: MM-BIO-1n would avoid and minimize the potential significant effects to special-status wildlife, primarily federally and state listed wildlife, by meeting the applicable permitting and regulatory practices of local, federal, and state agencies. MM-BIO-1a would avoid and minimize the potential significant effects to special-status wildlife through restricting construction work hours to the daytime, which would reduce potential impacts to crepuscular and nocturnal special-status wildlife; demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to species and habitat outside the designated disturbance area; inspecting for wildlife under vehicles and equipment before moving would minimize unintentional impacts to special-status wildlife; no pets allowed during construction; prohibiting use of erosion control materials potentially harmful to wildlife; and capping pipes, culverts, or similar structures with a diameter of at least 3 inches overnight to avoid and minimize potential significant impacts to special-status wildlife. MM-BIO-1b would avoid and minimize potential significant effects of temporary ground disturbance on special-status wildlife by preventing future adverse effects associated with leaving bare ground, such as increased dust and erosion, and would help prevent adverse effects of invasive plant species that may alter the composition of the habitat if introduced during restoration or allowed to passively colonize the area post-construction. MM-BIO-1c would avoid and minimize the potential significant effects to special-status wildlife by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps of nesting birds and exclusion areas.

Table 5.3-26
Summary of Potential Impacts to Special-Status Wildlife, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
		MM-BIO-1i (practices for the control of invasive and non-native species) MM-BIO-1g~~p~~ (trash abatement program) MM-BIO-1m (minimize effect of repeated surveys) MM-BIO-1j (preparation and implementation of an alkali habitat management plan) MM-BIO-1k (management and monitoring of trail use) MM-BIO-1l (management and monitoring of hunting) MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)	MM-BIO-1d would avoid and minimize potential significant effects to species from implementing the LMP by requiring review of existing species data, habitat assessments, and, if needed, focused surveys, as well as avoidance, minimization, mitigation, and monitoring requirements, if species or habitat are present prior to conducting an activity that could impact special-status wildlife. MM-BIO-1e would avoid and minimize potential significant effects to special-status wildlife by siting impacts in disturbed areas, such as existing roads and trails, minimizing vegetation removal and ground disturbance, if feasible, and seasonal restrictions during nesting bird seasons to minimize disturbance to raptor nests. MM-BIO-1p would avoid and minimize potential significant effects to special-status wildlife by requiring new light sources to be directed down, shielded and hooded to focus lighting only on the area in need of illumination. MM-BIO-1o would avoid and minimize potential significant effects to special-status wildlife by configuring or modifying power lines. MM-BIO-1f would avoid and minimize potential significant effects of seeding or planting by restricting the use of invasive plants or plants with high irrigation rates, requiring the use of native species compatible with the region, and requiring container plants be weed-, disease, and pest-free, including Argentine ants. MM-BIO-1h would avoid and minimize potential significant impacts to special-status wildlife by requiring any new grazing activities be preceded by the adoption of a grazing management plan (GMP), which will require that appropriate measures are implemented to protect special-status wildlife. For example, the GMP would keep livestock water sources year-round for use by wildlife and would adjust or eliminate grazing following restoration treatments to protect population of vulnerable special-status wildlife. MM-BIO-1i would avoid and minimize potential significant impacts to special-status wildlife by requiring CDFW to implement an Integrated Pest Management Program (IPM) to the control of invasive species, including mechanical, chemical, and other accepted control methods while minimizing herbicide use and associated impacts on non-target species, encouraging other authorized

Table 5.3-26
Summary of Potential Impacts to Special-Status Wildlife, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
			users and visitors to employ management practices that minimize the spread of weeds, and generally prohibiting the release of non-native animal species other unless used for bio-control or hunting. MM-BIO-1p would avoid and minimize potential significant effects to special-status wildlife by initiating a program to contain food and trash in animal-proof containers, and to remove trash food/trash regularly to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs. MM-BIO-1m would avoid and minimize potential significant impacts to habitat for special-status wildlife from repeated surveys in certain areas by requiring biologists to park and drive on existing dirt roads and modify survey efforts if excessive vegetation trampling is noted in survey plots. MM-BIO-1j (preparation and implementation of an alkali habitat management plan) would avoid and minimize potential significant impacts to special-status wildlife that occur in alkaline habitats because a delineation of the current alkaline communities would be conducted as part of this BMP. Thus, direct and indirect impacts could be avoided. Additionally a focal management plan for alkali communities would prepared to avoid the degradation of alkaline habitat, provide criteria to enhance the value of the existing alkali habitat, and require a monitoring program. MM-BIO-1k (management and monitoring of trail use) would reduce adverse effects of the public on the species, including trampling and collection. MM-BIO-1l (management and monitoring of hunting) would reduce adverse effects of the public on the species, including trampling, collection, intentional feeding, harassment, etc. MM-BIO-1g would avoid and minimize potential significant impacts to special-status wildlife by requiring vehicles be operated and maintained on existing road, if feasible, and if not feasible, ensuring appropriate surveys are conducted to avoid species and habitat.

5.3.6.3 Issue BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive vegetation community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Issue BIO-2 addresses vegetation communities, as defined in Section 5.3.2.2.7, that occur within the SJWA that are considered sensitive by CDFW (CDFG 2010). Potentially jurisdictional riparian habitat that is not considered a sensitive vegetation community by CDFW is addressed under Issue BIO-3. Potential impacts to sensitive vegetation communities are discussed in Sections 5.3.6.3.1 through 5.3.6.3.5. Table 5.3-27 summarizes the sensitive vegetation communities that occur within the SJWA.

Table 5.3-27
CDFW Sensitive Vegetation Communities Vegetation Communities

MSHCP Vegetation/Land Cover Group	Alliance, Association, or other MU
Chaparral	Chamise–Cupleaf Ceanothus Alliance
	Hollyleaf Cherry Alliance
	Toyon–Scrub Oak–Birchleaf Mountain-mahogany–California Ash Association
Coastal Sage Scrub	Palmer's Goldenbush Alliance
	Yellow Bush Penstemon Alliance
	Yerba Santa Alliance
Meadows and Marshes	Bulrush–Cattail Alliance
	Bulrush–Cattail MU
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU
Riparian Scrub, Woodland, Forest	Black Willow Alliance
	Black Willow/Mulefat Association
	Blue Elderberry–(Mulefat) MU
	California Sycamore Alliance
	Emory's Baccharis MU
	Fremont Cottonwood/Mulefat Association
	Fremont Cottonwood Dry MU
	Fremont Cottonwood–Willow MU
	Fremont Cottonwood–Red Willow Association
	Fremont Cottonwood–Black Willow/Mulefat Association
	Willow MU
Riversidean Alluvial Fan Scrub	Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU
	Scalebroom–California Buckwheat Association

5.3.6.3.1 Davis Unit Sensitive Vegetation Communities: Proposed Management for Areas Not Currently Managed

The sensitive vegetation communities in the Davis Unit include the alkaline ephemeral wetland MU, black willow alliance, black willow/mulefat association, bulrush–cattail alliance, bulrush–cattail MU, willow MU, Fremont cottonwood–black willow/mulefat association, Emory's baccharis MU, and hollyleaf cherry alliance.

In the Davis Unit, there are approximately 647 acres of sensitive vegetation communities that are not currently managed, but that are proposed to be managed. Figure 5.3-10A shows the proposed management activities in areas that are not currently being managed on the Davis Unit and the sensitive vegetation communities, and Table 5.3-28 provides the acreages by subunit.

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Table 5.3-28
CDFW Sensitive Vegetation Communities in Proposed Management Areas that are Not Managed in Davis Unit (Acres)

MSHCP Vegetation/Land Cover Group	Alliance, Association, or other MU	D3	D4	D5	D7	D8	D10	D14	Total
Chaparral	Hollyleaf Cherry Alliance	—	—	—	—	—	—	6	6
Meadows and Marshes	Bulrush–Cattail MU	—	2	—	2	<0.5	—	—	4
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU	435	109	2	—	5	63	—	614
Riparian Scrub, Woodland, Forest	Black Willow/Mulefat Association	—	—	—	1	—	—	20	20
	Fremont Cottonwood–Black Willow/Mulefat Association	—	—	—	—	—	—	1	1
	Willow MU	<0.5	1	—	<0.5	—	—	—	1
	Total	**435**	**112**	**2**	**4**	**6**	**63**	**26**	**647**

Approximately 323 acres of sensitive vegetation communities not currently managed are proposed to be managed as alkali communities; approximately 36 acres are proposed to be managed as riparian communities; approximately 253 acres are proposed to be managed as upland communities; and 2 acres are proposed to be managed as wetland communities. Approximately 30 acres of sensitive vegetation communities not currently managed are proposed to be managed as agriculture, and 2 acres are proposed to be managed as waterfowl hunting. The potential effects of these proposed management activities on sensitive vegetation communities are described in Sections 5.3.6.3.1.1 and 5.3.6.3.1.2; Table 5.3-29 quantifies the acreages.

5.3.6.3.1.1 Proposed Biological Resources Management

In the Davis Unit, the proposed management activities for biological resources in areas that are not currently being managed for any resource that also could affect sensitive vegetation communities includes management for alkali communities, riparian communities, uplands communities, and wetlands communities. A discussion of the proposed biological resource management in relation to sensitive vegetation communities is provided below.

Proposed Alkali Communities Management (Biological Element 2)

Approximately 323 acres of sensitive vegetation communities—321 acres of alkaline ephemeral wetland MU, 1 acre of bulrush–cattail MU, and 1 acre of willow MU—that were not being managed are proposed to be managed for alkali communities, primarily in Subunits D3 and D4, but also in Subunits D7, D8, and D10. Proposed management of 321 acres of alkaline ephemeral wetland MU, or 99% of the 323 acres, for alkali communities would directly benefit this vegetation community.

Table 5.3-29
CDFW Sensitive Vegetation Communities in Proposed Management Areas that are Not Managed in Davis Unit by Management Type

Proposed Management Type	Proposed Management	Chaparral	Meadows and Marshes	Playas and Vernal Pools	Riparian Scrub, Woodland, Forest		Total
		Hollyleaf Cherry Alliance	*Alkaline Ephemeral Wetland MU*	*Black Willow/Mulefat Association*	*Fremont Cottonwood–Black Willow/Mulefat Association*	*Willow MU*	
Biological Resource Management	Alkali Communities	—	321	—	—	1	323
	Riparian Communities	—	13	20	1	<0.5	36
	Upland Communities	6	245	—	—	<0.5	253
	Wetlands Communities	—	2	—	—	—	2
						Biological Resource Management Subtotal	*614*
Public Use Management	Agriculture	—	30	—	—	—	30
	Waterfowl Hunting	—	2	—	—	—	2
						Public Use Management Subtotal	*33*
	Total	**6**	**614**	**20**	**1**	**1**	**647**

Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed for the Davis unit. Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.3 (developing an alkali restoration program), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to sensitive vegetation communities; each task is described in more detail below.

Task BE 2.1: The primary activities associated with Task BE 2.1 (inventory of alkali species and habitat) that could affect sensitive vegetation communities include repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could inadvertently impact sensitive vegetation communities.

Tasks BE 2.3 and 2.4: The primary activities associated with Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation) that could affect sensitive vegetation communities include activities associated with alkali restoration such as (1) non-native invasive species eradication and control; (2) hydrology modification, such as the application of artificial irrigation to mimic natural conditions that support alkali species; (3) grading to achieve optimum hydrology and soil profile; and (4) planting of appropriate vegetation. Measures to control non-native invasive species that could impact sensitive vegetation communities are (1) use of chemicals that may inadvertently affect potentially jurisdictional areas or soil chemistry (e.g., herbicides, pesticides); (2) mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking, which could have collateral impacts to sensitive vegetation communities if not implemented properly; (3) grazing, which could result in soil erosion that could degrade sensitive vegetation communities; and (4) prescribed burning, which could escape authorized burn areas or cause impacts such as off-site erosion. Hydrological modifications could modify sensitive vegetation communities. Also, planting of species not appropriate for the region could affect sensitive vegetation communities. Grading for restoration could have various direct impacts on sensitive vegetation communities, including direct removal or fill of wetlands. Grading for restoration could also result in various temporary indirect impacts, including (1) unintentional grading outside the restoration area; (2) release of chemical pollutants and pesticides, including herbicides, that can harm individuals or reduce pollinators; (3) degradation of water quality; (4) introduction of invasive plant species that may alter the composition of the community; and (5) generation of fugitive dust.

Proposed Wetland Communities Management (Biological Element 3)

Approximately 2 acres of alkaline ephemeral wetland MU that were not being managed are proposed to be managed for wetland communities in Subunit D3.

Tasks BE 3.8 (identifying properties that promote conservation of wetland resources) and BE 3.11 (implementing avoidance and minimization measures) would not result in substantial

impacts to sensitive vegetation communities, and Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.6 (vernal pool enhancement), and BE 3.10 (ensuring compatibility of management practices) are not proposed on the Davis Unit. The primary management activities that could result in impacts to sensitive vegetation communities include Tasks BE 3.2 (managing invasive plant and animal species), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat for western pond turtle), BE 3.5 (tricolored blackbird conservation measures), BE 3.7 (protecting breeding habitat for spadefoot toad), and BE 3.9 (maintaining the ability to use reclaimed water) and are described in more detail below.

Tasks BE 3.2, BE 3.4, and BE 3.7: Task BE 3.2 (managing invasive plant and animal species), would include the same measures to control non-native invasive species as discussed in Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation). Similarly, for Task BE 3.4 (provide adequate habitat for western pond turtle) and Task BE 3.7 (ensure protection of western spadefoot), some of the eradication methods for urban-related predators and exotic species could have inadvertent impacts on sensitive vegetation communities, if not properly implemented. Management of invasive plants, described in Task BE 3.7, would be the same as Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation).

Tasks BE 3.3 and BE 3.5: The habitat conversion associated with Task BE 3.3 (expanding open water, marsh, and green feed field habitats) could affect sensitive vegetation communities including: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7) and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields, including minor grading to improve drainage/flooding and winter flooding. There is a potential for both direct and indirect impacts to sensitive vegetation communities as described for Task BE 2.3 (developing an alkali restoration program), including removal of sensitive vegetation communities, and temporary indirect impacts during grading (e.g., dust). Similarly, Task BE 3.5 (tricolored blackbird conservation measures), which could include vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird, could remove some sensitive vegetation communities.

Task BE 3.9: If CDFW develops a water storage reservoir, ground-disturbance could result in impacts to sensitive vegetation communities.

Figure 5.3-10A Sensitive Vegetation Communities and Proposed Management Activities in Areas Not Currently Managed—Davis Unit

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Proposed Riparian Communities Management (Biological Element 4)

Approximately 36 acres of sensitive vegetation communities—20 acres of black willow/mulefat association, 13 acres of alkaline ephemeral wetland MU, 1 acre of bulrush–cattail MU, and 1 acre of Fremont cottonwood–black willow/mulefat association—that were not being managed are proposed to be managed for riparian communities, in Subunits D3, D7, and D14.

Riparian communities management Tasks BE 4.1 (maintaining riparian habitats), BE 4.2 (habitat restoration for wetlands/riparian habitats), BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in inadvertent impacts to sensitive vegetation communities are described in more detail below.

Task BE 4.1: Task BE 4.1 (maintaining riparian habitats) could result in hydromodification impacts due to irrigation, which could change hydrological conditions of sensitive vegetation communities.

Tasks BE 4.2 and BE 4.3: The primary activities associated with Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) that could affect sensitive vegetation communities include activities associated with restoration. As described for Task BE 2.3 (developing an alkali restoration program), grading for restoration could have various direct impacts on sensitive vegetation communities, including removal of sensitive vegetation communities. Grading for restoration could also result in various temporary indirect impacts and would be the same as those discussed in Task BE 2.3 (developing an alkali restoration program).

Task BE 4.4: The primary activities associated with Task BE 4.4 (control exotic species) that could affect sensitive vegetation communities include activities associated with directly eradicating or controlling invasive plant and animal species. Eradication of invasive non-native plant species (primarily giant reed (*Arundo donax*) and salt-cedar (*Tamarix ramosissima*)) may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. The most likely methods to be used within the SJWA include manual removal; foliar spray; cut stem/stump spray; cut, resprout, and spray; and mechanical removal. These methods could affect sensitive vegetation communities if not properly implemented, such as mechanically removing or chemically treating target or inadvertently disturbing sensitive vegetation communities during chemical treatments.

Task BE 4.5: Although there are no planned activities that would directly impact riparian habitat, if such activities were to occur in the future, such as conversion of an existing riparian area to a waterfowl pond or field, they would be designed and planned in a manner that avoids impacts to riparian habitat. If full avoidance cannot be achieved, impacts would be mitigated through restoration. Restoration activities associated with this task that could affect sensitive vegetation communities would be the same as Task BE 5.7 (uplands restoration).

Proposed Uplands Communities Management (Biological Element 5)

Approximately 253 acres of sensitive vegetation communities—6 acres of hollyleaf cherry alliance, 2 acres of bulrush–cattail MU, and 245 acres of alkaline ephemeral wetland MU—that were not being managed are proposed to be managed for upland communities, primarily in Subunit D3, but also in Subunits D4, D5, D7, D10, and D14.

Task BE 5.1 (conducting refinements of vegetation classification) would not result in substantial direct and indirect impacts to sensitive vegetation communities. Due to the qualitative nature of the field work required to refine the vegetation classification, impacts from repeated surveys in certain areas that could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas) are not likely to be significant. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to sensitive vegetation communities if it were to occur.

Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), and BE 5.7 (uplands restoration) could result in inadvertent impacts to sensitive vegetation communities; each task is described in more detail below.

Task BE 5.2: Task BE 5.2 (wildfire management measures), which could include grazing, mowing, and other methods to maintain fire breaks and fire buffers, could result in impacts such as (1) inadvertent damage to sensitive vegetation communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup.

Task BE 5.3: Task BE 5.3 (vegetation management) includes erosion controls that may include establishment of native vegetation communities through application of native seed mixes and weed management during the maintenance period. Using a seed mix not appropriate for the region could impact sensitive vegetation communities. Weeding activities may include use of chemicals that could inadvertently affect sensitive vegetation communities or soil chemistry (e.g., herbicides) and mechanical removal of weeds through pulling or weed-whacking which could have collateral impacts to vegetation, if not implemented properly.

Task BE 5.4: Task BE 5.4 (control adverse edge effects for uplands) could affect sensitive vegetation communities, inadvertently, through management measures to control non-native invasive plants and animals along habitat edges. Eradication of invasive non-native plant species may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. Management of Argentine ants, which is part of Task BE 5.4, is directed at limiting the extent to which artificial irrigation affects moisture conditions within

upland communities and would include such things as avoiding excessive watering and uncontrolled discharges; this action would not have a substantial impact on sensitive vegetation communities, which are limited to upland communities, but could affect riparian and wetlands (described in Section 5.3.6.3.4.1). Management of Argentine ants with insecticide could indirectly affect sensitive vegetation communities, if misapplied, through eliminating pollinators or seed dispersing insects. Control of wild pigs (*Sus scrofa*) (e.g., shooting, use of tracking dogs) could have adverse indirect effects on sensitive vegetation communities from increased human activity, such as trampling vegetation.

Task BE 5.7: The primary activities associated with Task BE 5.7 (uplands restoration) that could affect sensitive vegetation, in the absence of appropriate mitigation or other avoidance, and minimization measures, are habitat restoration activities undertaken as a mitigation for unavoidable planned activities and management impacts. Grading for restoration could have various direct impacts on sensitive vegetation communities, including removal of the community. Grading for restoration could also result in various temporary indirect impacts, including (1) unintentional grading outside the restoration area; (2) increased human activity by construction workers that could result in trampling of sensitive vegetation communities; (3) release of chemical pollutants and pesticides, including herbicides, that can could impact species in the vegetation community or reduce their pollinators, degrading the community; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

5.3.6.3.1.2 Proposed Public Use Management

No upland small game hunting (Public Use Element 4) or hunting dog training and field trials (Public Use Element 5) are proposed on lands that are not currently managed in sensitive vegetation communities. Waterfowl hunting (Public Use Element 2) and agriculture (Public Use Element 3) are proposed on lands that are not currently managed in sensitive vegetation communities as described below. Cultural resource management (Public Use Element 7) would not result in impacts to sensitive vegetation communities. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.3.3 under Public Use and Administrative Facilities; the other tasks addressed in Public Use Element 8 would not impact sensitive vegetation communities. The proposed trail use and wildlife viewing (Public Use Element 1) and fire management (Public Use Element 6) could result in inadvertent impacts to sensitive vegetation communities in the absence of other avoidance, minimization, and mitigation measures; each of these public use elements are described below.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and to facilitate passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources. The management activity associated with Public Use Element 1 that could result in inadvertent impacts to sensitive vegetation communities on the Davis Unit is construction of new facilities to access the SJWA (Task PUE 1.2), the locations of which have not been determined. Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to sensitive vegetation communities, nor are they proposed on the Davis Unit.

Task PUE 1.2: Task PUE 1.2 (construction of new facilities) could affect sensitive vegetation communities during construction, maintenance, and public use of new trails and associated facilities, such as parking and staging areas. Potential impacts to sensitive vegetation communities that could occur during grading are similar to those described in Task BE 5.7 (uplands restoration) under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.3.1.1. While new facilities would be designed to avoid impacts to sensitive vegetation communities, unavoidable impacts would be mitigated through restoration, which could have inadvertent impacts to sensitive vegetation communities, which is also described in Task BE 5.7.

Proposed Waterfowl Hunting (Public Use Element 2)

Approximately 2 acres of alkaline ephemeral wetland MU that were not being managed are proposed to be managed for waterfowl hunting in Subunit D4. Tasks PUE 2.1 (operating and managing a waterfowl hunting program), PUE 2.2 (improving hunting infrastructure), and PUE 2.3 (developing non-motorized boat access to Mystic Lake) could result in impacts to sensitive vegetation communities; each task is described in detail below.

Task PUE 2.1: Task PUE 2.1 (operating and managing a waterfowl hunting program) is not likely to result in significant impacts to sensitive vegetation communities. However, the potential impact from the general increase in human and hunting dog activities that could result in trampling of sensitive vegetation communities is analyzed to ensure a conservative analysis.

Task PUE 2.2: Task PUE 2.2 (improving hunting infrastructure) includes maintenance and public use of existing hunting facilities, including blinds, parking areas, and trash cans. Construction of new blinds could result in direct and indirect impacts to sensitive vegetation communities similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Task PUE 2.3: Task PUE 2.3 (developing non-motorized boat access to Mystic Lake) includes construction of a new road, parking area, and dock structure for access to Mystic Lake. Construction of these new facilities could result in direct and indirect impacts to sensitive vegetation communities similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Proposed Agriculture Management (Public Use Element 3)

Approximately 30 acres of alkaline ephemeral wetland MU that were not being managed are proposed to be managed for agriculture in Subunits D3 and D4. All of the tasks identified in the draft LMP could result in impacts to sensitive vegetation communities, and include: (1) developing and maintaining agricultural leases (Task PUE 3.1), (2) reconfiguring existing CDFW food plots (Task PUE 3.2), (3) expansion of leases (Task PUE 3.3), (4) expansion of CDFW food plots (Task PUE 3.4), and (5) development of grazing permit Task (PUE 3.5).

Task PUE 3.1: Task PUE 3.1 (developing and maintaining agricultural leases) includes activities associated with habitat conversion, including conversion of dry wheat fields to triticale and alfalfa crops, which could impact sensitive vegetation communities.

Task PUE 3.2: Task PUE 3.2 (reconfiguring existing CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect sensitive vegetation communities.

Task PUE 3.3: Task PUE 3.3 (expansion of agriculture leases) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect sensitive vegetation communities.

Task PUE 3.4: Task PUE 3.4 (expansion of CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect sensitive vegetation communities.

Task PUE 3.5: Task PUE 3.5 (development of grazing permits) includes grazing activities to maintain SKR habitat. Grazing could result in soil erosion could degrade quality of sensitive vegetation communities.

Fire Management (Public Use Element 6)

Fire management could affect sensitive vegetation communities in the absence of appropriate other avoidance, minimization, or mitigation measures. Pre-fire management activities that could affect sensitive vegetation communities include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These

vegetation management activities could result in impacts such as (1) inadvertent damage to sensitive vegetation communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup. Fire suppression measures during fire includes staging areas, and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could impact sensitive vegetation communities. These activities could cause soil and vegetation damage, degrading and impacting vegetation communities. Fire retardants may also damage sensitive vegetation communities. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, and disturbed areas are more vulnerable to invasion by non-native plant species, degrading the quality of the communities. Restoration and enhancement following fire may include native plant seeding, which could adversely affect vegetation communities if seeded species are not appropriate for the region.

5.3.6.3.2 Davis Unit Sensitive Vegetation Communities: Proposed Management for Areas Currently Managed

The sensitive vegetation communities in the Davis Unit that are within lands currently being managed for a different resource than the proposed management activity include willow MU, alkaline ephemeral wetland MU, and black willow/mulefat association as quantified in Table 5.3-30 and shown in Figure 5.3-11.

Table 5.3-30
CDFW Sensitive Vegetation Communities in Proposed Management Areas that are Currently Managed in Davis Unit

Existing Management	Proposed Management	Alliance, Association, or other MU	D1	D2	D3	D5	D7	D13	Total
Biological Resource: Riparian Communities	Biological Resource: SKR	Willow MU	—	—	8	—	—	—	8
		Alkaline Ephemeral Wetland MU	—	—	1	—	—	—	1
Public Use: Agriculture & Upland Game Hunting	Biological Resource: Alkali Communities	Alkaline Ephemeral Wetland MU	—	—	—	—	173	—	173
Public Use: Agriculture & Upland Game Hunting	Biological Resource: SKR	Willow MU	—	1	—	—	—	—	1
Public Use: Agriculture & Upland Game Hunting	Public Use: Waterfowl Hunting	Alkaline Ephemeral Wetland MU	—	—	—	—	15	—	15
Public Use: Upland Game Hunting	Biological Resource: Alkali Communities	Emory's Baccharis MU	—	—	5	<1	—	—	5
		Alkaline Ephemeral Wetland MU	12	—	43	255	17	210	536
Public Use: Upland Game Hunting	Biological Resource: Riparian Communities	Black Willow/Mulefat Association	—	—	—	—	4	—	4
		Willow MU	1	—	—	1	—	—	2
		Alkaline Ephemeral Wetland MU	—	—	1	—	—	—	1
Public Use: Upland Game Hunting	Biological Resource: SKR	Emory's Baccharis MU	—	—	26	—	—	—	26
		Alkaline Ephemeral Wetland MU	15	—	14	—	—	—	29
Public Use: Upland Game Hunting	Biological Resource: Upland Communities	Alkaline Ephemeral Wetland MU	—	—		1	—	—	1
		Emory's Baccharis MU	—	—	6	—	—	—	6
		Alkaline Ephemeral Wetland MU	—	—	20	75	5	—	100
		Total	**28**	**2**	**122**	**332**	**217**	**210**	**909**

5.3.6.3.2.1 Proposed Biological Resources Management

A discussion of the proposed biological resource management in relation to sensitive vegetation communities is provided below by management element. No wetlands communities management (Biological Element 3) is proposed on the Davis Unit in areas that are not currently managed as such.

Proposed SKR Communities Management (Biological Element 1)

Approximately 65 acres of sensitive vegetation communities under existing management will now be managed for SKR communities. This includes approximately 8 acres of willow MU and 1 acre of alkaline ephemeral wetland MU that were being managed for riparian communities; approximately 1 acre of willow MU that was being managed for agriculture and upland game hunting; and 26 acres of Emory's baccharis MU and 29 acres of alkaline ephemeral wetland MU that were being managed for upland game hunting.

Task BE 1.3 (participating in SKR regional management) would not result in substantial direct and indirect impacts to sensitive vegetation communities. Tasks BE 1.1 (comply with existing SKR requirements) and 1.2 (habitat restoration for SKR) could result in inadvertent impacts to sensitive vegetation communities; each task is described in more detail below.

Task BE 1.1: The primary activity associated with Task BE 1.1 (comply with existing SKR requirements) that could affect sensitive vegetation communities is maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, and burning to reduce vegetative cover). These vegetation management activities could result in impacts such as: (1) inadvertent damage or fill to potentially jurisdictional waters, if not controlled properly; and (2) inadvertent soil disturbance or fill and water quality degradation (e.g., from erosion).

Task BE 1.2: Task BE 1.2 (habitat restoration for SKR), such as the removal of non-native plant cover through mowing or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs could impact sensitive vegetation communities. For example, without application of appropriate measures, prescribed burns could result in inadvertent soil disturbance in sensitive vegetation communities.

Proposed Alkali Communities Management (Biological Element 2)

Approximately 714 acres of sensitive vegetation communities—709 acres of alkaline ephemeral wetland MU and 5 acres of Emory's baccharis MU—that was being managed for agriculture or upland game hunting will now be managed for alkali communities.

Figure 5.3-10B Sensitive Vegetation Communities and Proposed Management Activities in Areas Not Currently Managed—Potrero Unit

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Figure 5.3-11 Sensitive Vegetation Communities and Proposed Management Changes in Managed Areas on Davis Unit

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Task BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), BE 2.3 (developing an alkali restoration program), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks BE 2.1, BE 2.2, BE 2.3, and BE 2.4 are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.3.1.1.

Proposed Riparian Communities Management (Biological Element 4)

Approximately 8 acres of sensitive vegetation communities—4 acres of black willow/mulefat association, 2 acres of willow MU, and 1 acre of alkaline ephemeral wetland MU—that was being managed for upland game hunting will now be managed for riparian communities.

Riparian communities management Tasks BE 4.1 (maintaining riparian habitats), BE 4.2 (habitat restoration for wetlands/riparian habitats), BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks BE 4.1, BE 4.2, BE 4.3, BE 4.4, and BE 4.5 are described under Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.3.1.1.

Proposed Uplands Communities Management (Biological Element 5)

Approximately 107 acres of sensitive vegetation communities, 101 acres of alkaline ephemeral wetland MU and 6 acres of Emory's baccharis MU that was being managed for uplands hunting will now be managed for uplands communities. With respect to this change in management, application of a biological resource element instead of a public use element would benefit sensitive vegetation communities, particularly because the sensitive communities are uplands. However, as described above in Section 5.3.6.3.1.1, the activities associated with the management of uplands communities could affect sensitive vegetation communities without appropriate avoidance, minimization, and mitigation measures.

Tasks BE 5.1 (conducting refinements of vegetation classification) would not result in inadvertent impacts to sensitive vegetation communities. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), and BE 5.7 (uplands restoration) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of these tasks would be the same as those are described under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.3.1.1. Tasks BE 5.5 (raptor measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and

Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to sensitive vegetation communities if it were to occur.

5.3.6.3.2.2 Proposed Public Use Management

There is no agriculture (Public Use Element 3), upland game hunting (Public Use Element 4), or hunting dog training and field trials (Public Use Element 5) proposed on lands with sensitive vegetation communities that are currently managed. Cultural resource management (Public Use Element 7) would not result in impacts to sensitive vegetation communities. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.3 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact sensitive vegetation communities. The proposed trail use and wildlife viewing (Public Use Element 1) and fire management (Public Use Element 6) could result in inadvertent impacts to sensitive vegetation communities in the absence of other avoidance, minimization, and mitigation measures; each of these public use elements are described below.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and the locations have not been determined. As described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.3.1.2, Task PUE 1.2 (construction of new facilities) could result in inadvertent impacts to sensitive vegetation communities. Task PUE 1.1 (maintenance and public use of existing trails) is not proposed on the Davis Unit. Tasks PUE 1.3 (solicit input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to sensitive vegetation communities nor are they proposed on the Davis Unit.

Waterfowl Hunting (Public Use Element 2)

There are 15 acres of alkaline ephemeral wetland MU in Subunit D7 that are being managed for agriculture and upland game hunting that will now be managed for waterfowl hunting. Tasks PUE 2.1 (operating and managing a waterfowl hunting program), PUE 2.2 (improving hunting infrastructure), and PUE 2.3 (developing non-motorized boat access to Mystic Lake) could result in impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks PUE 2.1 and PUE 2.2 are described under Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.3.1.2.

Fire Management (Public Use Element 6)

The precise location of fire management on the Davis Unit has not been determined. As described under Fire Management (Public Use Element 6) in Section 5.3.6.3.1.2, fire management could result in inadvertent impacts to sensitive vegetation communities.

5.3.6.3.2.3 Proposed Biological and Public Use Management

Approximately 2 acres of the alkaline ephemeral wetland MU on the Davis Unit that is managed as agriculture and upland small game hunting managed would be co-managed for public use and biological resources. More specifically, these areas would be managed for riparian communities and waterfowl hunting.

Proposed Riparian Communities Management (Biological Element 4) and Proposed Waterfowl Hunting (Public Use Element 2)

As described under Proposed Riparian Communities Management (Biological Element 4), in Section 5.3.6.3.1.1, and Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.3.1.2, these management elements could result in inadvertent impacts to sensitive vegetation communities.

5.3.6.3.3 Davis Unit Sensitive Vegetation Communities: Public Use and Administrative Facilities

As described in Section 5.3.6.2.3, ground-disturbing activities associated with public use and administrative facilities would occur within the Davis Unit. Activities that would result in ground-disturbing activities would include construction of three new homes, associated shade structures, and one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems. These ground-disturbing activities would occur within Subunit D8, and the proposed recycled water storage would occur within Subunits D1 and D2. Subunits D1, D2, and D8 have sensitive vegetation communities and, thus, activities in these subunits could impact sensitive vegetation communities in the absence of other avoidance, minimization, and mitigation measures.

Additionally, new road, access, and trail infrastructure and improvements to the auto-tour loop road and a new SJWA entrance sign would be constructed. These ground-disturbing activities would occur within Subunits D4 and D5. Subunits D4 and D5 have sensitive vegetation communities and, thus, activities in these subunits could impact sensitive vegetation communities in the absence of other avoidance, minimization, and mitigation measures.

5.3.6.3.4 Potrero Unit Sensitive Vegetation Communities: Proposed Management for Areas Not Currently Managed

The Potrero Unit includes 16 sensitive vegetation communities, and all of these communities are within areas that would be managed. Table 5.3-31 summarizes the sensitive vegetation communities that occur within proposed biological resources management and public use management areas in the Potrero Unit. Figure 5.3-10B shows the locations of the proposed management on the Potrero Unit and the sensitive vegetation communities.

Table 5.3-31
Sensitive Vegetation Communities in Potrero Unit by Proposed Management Activity

Proposed Management	MSHCP Vegetation/Land Cover Group	Alliance, Association, or other MU	Acres
Biological Resource Management			
Alkali Communities	Coastal Sage Scrub	Yerba Santa Alliance	1
	Riparian Scrub, Woodland, Forest	Blue Elderberry–(Mulefat) MU	15
	Riversidean Alluvial Fan Sage Scrub	Scalebroom–California Buckwheat Association	31
		Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU	8
		Alkali Communities Subtotal	*56*
Riparian Communities	Riparian Scrub, Woodland, Forest	California Sycamore Alliance	4
		Fremont Cottonwood–Red Willow Association	23
		Fremont Cottonwood/Mulefat Association	42
		Fremont Cottonwood–Black Willow/Mulefat Association	12
		Fremont Cottonwood Dry MU	14
		Fremont Cottonwood–Willow MU	48
		Willow MU	4
		Riparian Communities Subtotal	*147*
Upland Communities	Chaparral	Chamise–Cupleaf Ceanothus Alliance	222
	Coastal Sage Scrub	Yellow Bush Penstemon Alliance	12
		Yerba Santa Alliance	82
	Riparian Scrub, Woodland, Forest	Black Willow Alliance	3
		Fremont Cottonwood–Red Willow Association	2
		Fremont Cottonwood/Mulefat Association	3
		Fremont Cottonwood–Black Willow/Mulefat Association	1
		Fremont Cottonwood Dry MU	5
		Blue Elderberry–(Mulefat) MU	54
	Riversidean Alluvial Fan Sage Scrub	Scalebroom–California Buckwheat Association	2
		Upland Communities Subtotal	*386*
Wetlands Communities	Coastal Sage Scrub	Yerba Santa Alliance	1
	Riparian Scrub, Woodland, Forest	Blue Elderberry–(Mulefat) MU	2
		Wetlands Communities Subtotal	*3*

Table 5.3-31
Sensitive Vegetation Communities in Potrero Unit by Proposed Management Activity

Proposed Management	MSHCP Vegetation/Land Cover Group	Alliance, Association, or other MU	Acres
Public Use Management			
Upland Game Hunting	Chaparral	Toyon–Scrub Oak–Birchleaf Mountain-mahogany–California Ash Association	18
	Riparian Scrub, Woodland, Forest	Fremont Cottonwood/Mulefat Association	1
	Riversidean Alluvial Fan Sage Scrub	Scalebroom–(California Buckwheat–Mexican Elderberry–Mulefat) MU	2
		Upland Game Hunting Subtotal	*21*
Biological Resources and Public Use Management			
SKR, Upland Small Game Hunting	Coastal Sage Scrub	Palmer's Goldenbush Alliance	*22*
		SKR, Upland Small Game Hunting Subtotal	*23*
		Total	**635**

On the Potrero Unit, there are 635 acres of sensitive vegetation communities that are not currently being managed but would be managed under the draft LMP. The potential impacts to these sensitive communities are described by the proposed management type in Sections 5.3.6.3.4.1 and 5.3.6.3.4.2.

5.3.6.3.4.1 Proposed Biological Resources Management

In total, the sensitive vegetation communities that that are not currently being managed for biological resources, but where biological resources management is proposed, are in four MSHCP vegetation/land cover groups, including Riversidean alluvial fan scrub; riparian, scrub, woodland, and forest; coastal sage scrub; and chaparral. Table 5.3-31 summarizes the sensitive vegetation communities that occur within proposed biological resources management areas in the Potrero Unit. Proposed SKR management would be co-managed with upland small game hunting as described in Section 5.3.6.3.4.3. Approximately 591 acres (93%) of the 635 acres of land not currently managed on the Potrero Unit would be managed for biological resources. A discussion of the proposed biological resource management in relation to sensitive vegetation communities is provided below by management element.

Proposed Alkali Communities Management (Biological Element 2)

There are 56 acres of sensitive vegetation communities that are not currently being managed that are proposed to be managed for alkali communities. Specifically, 1 acre of yerba santa alliance, 15 acres of blue elderberry–(mulefat) MU, 31 acres of scalebroom–California buckwheat

association, and 8 acres of scalebroom–(California buckwheat–Mexican elderberry–mulefat) MU are within proposed alkali communities management areas.

Task BE 2.3 (developing an alkali restoration program) is not proposed on the Potrero Unit. Tasks BE 2.1 (inventory of alkali species and habitat), BE 2.2 (control adverse edge effects for alkali communities), and BE 2.4 (implementing alkali habitat mitigation) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks BE 2.1 and BE 2.4 are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.3.1.1. Task BE 2.2 is described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.4.6.1.

Proposed Wetland Communities Management (Biological Element 3)

There are 2 acres of blue elderberry–(mulefat) MU and 1 acre of yerba santa alliance that are proposed to be managed for wetland communities. Tasks BE 3.10 (ensuring compatibility of management practices) and BE 3.11 (implementing avoidance and minimization measures) would not result in substantial impacts to sensitive vegetation communities, and Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.7 (protecting breeding habitat for spadefoot toad), BE 3.8 (identifying properties that promote conservation of wetland resources), and BE 3.9 (maintaining the ability to use reclaimed water) are not proposed on the Potrero Unit. The primary management activities that could result in impacts to sensitive vegetation communities include Tasks BE 3.2 (managing invasive plant and animal species), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), and BE 3.6 (vernal pool enhancement). The potential effect of Tasks BE 3.2, BE 3.4, and BE 3.5 on wetland communities are described in more detail in Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.3.1.1, and Task BE 3.6 is described below.

Task BE 3.6: The primary activities associated with Task BE 3.6 that could affect wetland communities, in the absence of appropriate other avoidance, minimization, and mitigation measures, are activities associated with vernal pool enhancement. Although potential enhancement methods have not been identified, they may include methods to reduce non-native grasses and exotic forbs to increase pool hydroperiods, including grazing, mowing, prescribed burning, and chemical treatments.

Proposed Riparian Communities Management (Biological Element 4)

There are 147 acres of sensitive vegetation communities that are not currently being managed that are proposed to be managed for riparian communities. The proposed riparian management would directly benefit these communities because they are riparian communities, and the

management goals are specifically designed to manage these resources. More specifically, the following riparian communities will be managed as riparian communities:

- 4 acres of California sycamore alliance
- 42 acres of Fremont cottonwood/mulefat association
- 14 acres of Fremont cottonwood dry MU
- 48 acres of Fremont cottonwood–willow MU
- 23 acres of Fremont cottonwood–red willow association
- 12 acres of Fremont cottonwood–black willow/mulefat association
- 4 acres of willow MU.

While the proposed management will be largely beneficial to the riparian communities, it is possible that the task in Biological Element 4 (Proposed Riparian Management) could result in inadvertent impacts to sensitive vegetation communities. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit. Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in inadvertent impacts to sensitive vegetation communities. The potential effect of Tasks BE 4.3, BE 4.4, and BE 4.5 on riparian communities are described in more detail in Proposed Riparian Communities Management (Biological Element 4) in Section 5.3.6.3.1.1.

Proposed Uplands Communities Management (Biological Element 5)

There are 386 acres of sensitive vegetation communities that are not currently being managed that are proposed to be managed for uplands communities. More specifically, the following sensitive vegetation communities will be managed as riparian communities:

- 222 acres of chamise–cupleaf ceanothus alliance
- 12 acres of yellow bush penstemon alliance
- 82 acres of yerba santa alliance
- 3 acres of black willow alliance
- 2 acres of Fremont cottonwood–red willow association
- 3 acres of Fremont cottonwood/mulefat association
- 1 acre of Fremont cottonwood–black willow/mulefat association
- 5 acres of Fremont cottonwood dry MU

- 54 acres of blue elderberry–(mulefat) MU
- 2 acres of scalebroom–California buckwheat association.

The proposed upland communities management would directly benefit the chamise–cupleaf ceanothus alliance, yellow bush penstemon alliance, and yerba santa alliance because these communities are upland communities, and the management goals are specifically designed to manage upland resources, including upland vegetation communities. The remaining 70 acres that will be managed as uplands communities are riparian or alluvial vegetation communities.

While the proposed management will be largely beneficial to the upland communities, there are 70 acres of riparian and alluvial vegetation communities that will now be managed as upland communities and it is possible that some of the tasks could result in inadvertent impacts to sensitive vegetation communities more generally. Tasks BE 5.1 (conducting refinements of vegetation classification) and BE 5.5 (raptor protection measures) would not result inadvertent impacts sensitive vegetation communities. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), BE 5.6 (maintain and manage burrowing owl habitat), and BE 5.7 (uplands restoration) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks BE 5.2, BE 5.3, BE 5.4, and BE 5.7 are described under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.3.1.1. Task BE 5.6 (maintain and manage burrowing owl habitat) is described in more detail below.

Task BE 5.6: The primary activities associated with Task BE 5.6 (maintain and manage burrowing owl habitat) that could affect sensitive vegetation communities include habitat management activities for burrowing owl. These management activities would include grazing, mowing, and burning to reduce vegetative cover, resulting in potential impacts such as (1) inadvertent damage to shrubs and shrub communities; (2) inadvertent soil disturbance and water quality degradation; (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup.

5.3.6.3.4.2 Proposed Public Use Management

Approximately 21 acres of sensitive vegetation communities on the Potrero Unit are not currently managed, but are proposed to be managed for public use under the draft LMP. A discussion of the proposed public use management in relation to sensitive vegetation communities is provided below by management element. There is no waterfowl hunting (Public Use Element 2), agriculture (Public Use Element 3), or hunting dog training and trials (Public Use Element 5) proposed on lands where sensitive vegetation communities are present that are not currently managed. Cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to sensitive vegetation communities on the Potrero Unit.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

The management activities associated Public Use Element 1 that could result in impacts to sensitive vegetation on the Potrero Unit, if other measures are not implemented are Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities). Potential impacts to sensitive vegetation communities from implementation of Task PUE 1.2 are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.3.1.2 and Task PUE 1.1 below. Tasks PUE 1.3 (soliciting input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to sensitive vegetation communities.

Task PUE 1.1: Potential impacts to sensitive vegetation communities could occur during maintenance activities and public use associated with Task PUE 1.1 (maintenance and public use of existing trails). Direct removal habitat of communities may occur during trail maintenance. Construction and maintenance activities may result in indirect effects, similar to those that could occur during habitat restoration, as described for Task BE 2.3 (developing an alkali restoration program). Public uses of trails could have adverse effects on sensitive vegetation communities as a result of trampling or creation of unauthorized trails by off-trail uses that could degrade the community.

Proposed Upland Game Hunting (Public Use Element 4)

There are 21 acres of sensitive natural communities in areas identified for upland game hunting management in the Potrero Unit. Specifically, 18 acres of toyon–scrub oak–birchleaf mountain-mahogany–California ash association, 1 acre of Fremont cottonwood/mulefat association, and 2 acres of scalebroom–(California buckwheat–Mexican elderberry–mulefat) MU.

Tasks PUE 4.3 (development of agricultural and wildlife food crop) and PUE 4.5 (provide hunting opportunities) are not proposed on the Potrero Unit. Tasks PUE 4.1 (operate and manage upland game hunting program), PUE 4.2 (open portions of Potrero Unit to upland game hunting), PUE 4.4 (installation of guzzlers), and PUE 4.6 (evaluate potential for three additional game programs) could result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of Tasks PUE 4.1, PUE 4.2, PUE 4.4, and PUE 4.6 are described in detail below.

Task PUE 4.1: The safe operation and management of upland small game hunting requires the maintenance of facilities that offer access to the SJWA, such as roads and parking lots, which could result in ground disturbance. Potential impacts are the same as those described in Task PUE 1.2 under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.3.1.2.

Task PUE 4.2: The primary activities associated with Task PUE 4.2 (open portions of Potrero Unit to upland game hunting) that could affect sensitive vegetation communities are public use of new hunting facilities and management of hunting in the Potrero Unit. The primary concerns related to public uses are ensuring that hunters adhere to laws and regulations. Expansion may require installation of fencing and signage that could directly impact sensitive vegetation communities, if not properly sited and installed.

Task PUE 4.4: This task could impact sensitive vegetation communities by attracting incompatible groups of species and through other effects. For example, guzzlers may facilitate growth of invasive exotic species such as salt-cedar, if not properly maintained, that could degrade sensitive communities. Six existing guzzlers would require replacement over time; in addition, five new locations are proposed for guzzler installation to enhance resource availability for upland species, both game and non-game. Installation of new guzzlers could also result in ground disturbance.

Task PUE 4.6: Increasing hunting activities overall could generally increase the pressure of human activity on sensitive vegetation communities.

Fire Management (Public Use Element 6)

Pre-fire management activities which includes grazing, mowing, herbicides, and prescribed fire, could result in result in inadvertent impacts to sensitive vegetation communities. Potential impacts to sensitive vegetation communities from implementation of these activities are described under Fire Management (Public Use Element 6) in Section 5.3.6.3.1.2.

5.3.6.3.4.3 Proposed Biological and Public Use Management

Approximately 22 acres of the Palmer's goldenbush alliance on the Potrero Unit that is managed would be co-managed for SKR and upland small game hunting.

Proposed SKR Management (Biological Element 1) and Proposed Upland Small Game Hunting (Public Use Element 4)

As described under Proposed SKR Management (Biological Element 1), in Section 5.3.6.3.2.1, and Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.3.4.2, these management elements could result in inadvertent impacts to sensitive vegetation communities.

5.3.6.3.5 Potrero Unit Sensitive Vegetation Communities: Public Use and Administrative Facilities

As described in Section 5.3.6.2.5, a new domestic water system is proposed within Subunit P5, a power system is proposed within Subunits P5 and P6, and two new residences and an office are

proposed within Subunit P5 of the Potrero Unit. A new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4. New facilities would be built in Subunit P5.

There are approximately 50 acres of sensitive vegetation communities in Subunit P4, including blue elderberry–(mulefat) MU and Fremont cottonwood dry MU. There are approximately 62 acres of sensitive vegetation communities in Subunit P5, including toyon–scrub oak–birchleaf mountain-mahogany–California ash association; Palmer's goldenbush alliance; Fremont cottonwood/mulefat association; and scalebroom–(California buckwheat–Mexican elderberry–mulefat) MU.

Impacts to sensitive vegetation communities from grading are described in Task BE 5.7 under Proposed Uplands Communities Management (Biological Element 5) in Section 5.3.6.3.1.1. In the absence of mitigation measures, impacts to sensitive vegetation communities due to proposed structures would be significant.

5.3.6.3.6 Impacts to Sensitive Vegetation Communities

Proposed management could result in significant direct and indirect impacts to sensitive vegetation communities without other measures, as described by proposed management elements and tasks in Sections 5.3.6.3.1 through 5.3.6.3.5. While each management task is unique to the specific goal of the overall element, the potential impacts to sensitive vegetation communities are generally the same. A summary of potentially significant impacts to sensitive vegetation communities is provided below.

Grading, Trail Maintenance, and Other Ground-Disturbance

Grading for restoration, construction of new facilities, structures, and infrastructure, and trail maintenance activities, could have various direct impacts on sensitive vegetation communities, including temporary or permanent removal of the vegetation community. Grading for restoration could also result various temporary indirect impacts, including: (1) unintentional grading outside the restoration area; (2) increased human activity that could result in trampling of sensitive natural communities; (3) release of chemical pollutants and pesticides, including herbicides, that could impact species in the vegetation community or reduce their pollinators, degrading the community; (4) degradation of water quality; (5) introduction of invasive plant species that may alter the composition of the community; and (6) generation of fugitive dust.

Habitat Conversion

Impacts associated with management activities that may not require grading but would result in ground disturbance, would result in direct impacts to sensitive vegetation communities.

Hydrological Modifications

Various management tasks could result in hydromodification, which could impact sensitive vegetation communities. Maintaining riparian habitat could result in hydromodification impacts due to irrigation, which could change from a dryer condition to a mesic condition and alter vegetation community species composition. Additionally, eradication of non-native animal species may include habitat-based methods (e.g., pond draining followed by removal of target species), which could result in hydromodification and affect sensitive vegetation communities.

Installation of Physical Barriers and Signage

Signage, fencing, and other physical barriers to reduce adverse edge effects or to direct the public could affect sensitive vegetation communities if not sited, installed, and maintained properly. Installation of these features would result in ground-disturbing activities and could result in direct impacts to sensitive vegetation communities. Maintenance could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas) and could reduce the quality of sensitive vegetation communities.

Non-Native Invasive Species Eradication and Control

Measures to control non-native invasive species that could impact sensitive vegetation communities include (1) use of chemicals that may inadvertently affect sensitive vegetation communities or soil chemistry; (2) mechanical or hand removal of weeds through pulling or weed-whacking, which could have collateral impacts to special-status plants, if not implemented properly; (3) grazing, which could result in inadvertent trampling of sensitive vegetation communities and soil erosion that could degrade quality; (4) prescribed burning, which could escape authorized burn areas or cause off-site erosion; (5) eradication of non-native animal species may include habitat-based methods (e.g., pond draining followed by removal of target species), which could result in hydromodification and affect sensitive vegetation communities; (6) management for Argentine ants may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants), which could result in hydromodification impacts, and chemical treatments (insecticides) of nest mounds if necessary; and (7) control of wild pigs (e.g., shooting, use of tracking dogs), which could have adverse indirect effects on sensitive vegetation communities from human and dog activity (e.g., trampling of vegetation).

Planting and Seeding

Planting or seeding of species not appropriate for the region could impact sensitive vegetation communities by altering the species composition.

Trampling and Soil Compaction

Repeated surveys in certain areas could result in periodic vegetation trampling and soil disturbances such as compaction (i.e., creating permanent trails in survey areas). These potential impacts could reduce the quality of sensitive vegetation communities. Public uses of trails could have adverse effects on sensitive vegetation communities as a result of trampling of habitat or creation of unauthorized trails by off-trail uses that could degrade quality or directly impact individual plants. Public use elements may result in increases in human activities (e.g., upland game hunting) that could result in trampling of habitat.

Vegetation and Fire Management

Vegetation management, such as the maintenance of suitable habitat conditions for burrowing owl (e.g., vegetation management including grazing, mowing, and burning to reduce vegetative cover) could result in impacts to sensitive vegetation communities. These vegetation management activities could result in impacts such as: (1) inadvertent damage to sensitive vegetation communities, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup.

Fire management could also impact sensitive vegetation communities. Pre-fire management activities that could affect sensitive vegetation communities include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on sensitive vegetation communities as described above. Fire suppression measures during fire includes staging areas, and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could impact sensitive vegetation communities. These activities could cause soil and vegetation damage. Fire retardants may also damage sensitive vegetation communities. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to sensitive vegetation communities. Disturbed areas are also more vulnerable to invasion by non-native plant species, degrading sensitive vegetation communities.

5.3.6.3.6.1 Temporary Impacts to Sensitive Vegetation Communities

Implementation of the draft LMP could result in temporary direct and indirect impacts to sensitive vegetation communities resulting in a **potentially significant impact (Class II)**, in the absence of appropriate measures. Temporary impacts to sensitive vegetation communities would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-32 and in Section 5.3.6.8.

MM-BIO-2a Implement MM-BIO-1a through MM-BIO-1c~~g~~ and MM-BIO-1e~~i~~ through MM-BIO-1m. Implementation of mitigation measure MM-BIO-2a would ensure temporary direct and indirect impacts to sensitive vegetation communities would be less than significant (please see Section 5.3.6.8 for details of the specific mitigation measures).

5.3.6.3.6.2 Permanent Impacts to Sensitive Vegetation Communities

Implementation of the draft LMP could result in permanent direct and indirect impacts to sensitive vegetation communities resulting in a **potentially significant impact (Class II)**, in the absence of appropriate measures. Permanent impacts to sensitive vegetation communities would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-32 and in Section 5.3.6.8.

MM-BIO-2b Implement MM-BIO-1a through MM-BIO-1c and MM-BIO-1e through MM-BIO-1l

Implementation of mitigation measure MM-BIO-2b would ensure permanent direct and indirect impacts to sensitive vegetation communities would be less than significant (please see Section 5.3.6.8 for details of the specific mitigation measures).

5.3.6.4 Issue BIO-3: Would the project result in a net loss of federally protected wetlands or state-protected wetlands on the site?

Issue BIO-3 addresses jurisdictional waters under the jurisdiction of ACOE, CDFW, and RWQCB. A formal jurisdictional delineation of waters, including wetlands, has not been conducted in the SJWA; however, potentially jurisdictional waters or features have been identified, per the methods described in Section 5.3.2.3.1, and impacts to these potentially jurisdictional waters are evaluated in this section. In this section, "potentially jurisdictional areas" refer to acreages generated from the vegetation communities data, which consists of polygons, and "potentially jurisdictional linear features" refer to the linear distances generated from the NHD data, which consists of line features. The focus of this evaluation is whether the management activity would result in fill or dredge of a jurisdictional waters (see also the discussion under Issue HYD-1 starting on page 5.7-30 in Section 5.7, Hydrology and Water Quality).

Sections 5.3.6.4.1 through 5.3.6.4.3 address the impacts to potentially jurisdictional waters in the Davis Unit, and Sections 5.3.6.4.4 and 5.3.6.4.5 address the impacts to potentially jurisdictional waters in the Potrero Unit. Impacts are discussed by the proposed management facilities and structures, and operations and maintenance. This analysis is followed by a description of impacts to potentially jurisdictional waters, significance, and applicable measures in Section 5.3.6.4.6. The mitigation measures that would reduce potential impacts to less-than-significant levels are provided in Section 5.3.6.8.

Table 5.3-32
Summary of Potential Impacts to Sensitive Vegetation Communities, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
Temporary Direct and Indirect Permanent Direct and Indirect	• Grading, trail maintenance, or other ground-disturbing activities • Hydrological modifications • Installation of physical barriers and signage • Non-native invasive species eradication and control • Planting and seeding • Trampling and soil compaction • Vegetation and fire management	• MM BIO-1a (general construction-related avoidance and minimization measures) • MM BIO-1b (restoration of temporary impacts) • MM BIO-1c (environmental awareness training) • MM BIO-1e (siting and design criteria) • MM BIO-1f (restrictions on landscaping or restoration palettes and plants) • MM BIO-1g (restrictions on the use of motor vehicle and aircraft use) • MM BIO-1h (preparation and implementation of a GMP) • MM BIO-1i (practices for the control of invasive and non-native species) • MM BIO-1m (BMPs to minimize effect of repeated surveys) • MM BIO-1j (preparation and implementation of an alkali habitat management plan) • MM BIO-1k (management and monitoring of trail use) • MM BIO-1l (management and monitoring of hunting)	**With implementation of the following mitigation measures, potential significant temporary direct and indirect impacts to special-status plant species would be reduced to less-than-significant levels**: • MM BIO-1a would avoid and minimize the potential significant effects to sensitive vegetation communities through demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to sensitive vegetation communities outside the designated disturbance area, and requiring vehicle maintenance restrictions to avoid chemical spills, which would reduce potential impacts to water quality and thus indirectly to sensitive vegetation communities. • MM BIO-1b would avoid and minimize potential significant effects of temporary ground disturbance on sensitive vegetation communities by preventing future adverse effects associated with leaving bare ground, such as increased dust and erosion, and would help prevent adverse effects of invasive plant species that may alter the composition of the community if introduced during restoration or allowed to passively colonize the area post-construction. • MM BIO-1c would avoid and minimize the potential significant effects to sensitive vegetation communities by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps, of sensitive vegetation communities. • MM BIO-1e would avoid and minimize potential significant effects to sensitive vegetation communities by siting impacts in disturbed areas, such as existing roads and trails, and minimizing vegetation removal and ground disturbance, if feasible. • MM BIO-1f would avoid and minimize potential significant effects of seeding or planting by restricting the use of invasive plants or plants with high irrigation rates, requiring the use of native species compatible with the region, and requiring container plants be weed-, disease-, and pest-free. • MM BIO-1g would avoid and minimize potential significant impacts to special-status plants by requiring vehicles be operated and maintained on existing roads, if feasible, and if not feasible ensuring appropriate surveys are conducted to avoid sensitive vegetation communities. • MM BIO-1h would avoid and minimize potential significant impacts to sensitive vegetation communities by requiring any new grazing activities be preceded by the adoption of a grazing management plan (GMP), which will require that appropriate measures are implemented to protect sensitive vegetation communities. For example, the GMP may exclude livestock from areas where sensitive vegetation communities may be negatively impacted by grazing. • MM BIO-1i would avoid and minimize potential significant impacts to sensitive vegetation communities by requiring CDFW to implement an Integrated Pest Management Program (IPM) to control invasive species, including mechanical, chemical, and other accepted control methods, while minimizing herbicide use and associated impacts on non-target species, encouraging other authorized users and visitors to employ management practices that minimize the spread of weeds, and generally prohibiting the release of non-native animal species other unless used for bio-control or hunting. • MM BIO-1j would avoid and minimize potential significant impacts to alkaline communities because a delineation of the current alkaline communities would be conducted as part of this mitigation measure. Thus, direct and indirect impacts could be avoided. Additionally a focal management plan for alkali communities would be prepared to avoid the degradation of alkaline habitat, provide criteria to enhance the value of the existing alkali habitat, and require a monitoring program. • MM BIO-1k (management and monitoring of trail use) would reduce adverse effects of the public on the species, including trampling. • MM BIO-1l (management and monitoring of hunting) would reduce adverse effects of the public on the species, including trampling, collection, intentional feeding, harassment, etc.

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5.3.6.4.1 Davis Unit Jurisdictional Waters: Proposed Management for Areas Not Currently Managed

Approximately 1,680 acres of potentially jurisdictional waters and 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit are not managed, but are proposed to be managed as described below. Of this 1,680 acres, 1,609 acres or 96% would be managed for biological resources, and 71 acres, or 4%, would be managed for public use. All 1.9 linear miles of potentially jurisdictional linear features would be managed for biological resources. The potential effects of these proposed management activities on potentially jurisdictional waters are described in Sections 5.3.6.4.1.1 and 5.3.6.4.1.2.

5.3.6.4.1.1 Proposed Biological Resources Management

Approximately 1,609 acres of potentially jurisdictional areas and 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit are not managed for biological resources but would be following implementation of the draft LMP. Of the 1,609 acres of potentially jurisdictional areas on the Davis Unit that are not managed for biological resources, 1,239 acres, or 77%, would be managed as alkali, riparian, or wetlands (including waterfowl habitat) communities. Approximately 983 acres or 88% of the proposed biological resource management in potentially jurisdictional areas is coincident with the existing community. Meaning, approximately 321 acres (99%) of the alkaline ephemeral wetland MU will be managed as alkali communities, 31 acres (67%) of the riparian scrub, woodlands and forests will be managed as riparian communities, and 752 acres (almost 100% of the 754 acres of wetlands management) of water would be managed as wetlands communities.

Tables 5.3-28 and 5.3-29 summarize the proposed biological resources management areas in the Davis Unit that are not currently managed and within potentially jurisdictional waters. Table 5.3-33 includes the potentially jurisdictional areas, in acres, derived from the vegetation communities, and Table 5.3-34 includes the potentially jurisdictional linear miles derived from the NHD data (see Section 5.3.2.3.2 for methods). A discussion of the proposed biological resource management in relation to potentially jurisdictional areas is provided below.

Table 5.3-33

Proposed Biological Resources Management Areas in the Davis Unit within Potentially Jurisdictional Areas (Acres)

Vegetation Communities		Proposed Biological Resources Management				
MSHCP Vegetation/Land Cover Group	*Alliance, Association, or other MU*	*Alkali Communities*	*Riparian Communities*	*Upland Communities*	*Wetlands Communities**	**Total**
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU	321	13	245	2	581
	Playas and Vernal Pools Total	*321*	*13*	*245*	*2*	*581*
Riparian Scrub, Woodland, Forest	Black Willow/Mulefat Association	<0.5	20	—	—	20
	Fremont Cottonwood–Black Willow/Mulefat Association	—	1	—	—	1
	Mulefat Alliance	—	9	—	—	9
	Willow MU	1	<1	<1	—	1
	Riparian Scrub, Woodland, Forest Total	*1*	*31*	*<1*	—	*32*
Meadows and Marshes	Bulrush–Cattail MU	1	1	2	<1	4
	Meadows and Marshes Total	1	1	2	<1	4
Water	Duck Ponds MU	116	1	36	146	300
	Water MU	<0.5	—	85	606	692
	Water Total	*116*	*1*	*122*	*752*	*991*
	Total	**439**	**46**	**369**	**754**	**1,609**

Note: * Acreage includes 13 acres of duck ponds MU that will be managed for waterfowl habitat.

Table 5.3-34

Proposed Biological Resources Management Areas in the Davis Unit within Potentially Jurisdictional Linear Features (Linear Miles)

NHD Feature Type	Proposed Biological Resources Management				Total
	Alkali Communities	*Riparian Communities*	*Upland Communities*	*SKR*	
Artificial Path	—	—	< 0.05	—	< 0.05
Canal or Ditch	< 0.05		0.5	—	0.5
Stream or River	0.1	0.4	0.9	< 0.05	1.4
Total	**0.1**	**0.4**	**1.4**	**< 0.05**	**1.9**

Proposed SKR Communities Management (Biological Element 1)

Of the 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit that are not managed for biological resources, but would be following implementation of the draft LMP, <0.05 linear miles, or 2%, would be managed for SKR (Table 5.3-34). There are no potentially jurisdictional areas on the Davis Unit that would be managed for SKR that are not currently managed.

Task BE 1.3 (participating in SKR regional management) would not result in substantial direct and indirect impacts to potentially jurisdictional waters. Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to potentially jurisdictional linear features; each task is described in more detail below.

Task BE 1.1: The primary activity associated with Task BE 1.1 (comply with existing SKR requirements) that could affect potentially jurisdictional waters is maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing and burning to reduce vegetative cover). These vegetation management activities could result in impacts such as: (1) inadvertent damage or fill to potentially jurisdictional waters, if not controlled properly; and (2) inadvertent soil disturbance or fill and water quality degradation (e.g., from erosion).

Task BE 1.2: Task BE 1.2 (habitat restoration for SKR), such as the removal of non-native plant cover through mowing or prescribed burn, seeding of native grasses, and at least 5 years of controlling broad-leaved non-native forbs could impact potentially jurisdictional waters. For example, without application of appropriate measures, prescribed burns could result in inadvertent soil disturbance in jurisdictional waters.

Proposed Alkali Communities Management (Biological Element 2)

Of the 1,609 acres of potentially jurisdictional areas on the Davis Unit, 439 acres would be managed as alkali communities under the draft LMP; of these 439 acres, 321 acres (73%) are alkali ephemeral wetlands MU; 1 acre (1%) is willow MU; and 116 acres (26%) are the duck ponds MU. Of the 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit that are not managed for biological resources, but would be following implementation of the draft LMP, 0.1 linear mile (8%), including 0.02 acre of canal or ditch and 0.1 acre of stream or river, would be managed as alkali communities. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Alkali communities management Task BE 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit and Task BE 2.1 (inventory of alkali species and habitat) would

not result in fill or dredge in potentially jurisdictional areas. The primary activities that could result in impacts to potentially jurisdictional areas include Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation). These tasks would likely result in a net increase in jurisdictional waters or increase the quality of the waters, including wetlands. However, in order to implement the restoration or mitigation, fill of potentially jurisdictional waters may be necessary. Each task is described in more detail below.

Tasks BE 2.3 and 2.4: The primary activities associated with Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation) that could affect potentially jurisdictional waters include activities associated with alkali restoration such as: (1) non-native invasive species eradication and control; (2) hydrology modification such as the application of artificial irrigation to mimic natural conditions that support alkali species; (3) grading to achieve optimum hydrology and soil profile; and (4) planting of appropriate vegetation. Measures to control non-native invasive species that could impact potentially jurisdictional waters: (1) use of chemicals that may inadvertently affect potentially jurisdictional areas or soil chemistry (e.g., herbicides, pesticides); (2) mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking which could have collateral impacts to potentially jurisdictional waters, if not implemented properly; (3) grazing, which could result in soil erosion that could degrade potentially jurisdictional waters; and (4) prescribed burning, which could escape authorized burn areas or cause impacts, such as off-site erosion. Hydrological modifications could modify potentially jurisdictional waters. Also, planting of species not appropriate for the region could affect potentially jurisdictional areas. Grading for restoration could have various direct impacts on potentially jurisdictional waters, including direct removal or fill of wetlands. Grading for restoration could also result various temporary indirect impacts, including (1) unintentional grading outside the restoration area; (2) release of chemical pollutants and pesticides, including herbicides, that can harm individuals or reduce pollinators; (3) degradation of water quality; (4) introduction of invasive plant species that may alter the composition of the community; and (5) generation of fugitive dust.

Proposed Wetland Communities Management (Biological Element 3)

Of the 1,609 acres of potentially jurisdictional areas on the Davis Unit, 754 acres would be managed as wetland communities (or waterfowl habitat) under the draft LMP; of these 754 acres, 2 acres (0.3%) are alkali ephemeral wetlands MU, 146 acres (19%) are the duck ponds MU, and 606 acres (80%) are the water MU. There are no potentially jurisdictional linear features on the Davis Unit that are not managed for biological resources that would be managed for wetland communities. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Tasks BE 3.8 (identifying properties that promote conservation of wetland resources) and BE 3.11 (implementing avoidance and minimization measures) would not result in substantial impacts to potentially jurisdictional waters, and Tasks BE 3.1 (maintain and enhance open water and marsh habitat), BE 3.6 (vernal pool enhancement), and BE 3.10 (ensuring compatibility of management practices) are not proposed on the Davis Unit. The primary management activities that could result in impacts to potentially jurisdictional waters include Tasks BE 3.2 (managing invasive plant and animal species), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), BE 3.7 (protecting breeding habitat for spadefoot toad), and BE 3.9 (maintaining the ability to use reclaimed water) are described in more detail below.

Tasks BE 3.2, BE 3.4, and BE 3.7: Task BE 3.2 (managing invasive plant and animal species), would include the same measures to control non-native invasive species as discussed in Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation). Similarly, for Tasks BE 3.4 (provide adequate habitat for western pond turtle) and BE 3.7 (ensure protection of western spadefoot), some of the eradication methods for urban-related predators and exotic species could have inadvertent impacts on potentially jurisdictional waters, if not properly implemented. Management of invasive plants, described in Task BE 3.7, would be the same as Tasks BE 2.3 (developing an alkali restoration program) and BE 2.4 (implementing alkali habitat mitigation).

Tasks BE 3.3 and BE 3.5: The habitat conversion associated with Task BE 3.3 (expanding open water, marsh, and green feed field habitats) could affect potentially jurisdictional waters including: (1) grading for expansion of open/water marsh habitat in non-native grasslands in an area west of Davis Road (Subunit D7); and (2) conversion of non-native grassland and broad-leaved forbs with green feed fields, including minor grading to improve drainage/flooding and winter flooding. There is a potential for both direct and indirect impacts to potentially jurisdictional waters as described for Task BE 2.3 (developing an alkali restoration program), including removal of potentially jurisdictional waters, and temporary indirect impacts during grading (e.g., dust). Similarly, Task BE 3.5 (tricolored blackbird conservation measures), which could include vegetation restoration and enhancement to create upland breeding habitat for tricolored blackbird, could remove potentially jurisdictional waters.

Task BE 3.9: If CDFW were to develop storage ponds, ground-disturbance in areas where an adequate jurisdictional delineation had not occurred prior the activity could result in impacts to potentially jurisdictional waters.

Proposed Riparian Communities Management (Biological Element 4)

Of the 1,609 acres of potentially jurisdictional areas on the Davis Unit, 46 acres would be managed as riparian communities under the draft LMP; of these 46 acres, 13 acres (28%) are alkali ephemeral wetlands MU, 20 acres (44%) are the black willow/mulefat association, 1 acre (2%) is the Fremont cottonwood–black willow/mulefat association, 9 acres (20%) are the mulefat alliance, 0.1 acre (0.3%) is the willow MU, 1 acre (2%) is the bulrush–cattail MU, and 1 acre (3%) is the duck ponds MU. Of the 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit that are not managed for biological resources, but would be following implementation of the draft LMP, 0.4 linear mile of stream/river would be managed as riparian communities. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Riparian communities management Tasks BE 4.1 (maintaining riparian habitats), BE 4.2 (habitat restoration for wetlands/riparian habitats), BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in a direct loss of potentially jurisdictional waters; each task is described in more detail below.

Task BE 4.1: Task 4.1 (maintaining riparian habitats) could result in hydromodification impacts due to irrigation which could change hydrological conditions of potentially jurisdictional waters.

Tasks BE 4.2 and BE 4.3: The primary activities associated with Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) that could affect potentially jurisdictional areas include activities associated with restoration. As described for Task BE 2.3 (developing an alkali restoration program), grading for restoration could have various direct impacts on potentially jurisdictional waters, including removal of potentially jurisdictional areas. Grading for restoration could also result in various temporary indirect impacts and would be the same as those discussed in Task BE 2.3 (developing an alkali restoration program).

Task BE 4.4: The potential impacts to potentially jurisdictional waters for Task BE 4.4 (control exotic species) would be the same as that described under Task BE 3.2 (managing invasive plant and animal species). Eradication of invasive species could affect non-target native plants if not properly implemented.

Task BE 4:5: Although there are no planned activities that would directly impact riparian habitat, if such activities were to occur in the future such as conversion of an existing riparian area to a waterfowl pond or field, such activities would be designed and planned in a manner that avoids impacts to riparian habitat and potentially jurisdictional areas. If full avoidance cannot be

achieved, impacts would be mitigated through restoration. Restoration activities associated with Task BE 4.5 (habitat restoration for riparian habitat) that could affect potentially jurisdictional waters would be the same as Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat).

Proposed Uplands Communities Management (Biological Element 5)

Approximately 369 acres (245 acres of the alkaline ephemeral wetland MU, 36 acres of duck ponds MU, 85 acres of water MU, 2 acres of bulrush–cattail MU, and 0.1 acre of willow MU) are in the proposed uplands communities management area, and 1.4 linear miles of potentially jurisdictional linear features would be managed as uplands communities on the Davis Unit.

Task BE 5.1 (conducting refinements of vegetation classification) would not result in substantial direct and indirect impacts to potentially jurisdictional waters. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to potentially jurisdictional areas if it were to occur. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), and BE 5.7 (uplands restoration) could result in inadvertent impacts to potentially jurisdictional waters; each task is described in more detail below.

Task BE 5.2: Task BE 5.2 (wildfire management measures), which could include grazing, mowing, and other methods to maintain fire breaks and fire buffers, could result in impacts such as: (1) inadvertent fill to potentially jurisdictional waters, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup.

Task BE 5.3: Task BE 5.3 (vegetation management) includes erosion controls that may include establishment of native vegetation communities through application of native seed mixes and weed management during the maintenance period. Using a seed mix not appropriate for the region could impact potentially jurisdictional waters by altering riparian and wetland areas. Weeding activities may include use of chemicals that could inadvertently affect potentially jurisdictional areas or soil chemistry (e.g., herbicides).

Task BE 5.4: Task BE 5.4 (control adverse edge effects for uplands) could affect potentially jurisdictional waters, inadvertently, through management measures to control non-native invasive plants and animals along habitat edges. Eradication of invasive non-native plant species may include removal with hand equipment, chemical treatment, soil solarization, and direct removal/replacement. Management of Argentine ants, which is part of Task BE 5.4, is directed at limiting the extent to which artificial irrigation affects moisture conditions within

upland communities and would include such things as avoiding excessive watering and uncontrolled discharges.

Task BE 5.7: The primary activities associated with Task BE 5.7 (uplands restoration) that could affect potentially jurisdictional waters, are habitat restoration activities undertaken as mitigation for unavoidable planned activities and management impacts. Grading for restoration could have various direct impacts on potentially jurisdictional areas and would be the same as those discussed in Task BE 2.3 (developing an alkali restoration program).

5.3.6.4.1.2 Proposed Public Use Management

As stated in Section 5.3.6.4.1, approximately 1,679 acres of potentially jurisdictional areas and 1.9 linear miles of potentially jurisdictional linear features on the Davis Unit are not managed, but are proposed to be managed. Approximately 71 acres, or 4% of the 1,679 acres of potentially jurisdictional areas on the Davis Unit are proposed for public use management. No potentially jurisdictional linear features are proposed for public use management.

Table 5.3-30 summarizes the proposed public use management areas in the Davis Unit that are not currently managed and within potentially jurisdictional waters; Table 5.3-35 includes the potentially jurisdictional acreages, or areas, derived from the vegetation communities. There are no potentially jurisdictional linear miles derived from the NHD data that are proposed for public use management on the Davis Unit within areas not currently managed. There is no upland small game hunting (Public Use Element 4) proposed on lands that are not currently managed on the Davis Unit. Additionally, cultural resource management (Public Use Element 7) would not result in impacts to potentially jurisdictional waters. The water storage component of agency coordination (Public Use Element 8) is described in Section 5.3.6.2.3 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact potentially jurisdictional waters.

A discussion of the proposed public use management in relation to potentially jurisdictional waters is provided below.

Table 5.3-35
Proposed Public Use Management Areas within Potentially Jurisdictional Areas (Acres)

MSHCP Vegetation/ Land Cover Group	Alliance, Association, or other MU	Agriculture	Waterfowl Hunting	Hunting Dog Training	Total
Playas and Vernal Pools	Alkaline Ephemeral Wetland MU	30	2	<0.5	33
Water	Duck Ponds MU	38	—	—	38
	Total	**68**	**2**	**<0.5**	**71**

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Public Use Element 1 includes the construction of new facilities to access the SJWA on the Davis Unit, and facilitation of passive and active recreation while preserving natural resources, ecological functions, and overall biological, cultural, and recreational resources. The management activity associated with Public Use Element 1 that could result in impacts to potentially jurisdictional waters on the Davis Unit is construction of new facilities to access the SJWA (Task PUE 1.2), described below. Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (solicit input), PUE 1.4 (developing education program) and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to potentially jurisdictional waters, nor are they proposed on the Davis Unit.

Task PUE 1.2: Task PUE 1.2 (construction of new facilities) could affect potentially jurisdictional waters during construction, and associated facilities, such as parking and staging areas. Potential impacts to potentially jurisdictional waters that could occur during construction of new facilities, are described for grading activities in Task BE 2.3 (developing an alkali restoration program) under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.4.1.1.

Proposed Waterfowl Hunting (Public Use Element 2)

Approximately 2 acres of the alkaline ephemeral wetland MU, which is a potentially jurisdictional water, would be managed as waterfowl hunting on the Davis Unit. Tasks PUE 2.1 (operating and managing a waterfowl hunting program), PUE 2.2 (improving hunting infrastructure), and PUE 2.3 (developing non-motorized boat access to Mystic Lake) could result in impacts to potentially jurisdictional waters; each task is described in detail below.

Task PUE 2.1: Task PUE 2.1 (operating and managing a waterfowl hunting program) is not likely to result in significant impacts to potential jurisdictional waters. However, the potential impact from the general increase in human and hunting dog activities that could result in trampling of waters is analyzed to ensure a conservative analysis.

Task PUE 2.2: Task PUE 2.2 (improving hunting infrastructure) includes maintenance and public use of existing hunting facilities, including blinds, parking areas, and trash cans. Construction of new blinds could result in direct and indirect impacts to potentially jurisdictional waters similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Task PUE 2.3: Task PUE 2.3 (developing non-motorized boat access to Mystic Lake) includes construction of a new road, parking area, and dock structure for access to Mystic Lake. Construction of these new facilities could result in direct and indirect impacts to potentially

jurisdictional waters similar to those described for other construction activities in Task BE 2.3 (developing an alkali restoration program).

Proposed Agriculture Management (Public Use Element 3)

Approximately 30 acres of the alkaline ephemeral wetland MU and 38 acres of duck ponds MU that are potentially jurisdictional areas would be managed as agriculture on the Davis Unit. All of the tasks identified in the draft LMP could result in impacts to potentially jurisdictional waters, and include (1) developing and maintaining agricultural leases (Task PUE 3.1), (2) reconfiguring existing CDFW food plots (Task PUE 3.2), (3) expansion of leases (Task PUE 3.3), (4) expansion of CDFW food plots (Task PUE 3.4), and (5) development of grazing permit (Task PUE 3.5).

Task PUE 3.1: Task PUE 3.1 (developing and maintaining agricultural leases) includes activities associated with habitat conversion, including conversion of dry wheat fields to triticale and alfalfa crops, which could impact potentially jurisdictional waters.

Task PUE 3.2: Task PUE 3.2 (reconfiguring existing CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect potentially jurisdictional waters.

Task PUE 3.3: Task PUE 3.3 (expansion of agriculture leases) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect potentially jurisdictional waters.

Task PUE 3.4: Task PUE 3.4 (expansion of CDFW food plots) includes activities associated with habitat conversion similar to Task PUE 3.1 (developing and maintaining agricultural leases) and expansion of food plots, which could affect potentially jurisdictional waters.

Task PUE 3.5: Task PUE 3.5 (development of grazing permits) includes grazing activities to maintain SKR habitat. Grazing could result in soil erosion that could degrade quality of potentially jurisdictional waters.

Hunting Dog Training and Field Trials (Public Use Element 5)

Less than 0.5 acre of potentially jurisdictional areas (alkaline ephemeral wetland MU) would be managed for hunting dog training and field trials on the Davis Unit. Task PUE 5.3 (solicit input) is not proposed on the Davis Unit, and Task PUE 5.2 (manage hunting dog training programs) would not result in impacts to potentially jurisdictional waters. Task PUE 5.1 (expansion of dog training areas) would result in the improvement and expansion of existing and new dog training facilities and conversion of existing vegetation to create green feed fields and ponds with points, dikes, and islands for dog water exit and re-entry, which would directly benefit potentially

jurisdictional waters by providing an expansion to hunting dog training facilities including open water and marsh. However, to ensure a conservative analysis, the potential impacts from implementation of Task PUE 5.1 is analyzed in this PEIR and described in detail below.

Task PUE 5.1: The primary activities associated with Task PUE 5.1 (expansion of dog training areas) that could affect potentially jurisdictional waters include expansion of new dog training facilities and conversion of existing vegetation to create green feed fields and ponds with points, dikes and islands for dog water exit and re-entry. Grading and other construction activities to create these facilities may have direct and indirect impacts to potentially jurisdictional waters as restoration activities described for Task BE 2.3 (developing an alkali restoration program).

Fire Management (Public Use Element 6)

Fire management could affect potentially jurisdictional waters in the absence of appropriate avoidance, minimization, or mitigation measures. Pre-fire management activities that could affect potentially jurisdictional waters include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on potentially jurisdictional waters as described for Task BE 1.1 (comply with existing SKR requirements). Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could impact potentially jurisdictional areas. These activities could cause soil and vegetation damage, degrading habitat, and could directly impact individuals. Fire retardants may also damage potentially jurisdictional areas. Following fire events, areas that are damaged during fire suppression, as well as burn areas, may be vulnerable to erosion, resulting in damage to nearby resources such as wetlands and riparian habitat. Disturbed areas are also more vulnerable to invasion by non-native plant species, degrading potentially jurisdictional waters. Restoration and enhancement following fire may include native plant seeding, which could adversely affect potentially jurisdictional waters if seeded species are not appropriate for the region.

5.3.6.4.2 Davis Unit Jurisdictional Waters: Proposed Management for Areas Currently Managed

There are 935 acres of land and 2.9 linear miles of features considered potentially jurisdictional in the Davis Unit that are currently being managed for a different resource than the proposed management activity. With respect to potentially jurisdictional waters in the Davis Unit, the proposed management activities changes from existing to proposed are primarily more beneficial for the resources because the management will be biological resource management where it is currently public use management. More specifically, 896 acres of these 935 acres (96%) of potentially jurisdictional waters are currently designated for public use management and would

be designated for biological resources management; an additional 6 acres (1%) that are currently designated for public use and biological resources management would be designated for biological resources management only. Only 7 acres of these 935 acres (1%) of potentially jurisdictional waters are currently designated for public use and biological resources management and would be designated for public use management. There are 2 acres of potentially jurisdictional waters that are currently public use management that would be managed for both biological resources and public use. The remaining 24 acres (2%) would be the same management type but for a different resource.

5.3.6.4.2.1 Proposed Biological Resources Management

Approximately 935 acres of land and 2.9 linear miles of features considered potentially jurisdictional in the Davis Unit are currently being managed for public use that would be managed as a biological resource. Table 5.3-36 and Table 5.3-37 summarize the proposed biological resources management areas in the Davis Unit that are currently managed and within potentially jurisdictional waters; Table 5.3-36 includes the potentially jurisdictional acreages, or areas, derived from the vegetation communities, and Table 5.3-37 includes the potentially jurisdictional linear miles derived from the NHD data (see Section 5.3.2.3.2 for methods). A discussion of the proposed biological resource management in relation to potentially jurisdictional waters is provided below.

Table 5.3-36
Proposed Management for Areas Currently Managed in Davis Unit within Potentially Jurisdictional Areas (Acres)

Vegetation Community	Proposed Management Type	Proposed Management	Existing Management Type	Existing Management	Total
Playas and Vernal Pools					
Alkaline Ephemeral Wetland Mapping Unit	Biological Resource Management	Alkali Communities	Public Use Management	Agriculture & Upland Game Hunting	173
				Upland Game Hunting	536
		Wetlands Communities	Public Use Management	Upland Game Hunting	<0.5
		SKR	Biological Resource Management	Riparian Communities	1
			Public Use Management	Agriculture & Upland Game Hunting	<0.5
				Upland Hunting	29
		Riparian Communities	Public Use Management	Agriculture & Upland Game Hunting	<0.5
				Upland Game Hunting	1
		Upland Communities	Public Use Management	Upland Game Hunting	101
				Biological Resource Management Subtotal	*841*
	Biological and Public Use Management	Riparian Communities & Waterfowl Hunting	Biological and Public Use Management	Agriculture, SKR, and Upland Game Hunting	<0.5
			Public Use Management	Agriculture & Upland Game Hunting	2
				Biological and Public Use Management Subtotal	*2*
	Public Use Management	Agriculture	Biological and Public Use Management	Wetland Communities & Waterfowl Hunting	<0.5
			Public Use Management	Upland Game Hunting	<0.5
				Waterfowl Hunting	<0.5
		Hunting Dog Training and Trials	Public Use Management	Upland Game Hunting	<0.5
		Waterfowl Hunting	Public Use Management	Agriculture & Upland Game Hunting	15
				Public Use Management Subtotal	*15*
				Playas and Vernal Pools Total	**858**
Riparian Scrub, Woodland, and Forest					
Black Willow Mule fat Association	Biological Resource Management	Riparian Communities	Public Use Management	Agriculture & Upland Game Hunting	<0.5
				Upland Game Hunting	4
				Biological Resource Management Subtotal	*4*
Black Willow Alliance	Biological Resource Management	Riparian Communities	Public Use Management	Upland Game Hunting	<0.5
				Biological Resource Management Subtotal	*<0.5*
Emory's Baccharis Mapping Unit	Biological Resource Management	Alkali Communities	Public Use Management	Upland Game Hunting	5
		SKR	Public Use Management	Agriculture & Upland Game Hunting	<0.5
				Upland Game Hunting	26
		Upland Communities	Public Use Management	Upland Game Hunting	6
				Biological Resource Management Subtotal	*38*
Willow Mapping Unit	Biological Resource Management	SKR	Biological Resource Management	Riparian Communities	8
			Public Use Management	Agriculture & Upland Game Hunting	1
		Riparian Communities	Public Use Management	Upland Game Hunting	2
				Biological Resource Management Subtotal	*11*
				Riparian Scrub, Woodland, and Forest Total	**53**

Table 5.3-36
Proposed Management for Areas Currently Managed in Davis Unit within Potentially Jurisdictional Areas (Acres)

Vegetation Community	Proposed Management Type	Proposed Management	Existing Management Type	Existing Management	Total
			Water		
Duck Ponds Mapping Unit	Biological Resource Management	Alkali Communities	Public Use Management	Upland Game Hunting	1
		Wetlands Communities	Public Use Management	Upland Game Hunting	<0.5
		Riparian Communities	Biological and Public Use Management	Wetland Communities & Waterfowl Hunting	6
		Upland Communities	Public Use Management	Upland Hunting	3
				Biological Resource Management Total	*10*
	Public Use Management	Agriculture	Biological and Public Use Management	Wetland Communities & Waterfowl Hunting	7
				Public Use Management Subtotal	*7*
Water Mapping Unit	Biological Resource Management	Alkali Communities	Public Use Management	Agriculture & Upland Game Hunting	3
		Riparian Communities	Public Use Management	Upland Game Hunting	5
				Biological Resource Management Subtotal	*7*
				Water Total	**23**
				TOTAL	**935**

Table 5.3-37

Proposed Management for Areas Currently Managed in Davis Unit within Potentially Jurisdictional Linear Features (Linear Miles)

Proposed Management Type	Proposed Management	Existing Management Type	Existing Management	Stream or River	Artificial Path	Canal or Ditch	Total
Biological Resource	Alkali Communities	Public Use Management	Upland Game Hunting	0.1	<0.05	0.1	0.2
	Riparian Communities	Public Use	Agriculture & Upland Game Hunting	—	—	0.1	0.1
			Upland Game Hunting	<0.05	—	—	<0.05
	SKR	Biological Resource	Riparian Communities	<0.05	—	—	<0.05
		Public Use	Agriculture & Upland Game Hunting	0.5	—	—	0.5
			Upland Game Hunting	0.2	—	—	0.2
	Upland Communities		Agriculture & Upland Game Hunting	—	—	0.1	0.1
			Upland Game Hunting	1.1	<0.05	0.3	1.4
	Wetlands Communities			<0.05	—	—	<0.05
			Biological Resource Management Subtotal	*1.9*	*<0.05*	*0.5*	*2.5*
Public Use	Agriculture	Public Use	Upland Game Hunting	0.4	—	—	0.4
	Hunting Dog Training and Trials			0.1	—	—	0.1
			Public Use Management Subtotal	*0.5*	—	—	*0.5*
			Total	**2.4**	**<0.05**	**0.5**	**2.9**

SKR Communities Management (Biological Element 1)

There are approximately 65 acres of the potentially jurisdictional waters that were in areas designated for other uses, including agriculture, uplands game hunting, and riparian communities, that will be designated as biological resource management areas for SKR. This includes 29 acres of the alkaline ephemeral wetland MU, 26 acres of the Emory's baccharis MU, and 9 acres of the willow mapping MU. In addition, approximately 0.7 mile of stream/river will be managed for SRK that is currently managed for agriculture or upland game hunting.

Task BE 1.3 (participating in SKR regional management) would not result in substantial direct and indirect impacts to potentially jurisdictional waters. Tasks BE 1.1 (comply with existing SKR requirements) and BE 1.2 (habitat restoration for SKR) could result in inadvertent impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of these tasks are described under Proposed SKR Management (Biological Element 1) in Section 5.3.6.4.1.1.

Proposed Alkali Communities Management (Biological Element 2)

Approximately 709 acres of the alkaline ephemeral wetland MU that were in areas designated for other uses, including agriculture and uplands game hunting, will be designated as biological resource management areas for alkali communities management, which will directly benefit these potentially jurisdictional waters. An additional 9 acres of the duck ponds, Emory's baccharis MU, and water MUs that were in areas designated for public use management, specifically agriculture and uplands game hunting, will be designated as a biological resource management area for alkali communities management, which is compatible with the existing resources. In addition, approximately 0.2 mile of stream/river and canal ditch will be managed for alkali communities that are currently managed for upland game hunting.

Alkali communities management Task 2.2 (control adverse edge effects for alkali communities) is not proposed on the Davis Unit and Tasks BE 2.1 (inventory of alkali species and habitat) would not result in fill or dredge in potentially jurisdictional waters. Task BE 2.3 (developing an alkali restoration program) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.4.1.1 and not in this section. The primary activities that could result in impacts to potentially jurisdictional waters include Task BE 2.4 (implementing alkali habitat mitigation). This task would likely result in a net increase in jurisdictional waters or increase the quality of the waters, including wetlands. However, in order to implement the restoration or mitigation, fill of potentially jurisdictional waters may be necessary, which is described under Proposed Alkali Communities Management (Biological Elements 2) in Section 5.3.6.4.1.1.

Proposed Wetland Communities Management (Biological Element 3)

There is 0.4 acre of the alkaline ephemeral wetland MU and duck ponds MU in areas designated for public use management, specifically upland game hunting, that will be designated as a biological resource management area for wetlands communities management. Additionally, there is less than 0.05 linear mile of potentially jurisdictional linear features that are in areas designated for public use management (uplands game hunting), that will be designated as a biological resource management area for wetlands communities management, which will directly benefit these potentially jurisdictional linear features.

Tasks BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), and BE 3.5 (tricolored blackbird conservation measures) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.4.1.1 and not in this section. Tasks BE 3.8 (identifying properties that promote conservation of wetland resources) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to potentially jurisdictional waters. Tasks BE 3.1 (maintain and enhance open water and marsh habitat) and BE 3.6 (vernal pool enhancement) are not proposed on the Davis Unit. Task BE 3.10 (ensuring compatibility of management practices) is not proposed on the Davis Unit, and that task itself would not result in inadvertent impacts to potentially jurisdictional waters. Tasks BE 3.2 (managing invasive plant and animal species) and BE 3.9 (maintaining the ability to use reclaimed water) could result in impacts to potentially jurisdictional waters. Potential impacts from implementation of these tasks would be the same as those described under Proposed Wetland Communities Management (Biological Elements 3) in Section 5.3.6.4.1.1.

Proposed Riparian Communities Management (Biological Element 4)

Approximately 6 acres of riparian scrub, woodland, and forest communities that were in areas designated for public use management, including agriculture and uplands game hunting, will be designated as biological resource management areas for riparian communities management, which will directly benefit these potentially jurisdictional areas. Similarly, approximately 0.1 linear mile of potentially jurisdictional linear features that are in areas designated for public use management, including agriculture and uplands game hunting, will be designated as biological resource management areas for riparian communities management, which will directly benefit these potentially jurisdictional linear features. An additional 5 acres of the water MU that were in areas designated for public use management, specifically uplands game hunting, will be designated as a biological resource management area for riparian communities management, which is compatible with the existing resource; this 5-acre area is located in D11. Additionally, there are 6 acres of duck ponds that are managed as wetlands communities and waterfowl hunting that will be managed as riparian communities only; approximately 1 acre of alkaline

ephemeral wetland MU that is managed for agriculture and upland game hunting will be managed as riparian communities only.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of these tasks would be the same as those described under Proposed Riparian Communities Management (Biological Elements 4) in Section 5.3.6.4.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.4.1.1 and not in this section.

Uplands Communities Management (Biological Element 5)

There are approximately 110 acres of the potentially jurisdictional waters that were in areas designated for uplands small game hunting that will be designated as biological resource management areas for upland communities. This includes 101 acres of the alkaline ephemeral wetland MU, 6 acres of the Emory's baccharis MU, and 3 acres of the duck pond MU. In addition, approximately 1.5 miles of stream/river and canal ditch will be managed for upland communities that are currently managed for upland small game hunting and agriculture.

Task BE 5.1 (conducting refinements of vegetation classification) would not result in inadvertent impacts to potentially jurisdictional waters. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), and BE 5.7 (uplands restoration) could result in inadvertent impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of these tasks would be the same as those described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.4.1.1. Tasks BE 5.5 (raptor protection measures) and BE 5.6 (maintain and manage burrowing owl habitat) are not proposed on the Davis Unit, and Task BE 5.5 (raptor protection measures) would not result in inadvertent impacts to potentially jurisdictional waters.

5.3.6.4.2.2 Proposed Public Use Management

As stated in Section 5.3.6.4.2, approximately 935 acres of land and 2.9 linear miles of features considered potentially jurisdictional in the Davis Unit are currently being managed. Approximately 22 acres of potentially jurisdictional areas and 0.5 linear mile of potentially jurisdictional linear feet on the Davis Unit are proposed for public use management (see Tables 5.3-31 and 5.3-32). There is no upland small game hunting (Public Use Element 4) proposed on lands that are not currently managed on the Davis Unit. Additionally, cultural resource management (Public Use Element 7) would not result in impacts to potentially jurisdictional waters. The water storage component of agency coordination (Public Use Element 8) is

described in Section 5.3.6.2.3 under public use and administrative facilities; the other tasks addressed in Public Use Element 8 would not impact potentially jurisdictional waters.

A discussion of the proposed public use management in relation to potentially jurisdictional areas is provided below.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

Task PUE 1.2 (construction of new facilities) could result in inadvertent impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of Task PUE 1.2 are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.4.1.2. Task PUE 1.1 (maintenance and public use of existing trails) is only proposed on the Potrero Unit. Tasks PUE 1.3 (solicit input), PUE 1.4 (developing education program) and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to potentially jurisdictional waters nor are they proposed on the Davis Unit.

Proposed Waterfowl Hunting (Public Use Element 2)

There are 15 acres of potentially jurisdictional waters that are designated as agricultural and upland game hunting that will be managed as waterfowl hunting, which is more compatible with the existing resources (i.e., alkali ephemeral wetlands MU).

Tasks PUE 2.1 (operating and managing a waterfowl hunting program) and PUE 2.2 (improving hunting infrastructure) could result in inadvertent impacts to potentially jurisdictional waters and are described under Proposed Riparian Communities and Waterfowl Hunting in Section 5.3.6.4.2.2. Task PUE 2.3 (developing non-motorized boat access) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.4.1.1 and not in this section.

Proposed Agriculture Management (Public Use Element 3)

There are 7 acres of duck pond MU that will be managed as agriculture. Additionally, there is 0.4 linear mile of potentially jurisdictional features that are currently managed as upland game hunting that would be managed as agriculture.

Tasks PUE 3.1 (operating and managing a waterfowl hunting program), PUE 3.2 (reconfiguring existing CDFW food plots), PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5 (development of grazing permits) could result in inadvertent impacts to potentially jurisdictional waters. Potential impacts are the same as those described under Proposed Agriculture (Public Use Element 3) in Section 5.3.6.4.1.2. Tasks PUE 3.3 (expansion of agriculture leases), PUE 3.4 (expansion of CDFW food plots), and PUE 3.5

(development of grazing permits) are not existing management tasks on the Davis Unit, and, thus, are not in this section.

Proposed Hunting Dog Training and Trials (Public Use Element 5)

There is approximately 0.1 linear mile of potentially jurisdictional linear features that are currently managed as upland game hunting that would be managed hunting dog training and trials. Task PUE 5.3 (solicit input) is not proposed on the Davis Unit, and Task PUE 5.2 (manage hunting dog training programs) would not result in impacts to potentially jurisdictional waters. Task PUE 5.1 (expansion of dog training areas) could result in impacts to potentially jurisdictional waters, and is described under Hunting Dog Training and Field Trials (Public Use Element 5) in Section 5.3.6.4.1.2.

Fire Management (Public Use Element 6)

Pre-fire management activities which includes grazing, mowing, herbicides, and prescribed fire, could result in inadvertent impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional areas from implementation of these activities are described under Fire Management (Public Use Element) in Section 5.3.6.4.1.2.

5.3.6.4.2.3 Proposed Biological Resources/Public Use Management

Approximately 2 acres of potentially jurisdictional areas on the Davis Unit are proposed for biological resources/public use management (see Table 5.3-36). A discussion of the proposed biological resources/public use management areas in relation to potentially jurisdictional waters is provided below.

Proposed Riparian Communities Management (Biological Element 4) and Proposed Waterfowl Hunting (Public Use Element 2)

There are 2 acres of the alkaline ephemeral wetland MU that are currently managed as agriculture, SKR, or upland game hunting that would be managed as riparian communities and waterfowl hunting. The proposed management is more compatible with this potentially jurisdictional resource.

Tasks BE 4.1 (maintaining riparian habitats), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in direct and indirect impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of these tasks would be the same as those described under Proposed Riparian Communities Management (Biological Elements 4) in Section 5.3.6.4.1.1. Tasks BE 4.2 (habitat restoration for wetlands/riparian habitats) and BE 4.3 (expanding riparian habitat) are

not existing management tasks on the Davis Unit, and, thus, are described in Section 5.3.6.4.1.1 and not in this section.

Task PUE 2.2 (improving hunting infrastructure) could result in inadvertent impacts to potentially jurisdictional waters and is described in more detail below. Task PUE 2.3 (developing non-motorized boat access) is not an existing management task on the Davis Unit, and, thus, is described in Section 5.3.6.4.1.1 and not in this section. Task PUE 2.1 (operating and managing a waterfowl hunting program) would not result in impacts to potentially jurisdictional waters. Potential impacts to potentially jurisdictional waters from implementation of this task would be the same as those described under Proposed Waterfowl Hunting (Public Use Element 2) in Section 5.3.6.4.1.2.

5.3.6.4.3 Davis Unit Proposed Jurisdictional Waters: Public Use and Administrative Facilities

As described in Section 5.3.6.2.3, ground-disturbing activities associated with public use and administrative facilities would occur within the Davis Unit. Activities that would result in ground-disturbing activities would include construction of three new homes, associated shade structures, and one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems. These ground-disturbing activities would occur within D8 of the Davis Unit. The proposed recycled water storage would occur within Subunits D1 and D2. Additionally, new road, access, and trail infrastructure and improvements to the auto-tour loop road and a new SJWA entrance sign would be constructed. These ground-disturbing activities would occur within Subunits D4 and D5.

With respect to Davis Subunits D1, D2, D4, and D8, there are 821 acres of potentially jurisdictional area in these subunits. New road, access, and trail infrastructure within the Davis Unit could result in ground-disturbing activities within Subunits D4 and D5, in which there are 1,119 acres of potentially jurisdictional area.

5.3.6.4.4 Potrero Jurisdictional Waters: Proposed Management for Areas Not Currently Managed

Approximately 346 acres of potentially jurisdictional areas and 22.2 linear miles of potentially jurisdictional linear features on the Potrero Unit are not managed, but are proposed to be managed as described below.

5.3.6.4.6.1 Proposed Biological Resources Management

Approximately 337 acres of potentially jurisdictional areas and 20.8 linear miles of potentially jurisdictional linear features on the Potrero Unit are not currently managed for biological resources,

but are proposed to be managed for biological resources. Table 5.3-38 and Table 5.3-39 summarize the proposed biological resources management areas in the Potrero Unit that are not currently managed and within potentially jurisdictional features; Table 5.3-38 includes the potentially jurisdictional acreages, or areas, derived from the vegetation communities, and Table 5.3-39 includes the potentially jurisdictional linear miles derived from the NHD data (see Section 5.3.2.3).

Proposed SKR Communities Management (Biological Element 1)

SKR is proposed to be co-managed with upland small game hunting on Potrero and is addressed in Section 5.3.6.4.6.3.

Proposed Alkali Communities Management (Biological Element 2)

Of the 346 acres of potentially jurisdictional areas on the Potrero Unit, 73 acres would be managed as alkali communities under the draft LMP; of these 73 acres, 40 acres (54%) are Riversidean alluvial fan scrub; 22 acres (30%) are riparian scrub, woodland, and forest; and 11 acres (15%) are riverine, lacustrine, tidal mudflats, and sandflats along rivers MU. There are 1.5 linear miles of streams or rivers on the Potrero Unit in areas that would be managed as alkali communities under the draft LMP. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Task BE 2.1 (inventory of alkali species and habitat) would not result in impacts to potentially jurisdictional waters. The primary activities that could result in impacts to potentially jurisdictional waters include Task BE 2.2 (control adverse edge effects for alkali communities) and BE 2.4 (implementing alkali habitat mitigation). Potential impacts to potentially jurisdictional waters from implementation of Task BE 2.4 (implementing alkali habitat mitigation) are described under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.4.1.1, and Task BE 2.2 (control adverse edge effects for alkali communities) is described below. Task BE 2.3 (developing an alkali restoration program) is not proposed on the Potrero Unit.

Table 5.3-38
Proposed Biological Resources Management Areas in the Potrero Unit within Potentially Jurisdictional Communities

MSHCP Vegetation Land Cover Group	Alliance, Association, or other MU	Alkali Communities	Riparian Communities	Upland Communities	Wetlands Communities	Total
Riparian Scrub, Woodland, Forest	Arroyo Willow Alliance	3	<0.5	<0.5	—	3
	Black Willow Alliance	—	—	3	—	3
	Blue Elderberry—(Mulefat) Mapping Unit	15	—	54	2	71
	California Sycamore Alliance	—	4	—	—	4
	Fremont Cottonwood—Black Willow/Mulefat Association	<0.5	12	1	—	13
	Fremont Cottonwood—Red Willow Association	—	23	2	—	25
	Fremont Cottonwood—Willow Mapping Unit	—	48	<0.5	—	48
	Fremont Cottonwood/Mulefat Association	<0.5	42	3	—	44
	Fremont Cottonwood Dry Mapping Unit	<0.5	14	5		20
	Mulefat Alliance	3	32	6	—	41
	Willow Mapping Unit	<0.5	4	<0.5	—	5
	Riparian Scrub, Woodland, Forest Total	*22*	*179*	*73*	*2*	*276*
Riversidean Alluvial Fan Scrub	Scalebroom—(California Buckwheat—Mexican Elderberry—Mulefat) MU	8	<0.5	—	—	9
	Scalebroom—California Buckwheat Association	31	—	2	—	34
	Riversidean Alluvial Fan Scrub Total	*40*	*<0.5*	*2*	—	*42*
Water	Riverine, Lacustrine, Tidal Mudflats, and Sandflats along Rivers MU	11	8	<0.5	—	19
	Water Total	*11*	8	4	—	*19*
	Total	**73**	**187**	**76**	**2**	**337**

Table 5.3-39
Proposed Biological Resources Management Areas in the Potrero Unit within Potentially Jurisdictional Linear Features (Linear Miles)

NHD Feature Type	Alkali Communities	Riparian Communities	Upland Communities	Total
Stream or River	1.5	0.8	18.5	20.8
Total	**1.5**	**0.8**	**18.5**	**20.8**

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Task BE 2.2: The primary activities associated with Task BE 2.2 (control adverse edge effects for alkali communities) that could affect potentially jurisdictional waters include measures to control non-native invasive species, human activity/trampling, and altered hydrology. Measures to control non-native invasive species may include use of chemicals that may inadvertently affect special-status plants or soil chemistry (e.g., herbicides, pesticides); mechanical removal of weeds (e.g., mustard and radish) through pulling or weed-whacking which could have collateral impacts to jurisdictional waters if not implemented properly; grazing, which could result in inadvertent trampling and soil erosion; and prescribed burning, which could escape authorized burn areas or cause off-site erosion. Measures to control human activity/trampling such as signage, fencing, and other physical barriers could affect potentially jurisdictional waters, if not sited, installed, and maintained properly. Measures to control altered hydrology could also have inadvertent effects, including erosion and sediment flow controls, such as installation of appropriate wattled native plant material for stream bank stabilization; installation of geotextile fabric where unstable soil will limit plant reestablishment; installation of energy dissipating features where flow velocities are expected to be erosive; installation of grade-stabilizing structures/vegetation; reseeding with appropriate native understory species; and installation of selected native container plant species. These measures could have inadvertent adverse effects on potentially jurisdictional waters if not implemented properly; such as altering hydrology to the extent that resources are receiving poorly timed or too little or too much water or sediment sources.

Proposed Wetland Communities Management (Biological Element 3)

Of the 346 acres of potentially jurisdictional areas on the Potero Unit, 2 acres of blue elderberry–(mulefat) MU would be managed as wetlands communities under the draft LMP. There are no potentially jurisdictional linear features on the Potrero Unit in areas that would be managed as wetlands communities under the draft LMP. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Tasks BE 3.10 (ensuring compatibility of management practices) and BE 3.11 (implementing avoidance and minimization measures) would not result in inadvertent impacts to potentially jurisdictional waters. Tasks BE 3.2 (managing invasive plant and animal species), BE 3.4 (implementing a program to provide adequate habitat western pond turtle), BE 3.5 (tricolored blackbird conservation measures), and BE 3.6 (vernal pool enhancement) could result in impacts to potentially jurisdictional waters, if appropriate measures are not implemented. Potential impacts from implementation of Tasks BE 3.2, BE 3.4, and BE 3.5 are described under Proposed Wetland Communities Management (Biological Element 3) in Section 5.3.6.4.1.1. Task BE 3.6 is described below. Tasks 3.1 (maintain and enhance open water and marsh habitat), BE 3.3 (expanding open water, marsh, and green feed field habitats), BE 3.7 (protecting breeding habitat for spadefoot

toad), BE 3.8 (identifying properties that promote conservation of wetland resources), and BE 3.9 (maintaining the ability to use reclaimed water) are not proposed on the Potrero Unit.

Task BE 3.6: The primary activities associated with Task BE 3.6 (vernal pool enhancement) that could impact potentially jurisdictional waters include activities associated with vernal pool enhancement. Although potential enhancement methods have not been identified, methods to reduce non-native grasses and exotic forbs to increase pool hydroperiods, may include grazing, mowing, prescribed burning, and chemical treatments similar to those conducted for SKR described for Task BE 1.1 (grazing, mowing and burning to reduce vegetative cover) in Section 5.3.6.4.1.1. Such activities would also need to be carried out in a manner that does not disturb vernal pools soils and thus adversely affect their water-holding capacity (e.g., inadvertent ripping or crushing of hardpan soils within pools).

Proposed Riparian Communities Management (Biological Element 4)

Of the 346 acres of potentially jurisdictional areas on the Potrero Unit, 187 acres would be managed as riparian communities under the draft LMP; of these 187 acres, 179 acres (96%) are riparian scrub, woodland, and forest; 8 acres (4%) are riverine or lacustrine flats, channels, streambeds MU; and 0.2 acre (<0.5%) are Riversidean alluvial fan scrub. Of the 22.2 linear miles of potentially jurisdictional linear features on the Potrero Unit that are not managed, but would be following implementation of the draft LMP, 0.8 linear mile of stream or river would be managed as riparian communities. It is anticipated that the proposed management would be compatible with the existing resources and will directly benefit these potentially jurisdictional waters. However, inadvertent impacts to potentially jurisdictional waters are analyzed below.

Tasks BE 4.3 (expanding riparian habitat), BE 4.4 (controlling invasive exotic species within riparian corridors), and BE 4.5 (habitat restoration for riparian habitat) could result in impacts to potentially jurisdictional waters, if appropriate measures are not implemented. Impacts to potentially jurisdictional waters from implementation of these tasks are described under Proposed Riparian Communities Management (Biological Element 4) in 5.3.6.4.1.1. Tasks BE 4.1 (maintaining riparian habitats) and BE 4.2 (habitat restoration for wetlands/riparian habitats) are not proposed on the Potrero Unit.

Proposed Uplands Communities Management (Biological Element 5)

Approximately 73 acres of the riparian scrub, woodland, and forest; 2 acres of Riversidean alluvial fan sage scrub; 0.3 acre of water; and 18.5 linear miles of stream/river would be managed as uplands. Tasks BE 5.1 (conducting refinements of vegetation classification) and BE 5.5 (uplands restoration) would not result inadvertent impacts to potentially jurisdictional waters. Tasks BE 5.2 (wildfire management measures), BE 5.3 (vegetation management), BE 5.4 (control adverse edge effects for uplands), BE 5.6 (maintain and manage burrowing owl

habitat), and BE 5.7 (uplands restoration) could result in inadvertent impacts to potentially jurisdictional waters in the absence of other measures. Potential impacts to potentially jurisdictional waters from implementation of Tasks BE 5.2, BE 5.3, BE 5.4, and BE 5.7 are described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.4.1.1, and Task BE 5.6 is described below.

Task BE 5.6: The primary activities associated with Task BE 5.6 (maintain and manage burrowing owl habitat) that could affect potentially jurisdictional waters, in the absence of appropriate measures, are habitat management activities for burrowing owl. These management activities would be similar to those conducted for SKR described for Task BE 1.1 (grazing, mowing and burning to reduce vegetative cover) in Section 5.3.6.4.1.1, resulting in potential impacts such as (1) inadvertent soil disturbance and water quality degradation; (2) a long-term increase in non-native seeds if fire intervals are too short; and (3) increased fire risk, due to a spark from mowing or thatch buildup.

5.3.6.4.6.2 Proposed Public Use Management

With respect to the potentially jurisdictional linear features, there are 0.2 linear mile of artificial path and 1.2 linear miles of stream/river that would be managed for uplands game hunting. Table 5.3-40 summarizes the proposed public resources management areas in the Potrero Unit that are not currently managed and within jurisdictional areas. Table 5.3-41 summarizes the proposed public resources management areas in the Potrero Unit that are not currently managed and within jurisdictional linear miles derived from the NHD data (see Section 5.3.2.3).

Table 5.3-40
Proposed Public Resources Management Areas in the Potrero Unit within Potentially Jurisdictional Areas (Acres)

MSHCP Vegetation/Land Cover Group	Alliance, Association, or other MU	Upland Game Hunting
Riparian Scrub, Woodland, Forest	Fremont Cottonwood/Mulefat Association	1
Riversidean Alluvial Fan Sage Scrub	Scalebroom—(California Buckwheat—Mexican Elderberry—Mulefat) MU	2
Water	Riverine or Lacustrine flats, channels, streambeds, Mapping Unit	2
	Total	**5**

Table 5.3-41
Proposed Public Resources Management Areas in the Potrero Unit within Potentially Jurisdictional Linear Features (Linear Miles)

NHD Feature Type	Upland Game Hunting
Artificial Path	0.2
Stream or River	1.2
Total	**1.3**

No waterfowl hunting (Public Use Element 2), agriculture (Public Use Element 3), or hunting dog training and field trials (Public Use Element 5) are proposed on the Potrero Unit. Additionally, cultural resource management (Public Use Element 7) and agency coordination (Public Use Element 8) would not result in impacts to potentially jurisdictional waters on the Potrero Unit. A discussion of the proposed public use management in relation to potentially jurisdictional waters is provided below by management element.

Proposed Trail Use and Wildlife Viewing (Public Use Element 1)

The management activities associated Public Use Element 1 that could result in impacts to potentially jurisdictional waters on the Potrero Unit, if appropriate measures are not implemented, are Tasks PUE 1.1 (maintenance and public use of existing trails) and PUE 1.2 (construction of new facilities). Potential impacts to potentially jurisdictional waters from implementation of Task PUE 1.2 are described under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.4.1.2, and Task PUE 1.1 is described below. Tasks PUE 1.3 (solicit input), PUE 1.4 (developing education program), and PUE 1.5 (utilize funding and volunteer opportunities) would not result in impacts to potentially jurisdictional waters.

Task PUE 1.1: Potential impacts to potentially jurisdictional waters could occur during maintenance activities and public use associated with Task PUE 1.1 (maintenance and public use of existing trails). Direct removal or fill of potentially jurisdictional waters may occur during trail maintenance. Construction and maintenance activities may result in indirect effects, similar to those that could occur during habitat restoration, as described for Task BE 2.3 (developing an alkali restoration program) under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.4.1.1.

Proposed Upland Game Hunting (Public Use Element 4)

Approximately 5 acres of potentially jurisdictional area would be managed as upland game hunting on the Potrero Unit, including 1 acre of riparian scrub, woodland, and forest; 2 acres of Riversidean alluvial fan sage scrub; and 2 acres of water. Approximately 0.2 linear mile of

artificial path and 1.2 linear miles of stream/river would be managed as upland game hunting on the Potrero Unit.

Tasks PUE 4.3 (development of agricultural and wildlife food crop) and PUE 4.5 (providing hunting opportunities) are not proposed on the Potrero Unit. Tasks PUE 4.1 (operating and managing upland game hunting program), PUE 4.2 (opening portions of Potrero Unit to upland game hunting), PUE 4.4 (installation of guzzlers), and PUE 4.6 (implementing additional game programs) could result in inadvertent impacts to potentially jurisdictional waters in the absence of other measures. Potential impacts to potentially jurisdictional waters from implementation of Tasks PUE 4.1, PUE 4.2, PUE 4.4, and PUE 4.6 are described below.

Task PUE 4.1: The safe operation and management of upland small game hunting requires the maintenance of facilities that offer access to the SJWA, such as roads and parking lots, which could result in ground-disturbance similar to those described in Task PUE 1.2 under Proposed Trail Use and Wildlife Viewing (Public Use Element 1) in Section 5.3.6.4.1.2.

Task BE 4.2: The primary activities associated with Task PUE 4.2 (opening portions of Potrero Unit to upland game hunting) that could affect potentially jurisdictional waters, in the absence of appropriate measures, are public use of new hunting facilities and management of hunting in the Potrero Unit. The primary concerns related to public uses are ensuring that hunters adhere to laws and regulations. Expansion may require installation of fencing and signage that directly impacts potentially jurisdictional waters, if not properly sited and installed.

Task PUE 4.4: Six existing guzzlers would require replacement over time; in addition, five new locations are proposed for guzzler installation to enhance resource availability for upland species, both game and non-game. Installation of new guzzlers could also result in ground disturbance impacts as described for grading activities in Task BE 2.3 (developing an alkali restoration program) under Proposed Alkali Communities Management (Biological Element 2) in Section 5.3.6.4.1.1.

Task PUE 4.6: The primary activities associated with Task 4.6 (implementing additional game programs) are not likely to result in significant impacts to potential jurisdictional waters. However, the potential impact from the general increase in human activities that could result in trampling of waters is analyzed to ensure a conservative analysis.

Fire Management (Public Use Element 6)

The precise location of fire management on the Potrero Unit has not been determined. As described under Fire Management (Public Use Element 6) in Section 5.3.6.4.1.2, fire management could result in inadvertent impacts to potentially jurisdictional waters.

5.3.6.4.6.3 Proposed Biological and Public Use Management

There are 4 acres of potentially jurisdictional waters (riverine or lacustrine flats, channels, streambeds MU) on the Potrero Unit that would be managed for SKR and upland small game hunting.

Proposed SKR and Upland Small Game Hunting (Biological Element 1 and Public Use Element 4)

As described under Proposed SKR Management (Biological Element 1), in Section 5.3.6.4.1.1, and Proposed Upland Small Game Hunting (Public Use Element 4) in Section 5.3.6.4.6.2, these management elements could result in inadvertent impacts to potentially jurisdictional waters.

5.3.6.4.5 Potrero Unit Jurisdictional Waters: Public Use and Administrative Facilities

As described in Section 5.3.6.2.5, a new domestic water system is proposed within Subunit P5, a power system is proposed within Subunits P5 and P6, and two new residences and an office is proposed within Subunit P5 of the Potrero Unit. A new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4. New facilities would be built in Subunit P5.

In Subunit P4, there are approximately 50 acres of potentially jurisdictional areas including 49 acre of blue elderberry–(mulefat) MU and 1 acre of Fremont cottonwood dry MU. In Subunit P5, there are approximately 44 acres of potentially jurisdictional areas, including 14 acres of Fremont cottonwood/mulefat association; 2 acres of mulefat alliance; 21 acres of riverine or lacustrine flats, channels, streambeds MU; and 7 acres of scalebroom–(California buckwheat–Mexican elderberry–mulefat) MU.

5.3.6.4.6 Impacts to Jurisdictional Waters

Proposed management could result in significant direct and indirect impacts to potentially jurisdictional waters without other measures, as described by proposed management element and task in Sections 5.3.6.4.1 through 5.3.6.4.5. While each management task is unique to the specific goal of the overall element, the potential impacts to potentially jurisdictional waters are generally the same. A summary of potentially significant impacts to potentially jurisdictional waters is provided below.

Grading, Trail Maintenance, and Other Ground-Disturbance

Grading for restoration, construction of new facilities, structures, and infrastructure could have various direct impacts on to potentially jurisdictional waters, including removal or fill of potentially jurisdictional waters. Grading for restoration could also result in various temporary indirect impacts, including (1) unintentional grading outside the restoration area; (2) release of

chemical pollutants and pesticides, including herbicides, that can harm individuals or reduce pollinators; (3) degradation of water quality; (4) introduction of invasive plant species that may alter the composition of the community; and (5) generation of fugitive dust.

Habitat Conversion

Agriculture management, resulting in habitat conservation, could result in direct impacts to potentially jurisdictional waters. Additionally, impacts associated with other management activities that may not require grading but would result in ground disturbance, could also result in direct impacts to potentially jurisdictional waters.

Hydrological Modifications

Various management tasks could result in hydromodification, which could impact potentially jurisdictional waters. Maintaining riparian habitat could result in hydromodification impacts due to irrigation, which could change potentially jurisdictional waters. Additionally, eradication of non-native animal species may include habitat-based methods (e.g., pond-draining following by removal of target species), which could result in hydromodification and affect potentially jurisdictional waters.

Installation of Physical Barriers and Signage

Signage, fencing, and other physical barriers to reduce adverse edge effects or direct the public could affect to potentially jurisdictional waters if not sited, installed, and maintained properly. Installation of these features would result in ground-disturbing activities and could result in direct impacts to potentially jurisdictional waters.

Non-native Invasive Species Eradication and Control

Measures to control non-native invasive species that could impact potentially jurisdictional waters include (1) use of chemicals that may inadvertently affect potentially jurisdictional waters or soil chemistry; (2) mechanical or hand removal of weeds through pulling or weed-whacking, which could have collateral impacts to potentially jurisdictional waters, if not implemented properly; (3) grazing, which could result in soil erosion; (4) prescribed burning, which could escape authorized burn areas or cause off-site erosion; (5) eradication of non-native animal species that may include habitat-based methods (e.g., pond-draining following by removal of target species), which could result in hydromodification and affect potentially jurisdictional waters; and (6) management for Argentine ants that may include both controls on moisture regimes along habitat edges (e.g., due to excessive watering and uncontrolled watering that attracts ants), which could result in hydromodification impacts, and chemical treatments (insecticides) of nest mounds if necessary.

Planting and Seeding

Planting or seeding of species not appropriate for the region could impact potentially jurisdictional waters.

Vegetation and Fire Management

Vegetation management, such as the maintenance of suitable habitat conditions for SKR (e.g., vegetation management including grazing, mowing, and burning to reduce vegetative cover could result in impacts to potentially jurisdictional waters. These vegetation management activities could result in impacts such as (1) inadvertent removal or fill of potentially jurisdictional waters, if not controlled properly; (2) inadvertent soil disturbance and water quality degradation (e.g., from erosion); (3) a long-term increase in non-native seeds if fire intervals are too short; and (4) increased fire risk, due to a spark from mowing or thatch buildup.

Fire management could also impact potentially jurisdictional waters. Pre-fire management activities that could affect jurisdictional waters include grazing, mowing, herbicides, and prescribed fire. Additional pre-fire management activities include hand tools/thinning and firebreaks. These kinds of activities could have inadvertent impacts on potentially jurisdictional waters. Fire suppression measures during fire includes staging areas and accessing fire areas with heavy equipment (e.g., bulldozers or road graders) and fire crews could impact potentially jurisdictional waters. These activities could cause soil and vegetation damage, could also directly impact potentially jurisdictional waters by removal or fill.

5.3.6.4.6.1 Temporary Impacts to Jurisdictional Waters

Implementation of the draft LMP could result in **potentially significant (Class II)** temporary direct and indirect impacts to potentially jurisdictional waters, in the absence of appropriate measures. Temporary impacts to potentially jurisdictional waters would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-42 and in Section 5.3.6.8.

MM-BIO-3a Implement MM-BIO-1a through MM-BIO-1m

Implementation of mitigation measure MM-BIO-3a would ensure temporary direct and indirect impacts to jurisdictional waters would be less than significant (please see Section 5.3.6.8 for details of the specific mitigation measures).

Table 5.3-42

Summary of Potential Impacts to Jurisdictional Waters, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
Temporary Direct and Indirect Permanent Direct and Indirect	• Grading, trail maintenance, or other ground-disturbing activities • Hydrological modifications • Installation of physical barriers and signage • Non-native invasive species eradication and control • Planting and seeding • Trampling and soil compaction • Vegetation and fire management	• MM-BIO-1d (Pre-activity surveys) • MM-BIO-1a (general construction-related avoidance and minimization measures) • MM-BIO-1b (restoration of temporary impacts) • MM-BIO-1c (environmental awareness training) • MM-BIO-1e (siting and design criteria) • MM-BIO-1f (restrictions on landscaping or restoration palettes and plants) • MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use) • MM-BIO-1h (preparation and implementation of a GMP) • MM-BIO-1i (practices for the control of invasive and non-native species) • BMP-BIO-1m (BMPs to minimize effect of repeated surveys) • MM-BIO-1j (preparation and implementation of an alkali habitat management plan) • MM-BIO-1k (management and monitoring of trail use)	**With implementation of the following MMs, potential significant temporary direct and indirect impacts to jurisdictional waters would be reduced to less-than-significant levels**: • MM-BIO-1d would avoid and minimize potential significant effects to potentially jurisdictional waters by requiring review of existing species data, habitat assessments, and, if needed, focused surveys, as well as avoidance, minimization, mitigation, and monitoring requirements, if species or habitat are present prior to conducting an activity that could impact special-status wildlife. • MM-BIO-1a would avoid and minimize the potential significant effects to potentially jurisdictional waters through demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to potentially jurisdictional waters outside the designated disturbance area, and requiring vehicle maintenance restrictions to avoid chemical spills, which would reduce potential impacts to water quality and thus indirectly to potentially jurisdictional waters. • MM-BIO-1b would avoid and minimize potential significant effects of temporary ground disturbance on potentially jurisdictional waters by preventing future adverse effects associated with leaving bare ground, such as increased dust and erosion, and would help prevent adverse effects of invasive plant species that may alter the composition of the waters if introduced during restoration or allowed to passively colonize the area post-construction. • MM-BIO-1c would avoid and minimize the potential significant effects to sensitive vegetation communities by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps, of potentially jurisdictional waters. • MM-BIO-1e would avoid and minimize potential significant effects to potentially jurisdictional waters by siting impacts in disturbed areas, such as existing roads and trails, and minimizing vegetation removal and ground disturbance, if feasible.

Table 5.3-42

Summary of Potential Impacts to Jurisdictional Waters, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
		• MM-BIO-1l (management and monitoring of hunting)	• MM-BIO-1f would avoid and minimize potential significant effects of seeding or planting by restricting the use of invasive plants or plants with high irrigation rates, requiring the use of native species compatible with the region, and requiring container plants are weed, disease, and pest-free. • MM-BIO-1g would avoid and minimize potential significant impacts to special-status plants by requiring vehicles be operated and maintained on existing roads, if feasible, and if not feasible ensuring appropriate surveys are conducted to avoid potentially jurisdictional waters. • MM-BIO-1h would avoid and minimize potential significant impacts to sensitive vegetation communities by requiring any new grazing activities be preceded by the adoption of a grazing management plan (GMP), which will require that appropriate measures be implemented to protect potentially jurisdictional waters. For example, the GMP may exclude livestock from areas where potentially jurisdictional waters may be negatively impacted by grazing. • MM-BIO-1i would avoid and minimize potential significant impacts to sensitive vegetation communities by requiring CDFW to implement an Integrated Pest Management Program (IPM) to control invasive species, including mechanical, chemical, and other accepted control methods, while minimizing herbicide use and associated impacts on non-target species, encouraging other authorized users and visitors to employ management practices that minimize the spread of weeds, and generally prohibiting the release of non-native animal species other unless used for bio-control or hunting. • MM-BIO-1j would avoid and minimize potential significant impacts to alkaline communities because a delineation of the current alkaline communities would be conducted as part of this mitigation measure. Thus, direct and indirect impacts could be avoided. Additionally a focal management plan for alkali communities would be prepared to avoid the degradation of alkaline habitat, provide criteria to enhance the value of the existing alkali habitat, and require a monitoring program.

Table 5.3-42

Summary of Potential Impacts to Jurisdictional Waters, MMs, and Significance

Impact Type	Potential Impacts	MMs	Significance Finding
			• MM-BIO-1k (management and monitoring of trail use) would reduce adverse effects of the public on the species, including trampling. • MM-BIO-1l (management and monitoring of hunting) would reduce adverse effects of the public on the species, including trampling. • MM-BIO-1m (minimize effect of repeated surveys) would avoid and minimize potential significant impacts to wetlands from repeated surveys in certain areas by requiring biologists to park and drive on existing dirt roads and modify survey efforts if excessive vegetation trampling is noted in survey plots.

5.3.6.4.6.2 Permanent Impacts to Jurisdictional Waters

Implementation of the draft LMP could result in **potentially significant (Class II)** permanent direct and indirect impacts to potentially jurisdictional waters, in the absence of other measures. Temporary impacts to potentially jurisdictional waters would be avoided, minimized, and mitigated through implementation of the following measures, which are described in detail in Table 5.3-42 and in Section 5.3.6.8.

MM-BIO-3b Implement MM-BIO-1a through MM-BIO-1l

Implementation of mitigation measure MM-BIO-3b would ensure permanent direct and indirect impacts to jurisdictional waters would be less than significant (please see Section 5.3.6.8 for details of the specific mitigation measures).

5.3.6.5 Issue BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potential impacts to nursery sites are discussed in Section 5.3.6.5.1, and wildlife movement is discussed in Section 5.3.6.5.2.

5.3.6.5.1 Nursery Sites

The criteria for nursery sites used in this PEIR are described in Section 5.3.2, Thresholds for Significance. Nursery sites include unique resource areas typically used by more than one individual or reproductive pair. The SJWA is known to support two types of nursery sites: tricolored blackbird nesting colonies and breeding habitat for western spadefoot. The SJWA also has moderate potential to support nursery sites (i.e., vernal pools) for the Riverside fairy shrimp and San Diego fairy shrimp, and is known to support the non-listed versatile fairy shrimp in three of five vernal pools on the Davis Unit. Potential direct and indirect impacts to these nursery site resources, and other measures to reduce potential significant impacts to less than significant, are fully discussed under Issue BIO-1 in Section 5.3.6.2, and are not discussed further in this section.

5.3.6.5.2 Wildlife Movement

The SJWA is situated in a region of western Riverside County that is recognized as important for regional habitat connectivity by the MSHCP, the California Essential Habitat Connectivity Project (Spencer 2010), and the South Coast Missing Linkages project (South Coast Wildlands 2008). As described in Section 5.3.2.6, Wildlife Movement, the Davis Unit is identified as Existing Core H in the MSHCP, and the Potrero Unit is identified as part of Proposed Core 3,

which is a large proposed Core Area encompassing the Badlands to the northwest and which connects directly to Existing Core K (San Jacinto Mountains) to the east. Figure 5.3-7A provides an overview of the MSHCP Cores and Linkages in both units; Figures 5.3-7B.1 (Davis Unit) and 5.3-7B.2 (Potrero Unit) provide additional detail related to the MSHCP.

The Davis Unit connects directly with Proposed Core 3 along its eastern boundary at Gilman Springs Road and to the Lakeview Mountains to the south via Proposed Constrained Linkage 20 at the southeastern corner of the Davis Unit (Figures 5.3-7A). Existing conditions in Proposed Constrained Linkage 20 include agricultural lands and the Ramona Expressway between the Davis Unit and the Lakeview Mountains. The Davis Unit also connects to the San Jacinto Mountains to the east via the middle segment of the San Jacinto River, referred to as Existing Constrained Linkage C in the MSHCP (Figure 5.3-7A). While much of Existing Constrained Linkage C is bordered by existing development in the Cities of San Jacinto and Hemet, its broad river channel and natural vegetation provide movement habitat for many wildlife species. Existing Core Area H is also proposed to be expanded to the southwest of the Davis Unit with Proposed Extension Core Area 4 along the middle reach of San Jacinto River, which then connects to Proposed Constrained Linkage 19 at I-215 and eventually to the Canyon Lake area (Figure 5.3-7A). This connection would provide linkage habitat for movement by larger mobile species such as coyotes, and smaller less mobile species such as native birds, reptiles and amphibians, and rodents.

The Potrero Unit is part of Proposed Core 3, also referenced in the MSHCP as "Badlands/Potrero" (Figure 5.3-7A). Proposed Core 3 supports both live-in and northeast–southeast trending wildlife movement habitat connected to Existing Core K (including the San Jacinto Mountains) to the southeast for many special-status wildlife species addressed in the draft LMP, including Stephens' kangaroo rat, Bell's sparrow (*Artemisiospiza belli*), loggerhead shrike (*Lanius ludovicianus*), cactus wren (*Campylorhynchus brunneicapillus*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens)*. Additional larger mobile species using Proposed Core 3 are mountain lions (*Puma concolor*), mule deer, coyotes, and bobcats, as well as many smaller, less mobile native birds, amphibians, reptiles, and rodents.

The SJWA also is an important stopover location for many migrant and wintering birds that may use riparian habitats, Mystic Lake, the waterfowl ponds, grasslands, or agricultural areas for resting and foraging, including special-status waterfowl such as redhead (*Aythya americana*), brant (*Branta bernicla*), and common loon (*Gavia immer*); neotropical migrants such as least Bell's vireo, willow flycatcher, and yellow-breasted chat; raptors such as ferruginous hawk (*Buteo regalis*) and Swainson's hawk; and many others. Additionally, the SJWA is within the Pacific Flyway, one of the six major migration routes for waterfowl in the United States, Canada, and Mexico (Pryde 2006)—a reason for the abundant presence of bird species. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas. In the United

States, the Pacific Flyway includes Alaska, Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and those portions of Colorado, Montana, New Mexico, and Wyoming west of the Continental Divide. The routes followed by migratory birds are numerous and, while some of them are simple and easily traced, others are extremely complicated. Differences in distance traveled, in start time, speed of flight, geographic position, in the latitude of the breeding and wintering grounds, and other factors all contribute to great diversity. No two species follow exactly the same path from beginning to end; geographic groups of species with an almost continental distribution may travel different routes. Bird migration is generally thought of as a north-and-south movement, with the lanes of heavier concentration following the coasts, mountain ranges, and principal river valleys. The timing of migration varies from year to year, but waterfowl begin moving into and through middle portions of the United States during the latter half of September (USFWS 2018). Within SJWA, waterfowl begin the migration season in August to September with an early arrival of species such as blue-winged teal. A second wave of migrants arrive in October through November and there is a potential for a third wave to arrive in December if the weather is exceptionally frigid in Canada. Waterfowl may stay at SJWA or move on and then generally return to head north in late February and into March.

5.3.6.5.3 Direct Impacts

5.3.6.5.3.1 Temporary Impacts

Grading and other ground- and vegetation-disturbing activities could have temporary direct impacts on both avian and ground-dwelling wildlife that may use these habitats during movement, including bird migration, such as riparian or wetland areas used for temporary refuge and resting sites. Task BE 4.1 includes maintaining new and existing managed riparian habitats by providing appropriate spring/summer irrigations (March 30–November 1). Habitat maintenance includes irrigation for plant growth and water availability for wildlife species during appropriate times of the year. The temporary conversion of upland areas to riparian areas under Task BE 4.1 would temporarily alter habitat for wildlife in the restoration area. While these activities may temporarily alter how wildlife use affected areas, the overall effect on wildlife is unlikely to be substantial because alternative habitats would be available to support movement.

Wildlife moving through the SJWA could also be directly injured or killed by construction and management activities. These impacts could be potentially significant absent mitigation measures or other avoidance, minimization, and mitigation measures. For example, grading for restoration and other activities could directly kill or injure individuals taking refuge in vegetation or in burrows between movements, including rodents, reptiles, and small birds. Wildlife taking refuge in construction materials, such as inside pipes, or under construction materials, vehicles, or equipment may also be injured or killed when materials are moved and vehicles and equipment are operated. Smaller species may also become trapped in culverts, trenches, or holes.

Wildlife may also be killed or injured from collisions with moving vehicles and equipment or temporary construction fences. Mitigation measures to reduce these **potentially significant (Class II)** direct impacts are addressed in Section 5.3.6.2.12.1.1 (Temporary Impacts to Special-Status Wildlife), and include the following:

- MM-BIO-1a (general construction-related avoidance and minimization measures) would avoid and minimize the potential significant effects to wildlife movement through restricting construction work hours to the daytime, which would reduce potential impacts to crepuscular and nocturnal wildlife; demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to species and habitat outside the designated disturbance area; inspecting for wildlife under vehicles and equipment before moving, which would minimize unintentional impacts to special-status wildlife; not allowing pets during construction; prohibiting use of erosion control materials potentially harmful to wildlife; and ensuring pipes, culverts, or similar structures with a diameter of at least 3 inches are capped overnight to avoid and minimize potential significant impacts to special-status wildlife.

- MM-BIO-1c (environmental awareness training) would avoid and minimize the potential significant effects to wildlife movement by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps of nesting birds and exclusion areas.
- MM-BIO-1g would avoid and minimize potential significant impacts to wildlife movement by requiring vehicles be operated and maintained on existing road, if feasible, and if not feasible ensuring appropriate surveys are conducted to avoid species and habitat.

Implementation of MM-BIO-1a, MM-BIO-1c, and MM-BIO-1g would reduce potential temporary direct impacts to wildlife moving through the SJWA to less than significant. The mitigation measures are described in detail in Table 5.3-42 and in Section 5.3.6.8.

5.3.6.5.3.2 Permanent Impacts

With implementation of mitigation measures to reduce potential significant impacts to special-status species described for Issue BIO-1 (see Section 5.3.6.2), the biological resource management activities for SKR habitat (Biological Element 1) and alkali (Biological Element 2), wetland (Biological Element 3), riparian (Biological Element 4), and upland communities (Biological Element 5), would not have substantial adverse direct permanent impacts on wildlife movement in the following areas: within the Davis Unit; between the Davis Unit and the Potrero

Unit; between the Davis Unit and Lakeview Mountains via Proposed Constrained Linkage 20; movement between the Davis Unit and San Jacinto Mountains via existing Constrained Linkage C; movement between the Davis Unit and Proposed Extension Core Area 4; or movement within the Potrero Unit and the Badlands. While these resource management activities would result in some habitat conversion and would have some potential direct impacts on biological resources (see Table 5.3-9 in Section 5.3.6.1.3), they generally would improve habitat resource values over the long-term and likely would provide a net benefit to wildlife species using the Davis and Potrero Units for movement, including their ability to move through the units and access linkages to habitat areas outside the Davis and Potrero Units. In particular, Biological Element 3 (Proposed Wetland Communities Management) and Biological Element 4 (Proposed Riparian Communities Management) would expand and enhance wetland and riparian habitat values for many migrant bird species.

Proposed public uses, including public use of trail (Public Use Element 1), waterfowl hunting (Public Use Element 2, Davis Unit only), agriculture (Public Use Element 3), upland game hunting (Public Use Element 4), hunting dog training and trials (Public Use Element 5, Davis Unit only), and fire management (Public Use Element 6) also would not have substantial adverse direct permanent impacts on wildlife movement through the Davis and Potrero Units, or preclude movement to and from off-site areas. These activities would all occur within limited areas of the Davis and Potrero Units intermittently. Because there are approximately 10,996 acres of land in the Davis Unit and 9,130 acres of land in the Potrero Unit, there would remain sufficient lands to support wildlife movement to and from off-site areas. Public Use Element 3 (agriculture) would provide additional foraging habitat for a variety of wildlife species using the SJWA during movement, including Swainson's hawk, by expanding food plots. PUE Task 4.4 (controlling invasive exotic species within riparian corridors) would provide guzzlers that provide new potential water sources for wildlife moving through the SJWA, including ground-dwelling species and birds.

Potential direct permanent impacts to wildlife movement associated with implementation of the draft LMP would be less than significant.

5.3.6.5.4 Indirect Impacts

5.3.6.5.4.1 Temporary Impacts

Wildlife movement generally may be affected by several temporary indirect impacts associated with construction or management activities such as noise, ground vibration, lighting, increased human activity, and trash that may attract predators such as crows and ravens. Lighting, for example, may cause stress to diurnal species, altering behavioral patterns and disrupting sleep and circadian cycles. Lighting may also increase predation due to making prey more detectable to nocturnal predators. Nocturnal species may avoid lighted areas, thus spatially and temporally

altering their movement patterns. Noise related to construction vehicles and equipment (including bulldozers, road graders, tractors, and smaller power equipment such as weed-whackers) may also induce stress, alter behavior, and potentially mask the noise made by predators, thus increasing predation rates. Increased human activity may generally alter behavior patterns, induce stress, and increase the chance of negative encounters.

Several management tasks for biological resources involve construction activities such as grading (e.g., for habitat restoration or facilities construction) and other ground- and vegetation-disturbing activities related to management (e.g., mechanical removal of non-native species). Such disturbances may occur during implementation of Task BE 1.2 (habitat restoration for SKR), Task BE 2.2 (control adverse edge effects for alkali communities), Task BE 2.3 (developing an alkali restoration program), Task BE 2.4 (implementing alkali habitat mitigation), Task BE 3.2 (managing invasive plant and animal species), Task BE 3.3 (expanding open water, marsh, and green feed field habitats), Task BE 3.4 (implementing a program to provide adequate habitat for western pond turtle), Task BE 3.5 (tricolored blackbird conservation measures), Task BE 3.6 (vernal pool enhancement), Task BE 3.7 (protecting breeding habitat for western spadefoot), Tasks BE 3.9/PUE 8.3 (maintaining the ability to use reclaimed water/construction of water storage), Task BE 4.2 (habitat restoration for wetlands/riparian habitats), Task BE 4.3 (expanding riparian habitat), Task BE 4.4 (controlling invasive exotic species within riparian corridors), Task BE 4.5 (habitat restoration for riparian habitat), Task BE 5.2 (wildfire management measures), Task BE 5.3 (vegetation management), Task BE 5.4 (control adverse edge effects for uplands), Task BE 5.5 (uplands restoration), Task BE 5.6 (maintain and manage burrowing owl habitat), and Task BE 5.7 (uplands restoration). Table 5.3-9 in Section 5.3.6.1.3 provides more detailed descriptions of indirect impacts to biological resources that could occur with implementation of these management tasks.

Several management tasks for public uses also may include grading and other ground- and vegetation-disturbing activities requiring equipment use (causing noise and ground vibration) and increasing human activity, including Task PUE 1.1 (maintenance and public use of existing trails), Task PUE 1.2 (construction of new facilities), Task PUE 2.2 (improving hunting infrastructure), Task PUE 2.3 (developing non-motorized boat access), Task PUE 3.1 (developing and maintain agricultural leases), Task PUE 3.2 (reconfiguring existing CDFW food plots), Task PUE 3.3 (expansion of agriculture leases), Task PUE 3.4 (expansion of CDFW food plots), Task PUE 4.3 (development of agricultural and wildlife food crop), Task PUE 5.1 (expansion of dog training facilities), Task PUE 6.2 (pre-fire management activities), Task PUE 6.3 (restoration and enhancement), Task PUE 6.4 (developing fuel loading reduction methods), Task PUE 6.5 (pre-response plans and pre-fire management activities), and Task PUE 6.6 (adaptive fire management). Table 5.3-9 in Section 5.3.6.1.3 provides more detailed descriptions of indirect impacts to biological resources that could occur with implementation of these management tasks for public uses.

Potential temporary indirect impacts to wildlife movement resulting from these tasks may be adverse, but would not be substantial. Foremost, these tasks would occur at different times in different places within the SJWA and typically would involve a limited area of indirect impact at any given time. The SJWA is a large area, including approximately 10,996 acres in the Davis Unit and 9,130 acres in the Potrero Unit, and thus provides a large area that would remain unaffected by management activities. The vast majority of the management activities would occur during the day, so movement by nocturnal wildlife would not be disturbed by noise, ground vibration, and increased human activity. Wildlife moving through the SJWA during the day would be able to use alternative habitat areas during movement, as well as for resting and refuge. For these reasons, potential temporary indirect impacts to wildlife movement resulting from implementation of the draft LMP would be less than significant.

Potential temporary indirect impacts to wildlife movement resulting from implementation of the draft LMP would be **less than significant (Class III)**. No mitigation measures would be specifically required; however, mitigation measures MM-BIO-1a, MM-BIO-1c, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, MM-BIO-1q would be implemented for other potential significant indirect impacts on wildlife and would help further reduce the chance of adverse indirect impacts to wildlife movement.

The following is a more detailed assessment of how mitigation required to address other impacts would also help further reduce the chance of indirect impacts to wildlife movement.

- MM-BIO-1a (general construction-related avoidance and minimization measures) would avoid and minimize the potential significant effects to special-status wildlife through restricting construction work hours to the daytime, which would reduce potential impacts to crepuscular and nocturnal wildlife; demarcation of the disturbance area using highly visible materials, which would minimize unintentional impacts to species and habitat outside the designated disturbance area; inspecting for wildlife under vehicles and equipment before moving, which would minimize unintentional impacts to special-status wildlife; not allowing pets during construction; prohibiting use of erosion control materials potentially harmful to wildlife; and ensuring pipes, culverts, or similar structures with a diameter of at least 3 inches are capped overnight to avoid and minimize potential significant impacts to special-status wildlife.
- MM-BIO-1c (environmental awareness training) would avoid and minimize the potential significant effects to special-status wildlife by requiring all personnel or volunteers involved in operation or performance of routine maintenance tasks to attend an environmental awareness education program, conducting biological monitoring during ground-disturbing activities, and providing information, including maps of nesting birds and exclusion areas.

- MM-BIO-1d (pre-construction surveys and avoidance and minimization measures) would avoid and minimize potential significant effects to species from implementing the LMP because MM-BIO-1d requires review of existing species data, habitat assessments and, if needed, focused surveys, as well as avoidance, minimization, mitigation, and monitoring requirements, if species or habitat are present prior to conducting an activity that could impact special-status wildlife.
- MM-BIO-1e (siting and design criteria) would avoid and minimize potential significant effects to special-status wildlife by siting impacts in disturbed areas, such as existing roads and trails, and minimizing vegetation removal and ground disturbance, if feasible.
- MM-BIO-1n (compliance with existing regulations) would avoid and minimize the potential significant effects to special-status wildlife, primarily federally and state-listed wildlife, by meeting the applicable permitting and regulatory practices of local, federal, and state agencies.
- MM-BIO-1q (trash abatement) would avoid and minimize potential significant effects to special-status wildlife by initiating a program to contain food and trash in animal-proof containers, removing trash regularly to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

MM-BIO-4a (recommended): Implement MM-BIO-1a, MM-BIO-1c, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, MM-BIO-1q

Implementation of mitigation measure MM-BIO-4a would help further reduce the chance of adverse indirect impacts to wildlife movement, which are less than significant as described above. The mitigation measures are described in detail in Table 5.3-42 and in Section 5.3.6.8.

5.3.6.5.4.2 Permanent Impacts

Potential permanent indirect impacts to wildlife movement mostly relate to increased public uses and permanent staff and volunteer management activities in the SJWA, including vehicular traffic, trail use, hunting, dog training, noise, and trash and garbage, invasive species management (e.g., pesticides and herbicides), changes in water availability, and facility improvements such trails, parking areas, fencing, and lighting. These potential indirect impacts would be similar to those described for special-status wildlife for Issue BIO-1. For example, under the draft LMP, new roads would be constructed, and additional traffic would be generated by more staff and additional visitor use. Roads can deter movement by some species and cause mortality to animals crossing roads or using roads (especially dirt roads) for movement, basking, foraging, or resting. Although most increases in traffic would be during the day when mostly nocturnal species are unlikely to be moving across or using roads (e.g., small rodents, jackrabbits, reptiles, American badgers (*Taxidea taxus*), coyotes, bobcat), increased waterfowl

hunting could increase pre-dawn traffic when these nocturnal species may still be active. Increased public uses in the SJWA, including trail use, hunting, hunting dog training, and noise, would increase the chance of harassment of wildlife moving through the SJWA and potentially alter their spatial and temporal movement patterns (e.g., avoiding certain high public-use areas or shifting movement patterns from daytime to nighttime). Ongoing routine management activities by permanent staff and volunteers could have similar effects on wildlife movement. Use of pesticides or herbicides could contaminate or reduce prey and other food resources used by wildlife moving through the SJWA. Trash and garbage could attract predators such as crows and ravens that may prey on wildlife that are vulnerable during movement (e.g., juvenile pond turtle and snakes). Installation of fencing could obstruct wildlife movement in certain key areas if not sited properly (e.g., at connections with off-site habitat linkages). These potential permanent indirect impacts could be **potentially significant (Class II)** without implementation of mitigation measures.

MM-BIO-4b Implement MM-BIO-1c, MM-BIO-1e, MM-BIO-1g, MM-BIO-1h, MM-BIO-1i, MM-BIO-1p, MM-BIO-1q

Implementation of mitigation measure MM-BIO-4b would ensure permanent indirect impacts to wildlife movement and nursery sites would be less than significant.

Mitigation measures are described in detail in Table 5.3-42 and in Section 5.3.6.8.

In addition, the waterfowl hunting season starts the third Saturday in October ending the last weekend in January. Thus, there is overlap of the hunting season with the fall migration of waterfowl. When waterfowl return to SJWA to head north, the arrival is outside of the hunting season for waterfowl. Waterfowl mortality could potentially increase if hunting pressure is increased.

No existing waterfowl hunting occurs on the Potrero Unit, and no waterfowl hunting is proposed on the Potrero Unit. Approximately 1,130 acres of existing waterfowl open zones (ponds) are primarily located within the Davis Subunits D4, D9, D10, and D13. These areas will continue to be managed as open zone ponds, supporting wetlands/waterfowl habitat. CDFW currently proposes construction of one 71-acre open zone (pond) in D7 and 33 acres of open zone (fields) in D4 (104 acres total). Waterfowl habitats are areas that are suitable for waterfowl species, such as ducks, geese and other large aquatic birds, and those not open to hunting are referred to as “closed zones.” Approximately 9 acres of an existing waterfowl closed zone (ponds) are located within Davis Subunit D7. Up to 47 acres of a new waterfowl closed zone (ponds) are proposed within Davis Subunit D4. Additionally, CDFW proposes to implement wetlands management on an additional 882 acres of the Davis Unit and approximately 737 acres of these 882 acres would be areas where wetlands resources may occur and wetlands resources should be specifically considered.

Because the schedule for the implementing additional proposed open zones and closes zones cannot be known at this time, the analysis to determine if hunting pressure will increase will not be completed until project level review and implementation. Once the LMP has been approved and the PEIR has been certified, subsequent activities within the program must be evaluated to determine whether an additional CEQA analysis and documentation is required. At the project-level when construction of open zone ponds is considered, the change, if any, in hunting pressure will have to be evaluated in the context of migrating waterfowl. If an equivalent acreage of waterfowl closed zones is constructed for refuge in combination with the acreage of waterfowl open zones, mortality due to hunting pressure will not increase above existing conditions relative to existing mortality.

5.3.6.6 Issue BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The lead agency, CDFW, is a state agency; therefore, it is not subject to the land use policies and ordinances set forth by local agencies such as the Cities of Moreno Valley and Beaumont or the County of Riverside, with the exception of the MSHCP (see Section 5.3.6.7 for discussion of the MSHCP). However, management of the biological resources and public uses at the SJWA is structured around the long-term protection of the biological resources and land uses, with specific management goals designed to achieve long-term conservation of the land.

While the CDFW, as a state agency, does not have to adhere to local land use policies and ordinances, it is important to note that the draft LMP does not conflict with the Riverside County Oak Tree Management Guidelines because oak tree removal is not part of the draft LMP. To provide a conservative analysis, potential impacts to oak-dominated vegetation communities are addressed below. Table 5.3-43 includes the existing and proposed management in oak-dominated vegetation communities for the Potrero Unit. There are no oak-dominated vegetation communities on the Davis Unit.

Table 5.3-43
Existing and Proposed Management in Oak-Dominated Vegetation Communities for the Potrero Unit

Proposed Management Type	Proposed Management	Alliance, Association, or other MU	Total (Acres)
Biological Resource Management	Upland Communities	Coast Live Oak Alliance	1
		Coast Live Oak/Chaparral Association	1
		Coast Live Oak/Annual Grass-Herb Association	9
		Total	**11**

As shown in Table 5.3-43, there are only vegetation communities that are oak-dominated in the Potrero Unit. The proposed management in areas that contain oak-dominated communities are limited to areas that would be managed as upland communities or as upland game hunting. The effects to oak-dominated communities from management of uplands communities would be the same as those described for sensitive vegetation communities, as described under Proposed Uplands Management (Biological Element 5) in Section 5.3.6.3.4.1.

Oak-dominated communities in the Potrero Unit may also be affected by Public Use Element 1 (Proposed Trail Use and Wildlife Viewing) and Public Use Element 6 (Fire Management), as described for vegetation communities in Section 5.3.6.3.4.2 (Potrero Unit), and by the construction of public use and administrative facilities, as described in Section 5.3.6.3.5 (Potrero Unit) for vegetation communities.

As described in Section 5.3.6.3.6 (Impacts to Sensitive Vegetation Communities), mitigation measures would reduce the effects the draft LMP may have on oak-dominated habitats to less than significant. Mitigation measures are described in detail in Table 5.3-42 and in Section 5.3.6.8.

5.3.6.5.4.3 Temporary and Permanent Impacts

Temporary direct and indirect impacts to oak-dominated vegetation communities would be **potentially significant impacts (Class II)** that could be reduced to less than significant with incorporation of mitigation measure MM-BIO-5a.

MM-BIO-5a Implement MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1m

Permanent direct and indirect impacts to oak-dominated vegetation communities would be **potentially significant impacts (Class II)** that would be reduced to less than significant with incorporation of mitigation measure MM-BIO-5b.

MM-BIO-5b Implement MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1l.

A discussion of how each mitigation measure avoids, minimizes and reduces impacts is provided in Table 5.3-42 above.

5.3.6.7 Issue BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

This section describes the MSHCP Area Plans and Subunits within the SJWA, including the Planning Species, Biological Issues and Considerations, and Reserve Features. The Davis Unit is described in Section 5.3.6.7.1, and the Potrero Unit is described in Section 5.3.6.7.2. Section 5.3.7.3 includes a summary matrix of the relevant planning species. Section 5.3.6.7.4 addresses

the MSHCP Covered Species that are not considered special-status but that were observed or have the potential to occur in the SJWA. Section 5.3.6.7.5 addresses Management Unit 2.

The SJWA also includes lands set aside for conservation of the federally endangered Stephens' kangaroo rat in accordance with the 1996 Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) that allowed take of the species within certain areas of western Riverside County. As such, management of Stephens' kangaroo rat on the SJWA is required in accordance with this HCP. Section 5.3.6.7.6 describes how the implementation of the LMP is consistent with the SKR HCP and Section 5.3.6.7.7 summarizes this information.

5.3.6.7.1 MSHCP Area Plans: Davis Unit

The Davis Unit is located in two Area Plans. The majority of the Davis Unit is located in the Reche Canyon/Badlands Area Plan. A small portion of the Davis Unit is located in the Lakeview/Nuevo Area Plan. In the Reche Canyon/Badlands Area Plan, the Davis Unit is in Subunit 4 (SJWA/Mystic Lake) and Subunit 3 (Badlands North). The portion of the Davis Unit in the Lakeview/Nuevo Area Plan is Subunit 1 (San Jacinto River–Middle Reach). The Davis Unit contains Public/Quasi-Public Lands, SJWA Additional Acquisition Area, and areas overlaid with Criteria Cells (Figure 5.3-7B.1).

Below summarizes the following for each of the Area Plans and Subunits within the Davis Unit: (A) Planning Species; (B) Biological Issues and Considerations; and (C) Reserve Features. Planning Species are subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages or Area Plans.

Reche Canyon/Badlands Plan Area, Subunit 4 (SJWA/Mystic Lake)

(A) Planning Species

There are 26 Planning Species identified in Subunit 4 of the Reche Canyon/Badlands Area Plan: American bittern (*Botaurus lentiginosus*), black-crowned night-heron, burrowing owl, California horned lark, double-crested cormorant, loggerhead shrike, mountain plover, northern harrier, osprey (*Pandion haliaetus*), peregrine falcon, prairie falcon, tricolored blackbird, white-faced ibis, white-tailed kite, bobcat, Los Angeles pocket mouse, Stephens' kangaroo rat, California Orcutt grass (*Orcuttia californica*), Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, smooth tarplant, spreading navarretia, thread-leaved brodiaea, vernal barley, and Wright's trichocoronis.

(B) Biological Issues and Considerations

Eight biological issues and considerations are listed for Subunit 4 of the Reche Canyon/Badlands Area Plan: (1) conserve alkali playa and other habitat to augment existing conservation in Mystic

Lake; (2) conserve existing vernal pool complexes associated with the San Jacinto River floodplain in the SJWA/Mystic Lake, with conservation focusing on vernal pool surface area and supporting watersheds; (3) provide for a connection of intact habitat between the SJWA/Mystic Lake to adjacent Badlands area to the north; (4) conserve Willow-Domino-Travers soils supporting sensitive plants such as San Jacinto Valley crownscale, Davidson's saltscale, Coulter's goldfields, spreading navarretia, vernal barley, and Wright's trichocoronis; (5) provide for and maintain a continuous linkage along the San Jacinto River from the southern boundary of the Reche Canyon/Badlands Area Plan to the southeastern Area Plan boundary; (6) maintain Linkage Habitat for bobcat; (7) maintain Linkage Habitat for Stephens' kangaroo rat to the SJWA; and (8) determine presence or potential core habitat for Los Angeles pocket mouse in the connection between the Badlands and SJWA.

(C) Reserve Features

Existing Core H and the Proposed Core 3 (Badlands/Potrero) are reserve features in Subunit 4 of the Reche Canyon/Badlands Area Plan in the Davis Unit, as shown on Figure 5.3-7A.

Existing Core H

Existing Core H is composed of Lake Perris State Recreation Area, SJWA, private lands, and lands with pre-existing conservation agreements. It provides Live-In Habitat for certain species, contains soils suitable for some Narrow Endemic Plant Species, supports vernal pool complexes, and may provide a connection to Core Areas in the Badlands and the middle reach of the San Jacinto River. Planning Species for which habitat is provided within this Core Area include bobcat, Los Angeles pocket mouse, Stephens' kangaroo rat, smooth tarplant, San Jacinto Valley crownscale, spreading navarretia, California Orcutt grass, vernal barley, and thread-leaved brodiaea. Maintenance of habitat quality, floodplain process along the San Jacinto River, and conservation of vernal pool complexes are important for these species. This Core Area likely provides for Live-In Habitat for small rodents and common mammals, including bobcat and San Diego black-tailed jackrabbit (RCTLMA 2007, Section 3.2.3).

Proposed Core 3

Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the Plan Area. This core consists mainly of private lands, but also contains a few Public/Quasi-Public parcels, including De Anza Cycle Park. Proposed Core 3 is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris/Mystic Lake), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. Proposed Core 3 also functions as a linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of Proposed

Core 3. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest MSHCP Core Areas. In addition, Proposed Core 3 is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of Proposed Core 3. Proposed Core 3 has a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing agricultural use. Within the core, important Live-In and Movement Habitat is provided for Bell's sparrow, loggerhead shrike, cactus wren, Stephens' kangaroo rat, southern California rufous-crowned sparrow, and mountain lion, which have key populations in the Badlands (RCTLMA 2007, Section 3.2.3).

Reche Canyon/Badlands Area Plan, Subunit 3 (Badlands-North)

(A) Planning Species

There are 10 Planning Species identified in Subunit 3 of the Reche Canyon/Badlands Area Plan including: Bell's sparrow, cactus wren, loggerhead shrike, southern California rufous-crowed sparrow, bobcat, Los Angeles pocket mouse, mountain lion, San Bernardino kangaroo rat, Stephens' kangaroo rat, and Nevin's barberry (RCTLMA 2007, Section 3.3).

(B) Biological Issues and Considerations

Seven biological issues and considerations are listed for Subunit 3 of the Reche Canyon/Badlands Area Plan: (1) conserve large habitat blocks in the Badlands; (2) maintain Core Area for bobcat; (3) maintain Core and Linkage Habitat for mountain lion; (4) maintain linkage area to the SJWA for Stephens' kangaroo rat; (5) determine potential for scattered populations of San Bernardino kangaroo rat along San Timoteo Creek; (6) determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries and the Badlands; and (7) maintain Core Area for Nevin's barberry (RCTLMA 2007, Section 3.3).

(C) Reserve Features

Existing Core H and Proposed Core 3 (Badlands/Potrero) are in this subunit, as shown on Figure 5.3-7A. These reserve features are described in this section under Reche Canyon/Badlands Area Plan, Subunit 4 (SJWA/Mystic Lake), item C.

Lakeview/Nuevo Area Plan, Subunit 1 (San Jacinto River-Middle Reach)

(A) Planning Species

There are 15 Planning Species identified in Subunit 1 of the Lakeview/Nuevo Area Plan: arroyo toad, mountain plover, tricolored blackbird, white-faced ibis, Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), Los Angeles pocket

mouse, western pond turtle, Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, spreading navarretia, thread-leaved brodiaea, vernal barley, and Wright's trichocoronis (RCTLMA 2007, Section 3.3).

(B) Biological Issues and Considerations

Eight biological issues and considerations are listed for Subunit 1 of the Lakeview/Nuevo Area Plan: (1) conserve Willow-Domino-Travers soils supporting sensitive plants such as spreading navarretia, San Jacinto Valley crownscale, Coulter's goldfields, Davidson's saltscale, vernal barley, and Wright's trichocoronis; (2) conserve clay soils intermixed with or near vernal pool occurring in the middle reaches of the San Jacinto River supporting core populations of thread-leaved brodiaea; (3) conserve wetland habitats and floodplain along the San Jacinto River, including existing vernal playas and vernal pools and associated watersheds, and maintain watershed processes that contribute to and enhance water quality and the hydrologic regime; (4) maintain and enhance the linkage value of the San Jacinto River for wildlife movement and Live-In Habitat; (5) maintain the floodplain habitat for mountain plover; (6) determine the presence of Los Angeles pocket mouse; (7) maintain Core and Linkage Habitat for western pond turtle; and (8) maintain core habitat for vernal pool fairy shrimp and the Riverside fairy shrimp (RCTLMA 2007, Section 3.3).

(C) Reserve Features

Existing Core H is the reserve features in Subunit 1 of the Lakeview/Nuevo Area Plan. South of the Davis Unit, Existing Core H connects to Proposed Extension of Existing Core 4, as shown on Figure 5.3-7A. Existing Core H is described in this section under Reche Canyon/Badlands Area Plan, Subunit 4 (SJWA/Mystic Lake), item C.

5.3.6.7.2 MSHCP Area Plans: Potrero Unit

The majority of the Potrero Unit is located in the southwest portions of the Pass Area Plan, specifically within Subunit 1 (Potrero/Badlands). A small portion in the southwest of the Potrero Unit is within the San Jacinto Valley Area within Subunit 1 (Gilman Springs/Southern Badlands). The Potrero Unit is entirely overlaid by Criteria Cells (Figure 5.3-7B.2); no Public/Quasi-Public Lands are within the Potrero Unit.

Below summarizes the following for each of the Area Plans and Subunits within the Potrero Unit: (A) Planning Species; (B) Biological Issues and Considerations; and (C) Reserve Features.

Pass Area Plan, Subunit 1 (Potrero/Badlands)

(A) Planning Species

There are 11 Planning Species in Subunit 1 of the Pass Area Plan: arroyo toad, Bell's sparrow, cactus wren, least Bell's vireo, loggerhead shrike, southern California rufous-crowned sparrow,

bobcat, Los Angeles pocket mouse, mountain lion, San Bernardino kangaroo rat, and Stephens' kangaroo rat (RCTLMA 2007, Section 3.3).

B) Biological Issues and Considerations

Nine biological issues and considerations are listed for Subunit 1 of the Pass Area Plan: (1) provide for a new core reserve focused on the Potrero Creek area; (2) maintain large blocks of undisturbed habitat for core reserve purposes; (3) maintain large blocks of habitat for large mammal movement between northern and southern sections of the San Bernardino National Forest; (4) conserve Potrero Creek and associated alluvial fan sage scrub for maintenance of key species such as Stephens' kangaroo rat, Los Angeles pocket mouse, and arroyo toad; (5) maintain Core Habitat for bobcat; (6) maintain Core and Linkage Habitat for mountain lion; (7) maintain Core Habitat in Potrero Valley for Stephens' kangaroo rat; (8) determine presence of possible scattered populations of San Bernardino kangaroo rat in tributaries to the San Jacinto River; and (9) determine presence of potential Core Habitat for Los Angeles pocket mouse in tributaries to San Timoteo Creek (RCTLMA 2007, Section 3.3).

(C) Reserve Features

Proposed Core 3 (Badlands/Potrero) is the reserve feature in Subunit 1 of the Pass Area Plan in the Potrero Unit. This proposed Core Area is described in Section 5.3.3.3.1.1 under the Reche Canyon/Badlands Area Plan, Subunit 4 (SJWA/Mystic Lake), item C.

San Jacinto Valley Area Plan, Subunit 1 (Gilman Springs/Southern Badlands)

(A) Planning Species

There are 19 Planning Species identified in Subunit 1 of the San Jacinto Valley Area Plan: arroyo toad, Bell's sparrow, western burrowing owl, cactus wren, loggerhead shrike, mountain plover, southern California rufous-crowned sparrow, white-faced ibis, bobcat, Los Angeles pocket mouse, mountain lion, San Bernardino kangaroo rat, Stephens' kangaroo rat, Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, spreading navarretia, vernal barley, and Wright's trichocoronis (RCTLMA 2007, Section 3.3).

(B) Biological Issues and Considerations

Six biological issues and considerations are listed for Subunit 1 of the San Jacinto Valley Area Plan: (1) conserve Willow-Domino-Travers soils supporting sensitive plants such as spreading navarretia, San Jacinto Valley crownscale, Coulter's goldfields, Davidson's saltscale, vernal barley, and Wright's trichocoronis; (2) conserve intact upland habitat in the southern Badlands for the benefit of burrowing owl, Bell's sparrow, raptors, and other species; (3) conserve open

grasslands and sparse shrublands that support populations of Stephens' kangaroo rat, with a focus on suitable habitat in the southern Badlands; (4) maintain Core Area for bobcat; (5) maintain Core and Linkage Habitat for mountain lion; (6) maintain Core Area for San Bernardino kangaroo rat (RCTLMA 2007, Section 3.3).

(C) Reserve Features

Proposed Core 3 (Badlands/Potrero) is one of the reserve features in Subunit 1 of the San Jacinto Valley Area Plan in the Potrero Unit. This proposed Core Area is described in Section 5.3.3.3.1.1 under the Reche Canyon/Badlands Area Plan, Subunit 4 (SJWA/Mystic Lake), item C. Additionally, Proposed Linkage 11 is located in Subunit 1 of the San Jacinto Valley Area Plan in the Potrero Unit, as shown on Figure 5.3-7A.

Proposed Linkage 11

Proposed Linkage 11 (Soboba/Gilman Springs) is located in the northeastern section of the Plan Area. This linkage connects to Proposed Core 3 (Badlands/Potrero) in the north, Existing Core K (San Jacinto Mountains) in the southeast, and Proposed Core 5 (Upper San Jacinto River) to the southwest. Private lands compose the entirety of Proposed Linkage 11, which is only somewhat constrained by existing urban development. Proposed Linkage 11 likely provides for movement of common mammals such as bobcat, and may be an important linkage area for mountain lions moving between the Badlands and the San Jacinto Mountains. Tributaries to the San Jacinto River that support arroyo toad and Los Angeles pocket mouse occur within Proposed Linkage 11. A low proportion of the area of the linkage is affected by edge (approximately 190 acres of the total 1,670 acres), and Proposed Linkage 11 is 6,020 feet wide; thus, Proposed Linkage 11 provides Live-In Habitat for many species, in addition to movement habitat. Nonetheless, management of edge conditions along Proposed Linkage 11 will be necessary due to surrounding planned land uses and possible effects of planned facilities such as Soboba Road. Guidelines pertaining to urban/wildlands interface for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators are presented in Section 6.1 of this document. A terrestrial crossing for mammals and reptiles may need to be considered at Soboba Road (RCTLMA 2007, Section 3.2.3).

5.3.6.7.3 Planning Species

The Planning Species for the Reserve Features and Subunits within each Area Plan are listed in Table 5.3-44. Many of the Planning Species are special-status and are addressed in Sections 5.3.2.5.2 and 5.3.6.2 of this PEIR, as noted in the table; all of the Planning Species are Covered species. As described in Section 5.3.6.2, implementation of the draft LMP would result in potentially significant impacts to special-status species, and the impacts will be avoided, minimized, or mitigated to less-than-significant levels through implementation of mitigation measures.

If the Planning Species are not considered special-status but are covered under the MSHCP, they are addressed in Section 5.3.6.7.4, below, and in Tables 5.3-45, 5.3-46, and 5.3-47. Additionally, if a Planning Species is not addressed in either Sections 5.3.6.2 or 5.3.6.7.4, the potential for the species to occur in the SJWA is either low or not expected, as noted in the tables. These species are not discussed further because no direct, indirect, or cumulative impacts to these species are expected to result from the implementation of the draft LMP due to their low potential to occur in the SJWA.

5.3.6.7.4 Covered Species

This section describes the species that are not considered special-status but are Covered Species under the MSHCP.

Plants

The discussion of MSHCP covered plants is organized in Table 5.3-44 by species observed on the SJWA and species not observed, but with a moderate to high potential to occur on the SJWA. The table includes species status, habitat, known range, and whether it was observed or its potential to occur in the unit. Three MSHCP covered plants were recorded within the SJWA in at least one of the units, and 11 MSHCP covered plants species have a moderate to high potential to occur in at least one of the units. The only non-special-status MSHCP covered plant that is considered alkali is vernal barley.

Although the species listed in Table 5.3-45 are covered, they are not special-status under CEQA. CRPR 3 plants are plants about which more information is needed, CRPR 4 plants are of limited distribution, and analysis of CRPR 3s and 4s are typically not warranted under CEQA. Potential impacts to these species would be similar to those described in Section 5.3.6.2.6, and these potential impacts would be less than significant. Implementation of mitigation measures would further reduce potential adverse impacts to the species. Additionally, implementation of mitigation measure MM-BIO-1d requires that CDFW avoids and minimizes direct impacts to Covered Species that are not considered special-status on a case-by-case basis.

Wildlife

The discussion of non-special-status MSHCP covered wildlife is organized by Table 5.3-46, MSHCP Covered Wildlife Observed or with a Moderate or High Potential to Occur in the Davis Unit, and Table 5.3-47, MSHCP Covered Wildlife Observed or with a Moderate or High Potential to Occur in the Potrero Unit. Each table includes the species taxonomic groups, guild, status, habitat, known range, and whether it was observed or its potential to occur in the unit. As described in Table 5.3-46, 27 MSHCP covered wildlife species were observed in the Davis Unit. As described in Table 5.3-47, 22 MSHCP covered wildlife species were observed in the Potrero Unit and four MSHCP covered wildlife species have a moderate to high potential to occur.

Although the species listed in Tables 5.3-46 and 5.3-47 are covered, they are not special-status. Potential impacts to these species would be similar to those described in Section 5.3.6.2 by guild, and these potential impacts would be less than significant. Implementation of mitigation measures would reduce impacts to these species. Additionally, implementation of MM-BIO-1d requires that CDFW avoids and minimizes direct impacts to Covered Species that are not considered special-status on a case-by-case basis.

Table 5.3-44
Planning Species Matrix

Taxa/Guild	Common Name	Scientific Name	Reserve Feature				Area Plans and Subunits				Potential to Occur
			Existing Core H	*Proposed Core 3*	*Proposed Linkage 11*	*Reche Canyon/ Badlands Area Plan, Subunit 3 (Badlands-North)*	*Reche Canyon/ Badlands Plan Area, Subunit 4 (SJWA/Mystic Lake)*	*San Jacinto Valley Area Plan, Subunit 1 (Gilman Springs Southern Badlands)*	*Lakeview/Nuevo Area Plan, Subunit 1*	*Pass Area Plan, Subunit 1 (Potrero Badlands)*	
Amphibian/Wetland	arroyo toad	*Anaxyrus californicus*			X			X	X	X	Very low potential to occur. There is potentially suitable stream habitat on site in the main (central) stream that runs through the Potrero Unit.
Amphibian/Wetland	western spadefoot	*Spea hammondii*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Reptile/Upland	Belding's orange-throated whiptail	*Aspidoscelis hyperythra beldingi*	X								See Section 5.3.6.7.4
Reptile/Upland	Blainville's horned lizard	*Phrynosoma blainvillii*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Reptile/Upland	granite night lizard	*Xantusia henshawi*	X								See Section 5.3.6.7.4
Reptile/Upland	granite spiny lizard	*Sceloporus orcutti*	X								See Section 5.3.6.7.4
Reptile/Upland	red diamond rattlesnake	*Crotalus ruber*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Reptile/Upland	San Diegan tiger whiptail	*Aspidoscelis tigris stejnegeri*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Reptile/Upland	San Diego banded gecko	*Coleonyx variegatus abbotti*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Reptile/Wetland	western pond turtle	*Actinemys marmorata*	X						X		See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Wetland	American bittern	*Botaurus lentiginosus*	X				X				See Section 5.3.6.7.4
Bird/Wetland	American peregrine falcon	*Falco peregrinus anatum*	X				X				See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Wetland	bald eagle	*Haliaeetus leucocephalus*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	Bell's sparrow	*Artemisiospiza belli*	X	X	X	X		X		X	See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Wetland	black-crowned night heron	*Nycticorax nycticorax*	X				X				See Section 5.3.6.7.4
Bird/Upland	burrowing owl	*Athene cunicularia*	X				X	X			See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	cactus wren	*Campylorhynchus brunneicapillus*	X	X	X	X		X		X	See Sections 5.3.2.4.2 and 5.3.6.2
Bird/Upland	California horned lark	*Eremophila alpestris actia*					X				See Section 5.3.6.7.4
Bird/Riparian	Cooper's hawk	*Accipiter cooperii*	X								See Section 5.3.6.7.4
Bird/Wetland	double-crested cormorant	*Phalacrocorax auritus*	X				X				See Section 5.3.6.7.4
Bird/Riparian	downy woodpecker	*Picoides pubescens*	X								See Section 5.3.6.7.4
Bird/Upland	ferruginous hawk	*Buteo regalis*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	golden eagle	*Aquila chrysaetos*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	grasshopper sparrow	*Ammodramus savannarum*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Riparian	least Bell's vireo	*Vireo bellii pusillus*								X	See Sections 5.3.2.5.2 and 5.3.6.2

Table 5.3-44
Planning Species Matrix

Taxa/Guild	Common Name	Scientific Name	Reserve Feature				Area Plans and Subunits				Potential to Occur
			Existing Core H	Proposed Core 3	Proposed Linkage 11	Reche Canyon/ Badlands Area Plan, Subunit 3 (Badlands-North)	Reche Canyon/ Badlands Plan Area, Subunit 4 (SJVAA/Mystic Lake)	San Jacinto Valley Area Plan, Subunit 1 (Gilman Springs/Southern Badlands)	Lakeview/Nuevo Area Plan, Subunit 1	Pass Area Plan, Subunit 1 (Potrero Badlands)	
Bird/Upland	Lincoln's sparrow	*Melospiza lincolnii*	X								See Section 5.3.6.7.4
Bird/Upland	loggerhead shrike	*Lanius ludovicianus*	X	X	X	X	X	X		X	See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	MacGillivray's warbler	*Geothlypis tolmiei*	X								See Section 5.3.6.7.4
Bird/Upland	mountain plover	*Charadrius montanus*					X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2
Bird/Upland	northern harrier	*Circus cyaneus*					X				See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Wetland	osprey	*Pandion haliaetus*	X				X				See Section 5.3.6.7.4
Bird/Upland	prairie falcon	*Falco mexicanus*					X				See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	purple martin	*Progne subis*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	sharp-shinned hawk	*Accipiter striatus*	X								See Section 5.3.6.7.4
Bird/Upland	Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	X	X	X	X		X		X	See Section 5.3.6.7.4
Bird/Riparian	southwestern willow flycatcher	*Empidonax traillii extimus*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	Swainson's hawk	*Buteo swainsoni*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Riparian	tree swallow	*Tachycineta bicolor*	X								See Section 5.3.6.7.4
Bird/Wetland	tricolored blackbird	*Agelaius tricolor*					X		X		See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Upland	turkey vulture	*Cathartes aura*	X								See Section 5.3.6.7.4
Bird/Wetland	white-faced ibis	*Plegadis chihi*					X	X	X		See Section 5.3.6.7.4
Bird/Riparian	white-tailed kite	*Elanus leucurus*	X				X				See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Riparian	yellow warbler	*Setophaga petechia*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Bird/Riparian	yellow-breasted chat	*Icteria virens*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	bobcat	*Lynx rufus*	X	X	X	X	X	X		X	See Section 5.3.6.7.4
Mammal/Upland	mountain lion	*Puma concolor*		X	X	X		X		X	See Section 5.3.6.7.4
Mammal/Upland	Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	X	X	X	X	X	X	X	X	See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	San Bernardino kangaroo rat	*Dipodomys merriami parvus*		X	X	X		X		X	See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	San Diego desert woodrat	*Neotoma lepida intermedia*	X								See Sections 5.3.2.5.2 and 5.3.6.2
Mammal/Upland	Stephens' kangaroo rat	*Dipodomys stephensi*	X	X	X	X	X	X		X	See Sections 5.3.2.5.2 and 5.3.6.2

Table 5.3-44
Planning Species Matrix

Taxa/Guild	Common Name	Scientific Name	Reserve Feature				Area Plans and Subunits				Potential to Occur
			Existing Core FH	*Proposed Core 3*	*Proposed Linkage 11*	*Reche Canyon/ Badlands Area Plan, Subunit 3 (Badlands-North)*	*Reche Canyon/ Badlands Plan Area, Subunit 4 (SJWA/Mystic Lake)*	*San Jacinto Valley Area Plan, Subunit 1 (Gilman Springs/Southern Badlands)*	*Lakeview/Nuevo Area Plan, Subunit 1*	*Pass Area Plan, Subunit 1 (Potrero Badlands)*	
Invertebrate/Wetland	Riverside fairy shrimp	*Streptocephalus woottoni*							X		See Sections 5.3.2.4.2 and 5.3.6.2
Invertebrate/Wetland	vernal pool fairy shrimp	*Branchinecta lynchi*							X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Other	California Orcutt grass	*Orcuttia californica*					X				Low potential to occur. Although alkali playas may provide some suitable habitat, no vernal pools are known on the site.
Plant/Alkali	Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	X				X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Alkali	Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	X				X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Other	Nevin's barberry	*Berberis nevinii*		X		X					Nevin's barberry is not expected to occur (CNPS 2017).
Plant/Alkali	San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	X				X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Alkali	smooth tarplant	*Centromadia pungens* ssp. *laevis*	X				X				See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Alkali	spreading navarretia	*Navarretia fossalis*	X				X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Alkali	thread-leaved brodiaea	*Brodiaea filifolia*	X				X		X		See Sections 5.3.2.4.2 and 5.3.6.2
Plant/Alkali	vernal barley	*Hordeum intercedens*					X	X	X		Known from LD4, LD7, and LD13 – 12 locations within grasslands and alkali scrub habitats; not expected to occur on the Potrero Unit.
Plant/Alkali	Wright's trichocoronis	*Trichocoronis wrightii* var. *wrightii*	X				X	X	X		See Sections 5.3.2.4.2 and 5.3.6.2

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Table 5.3-45

MSHCP Covered Plant Species Observed or with a Moderate Potential to Occur Within the San Jacinto Wildlife Area

Scientific Name	Common Name	Federal Status	State Status	MSHCP	CRPR	Vegetation Communities/Habitat	Davis Unit	Potrero Unit	Potential to Occur
MSHCP Covered Plant Species Observed									
Calochortus plummerae	Plummer's mariposa-lily	None	None	Covered	4.2	Chaparral, Cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland/granitic, rocky	—	X	Known within Subunits P2, P4, P5, and P6 – 25 total locations.
Quercus engelmannii	Engelmann oak	None	None	Covered	4.2	Chaparral, Cismontane woodland, riparian woodland, valley and foothill grassland	—	X	Known from eight locations in P2 and P3.
Hordeum intercedens	vernal barley	None	None	Covered	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools	X	—	Known from D4, D7, and D13 – 12 total locations.
MSHCP Covered Plant Species Not Observed but with a Moderate to High Potential to Occur									
Holocarpha virgata ssp. *elongata*	graceful tarplant	None	None	Covered	4.2	Chaparral, Cismontane woodland, coastal scrub, valley and foothill grassland	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Hulsea vestita ssp. *callicarpha*	beautiful hulsea	None	None	Covered	4.2	Chaparral, lower montane coniferous forest/rocky or gravelly, granitic	—	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Harpagonella palmeri	Palmer's grapplinghook	None	None	Covered	4.2	Chaparral, coastal scrub, valley and foothill grassland/clay	X	X	High potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Caulanthus simulans	Payson's jewel-flower	None	None	Covered	4.2	Chaparral, coastal scrub/sandy, granitic	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.

Table 5.3-45

MSHCP Covered Plant Species Observed or with a Moderate Potential to Occur Within the San Jacinto Wildlife Area

Scientific Name	Common Name	Federal Status	State Status	MSHCP	CRPR	Vegetation Communities/Habitat	Davis Unit	Potrero Unit	Potential to Occur
Convolvulus simulans	small-flowered morning-glory	—	—	Covered	—	Found in seeps in valley grasslands, northern coastal scrub, and coastal sage scrub communities at elevations from 0–1,000 feet	X	X	Moderate potential to occur. The SJWA study area is above the typical elevational range for this species; however, this species has been observed near the SJWA study area (CDFW 2016a) and there is suitable grassland habitat on the site for this species.
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None	None	Covered	4.2	Chaparral, Cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland/openings	—	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Romneya coulteri	Coulter's matilija poppy	None	None	Covered	4.2	Chaparral, coastal scrub; often in burns	—	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Polygala cornuta var. *fishiae*	Fish's milkwort	None	None	Covered	4.3	Chaparral, Cismontane woodland, riparian woodland	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.
Myosurus minimus ssp. *apus*	little mousetail	None	None	Covered	3.1	Valley and foothill grassland, vernal pools (alkaline)	X	X	Moderate potential to occur. Suitable habitat exists and within elevation range of known species occurrences.

Status Legend:
None: No federal or state designation.
CRPR: California Rare Plant Rank
3: Plants about which we need more information – a review list
4: Plants of limited distribution – a watch list
Threat Rank
.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan Covered Species. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.

Table 5.3-46
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Davis Unit

Taxon/Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
Reptile/Upland	*Aspidoscelis [Chemidophorus] hyperythrus*	orange-throated whiptail	None	None	Covered	Low elevation coastal scrub, chaparral, and valley foothill hardwood.	Observed in D6 in 2008 and D15 in 2008 and 2011 (RCA 2016). There is suitable habitat for this species in the unit.
Reptile/Upland	*Sceloporus orcutti*	granite spiny lizard	None	None	Covered	Granite rock outcrops within forest, woodland, chaparral, and coastal scrub habitats.	Observed in D12 in 2009 and D14 in 2008 (RCA 2016). There is suitable habitat in the Davis Unit for this species.
Reptile/Upland	*Xantusia henshawi*	granite night lizard	None	None	Covered	Rock outcrops in desert, chaparral, and woodland habitats.	Observed in D6 in 2009 and D8 in 2008 (RCA 2016).
Bird/Riparian	*Accipiter cooperii*	Cooper's hawk (nesting)	None	WL	Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats, often near water.	Observed in D1 in 2011, 2012, and 2015; D2 in 2007; D3 in 2011; D4 in 2007–2009, 2011, 2012, and 2014; D5 in 2008; D7 in 2008, 2010, and 2011; D9 in 2011; D11 2009 and 2014; D12 in 2006; D14; and D15 in 2007 and 2012 (RCA 2016). Also observed in D6 (CDFW 2016a). There is suitable nesting and foraging habitat in the riparian areas in the unit (CDFW 2016a).
Bird/Riparian	*Accipiter striatus*	sharp-shinned hawk (nesting)	None	WL	Covered	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats.	Observed in D1 in 2011, D3 in 2008 and 2010, D6 in 2006, D7 in 2011, and D11 in 2011 (RCA 2016). Also observed in D15 (CDFG 2000). This species may occasionally winter in the unit, but are not normally present during the breeding season (CDFW 2016a; MSHCP EIR/EIS 2003a).
Bird/Upland	*Aimophila ruficeps canescens*	southern California rufous-crowned sparrow	None	WL	Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches.	Observed in D1 in 2011 and 2015; D6 in 2006, 2007, 2009, and 2014; D7 in 2011; D8 in 2007 and 2011; D9 in 2013; D12 and D14 in 2006 and 2007; and D15 in 2006, 2007, 2011, and 2012 (RCA 2016). There is suitable nesting and foraging habitat in the unit in the chaparral and grassland areas. Moderate population densities were found at the Lake Perris SJWA areas based on 2006 and 2007 surveys (MSHCP EIR/EIS 2003c).
Bird/Wetland	*Ardea herodias*	great blue heron	None	None	Covered	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands.	Observed in D1 in 2007; D2 in 2007; D3 in 2011 and 2012; D4 in 2008, 2009, 2011, and 2014; D6 in 2007; D7 in 2007, 2011, and 2012; D8 in 2011; D9 in 2011 and 2012; D10 in 2011, 2012, and 2015; and D14 in 2007 (RCA 2016). There is suitable habitat on the SJWA in the meadows/marshes and riparian habitats in the unit (CDFW 2016a).
Bird/Wetland	*Botaurus lentiginosus*	American bittern	None	None	Covered	Nests in marshes with fairly tall freshwater vegetation (3 to 4 feet) and shallow water (less than 1 foot) near rivers, ponds, and lakes.	Observed in D4 in 2009, 2011, and 2012, and D7 in 2010 (RCA 2016).
Bird/Riparian	*Cardellina pusilla*	Wilson's warbler	None	None	Covered	Nests in montane meadows and low, dense willow thickets; in migration occurs in chaparral, woodlands, and forests with shrubs.	Observed in D4 in 2009, 2011, 2012, and 2014; and D7 in 2007, 2011, 2014, and 2015 (RCA 2016). This species may occur as a migrant but is unlikely to nest or occur during the breeding season in the unit as it prefers montane habitats (CDFW 2016a; MSHCP EIR/EIS 2003a).
Bird/Upland	*Cathartes aura*	turkey vulture	None	None	Covered (nesting)	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting throughout most of California during breeding season.	Observed in D1 and D2 in 2007 and 2008; D3 in 2011, 2014, and 2015; D4 in 2006–2009, 2011, 2012, and 2014; D5 in 2008; D6 in 2007 and 2008; D7 in 2006–2009 and 2011–2014; D8 in 2007, 2008, and 2012; D9 in 2007; D10 in 2011, 2014, and 2015; D11 in 2010, 2013, and 2015; D12 in 2008; D13 in 2006–2008 and 2014–2015; D14 in 2008 and 2009; and in D15 in 2007, 2008, and 2011 (RCA 2016). This species may forage over the grassland areas in the unit (CDFW 2016a).
Bird/Upland	*Eremophila alpestris actia*	California horned lark	None	WL	Covered	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada.	Observed in D13 in 2006 (RCA 2016). There is suitable habitat in the grassland and open areas in the unit (CDFW 2016a).
Bird/Wetland	*Falco columbarius*	merlin (nonbreeding/wintering)	None	WL	Covered	Forages in semi-open areas, including coastline, grassland, agriculture, savanna, woodland, lakes, and wetlands.	Observed in D1 in 2010 and 2011; D3 in 2011 and 2012; D4 in 2007–2009, 2011, and 2012; D5 in 2008; D7 in 2009; D10 in 2014; D11 in 2011; D14 in 2007; and in D15 in 2012 (RCA 2016). This species may forage in the unit during migration but is not expected to nest on the site (CDFW 2016a).

Table 5.3-46
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Davis Unit

Taxon Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
Bird/Riparian	*Geothlypis tolmiei*	MacGillivray's warbler	None	None	Covered	Valley–foothill riparian, Douglas-fir, redwood, montane riparian, and desert riparian habitats; observed in weedy brush, streamside thickets, and desert wash scrub.	Observed in D3 in 2014, D6 in 2007, and D7 in 2014 (RCA 2016). This species may forage in the riparian areas in the unit as an occasional migrant, but it is unlikely to nest or occur during the breeding season in the unit (CDFW 2016a; MSHCP EMP 2008a).
Bird/Wetland	*Melospiza lincolnii*	Lincoln's sparrow	None	None	Covered*	Breeds in bogs, wet meadows, and riparian thickets; winters in brushy areas, thickets, hedgerows, understory of open woodlands, forest edges, clearings, and scrubby areas.	Observed in D2 in 2008; in D3 in 2011, 2012, and 2014; in D4 in 2010–2012; in D5 in 2008 and 2014; in D7 in 2011, 2012, and 2014; in D10 in 2012; in D11 in 2011; in D13 in 2009; and D15 in 2008 (RCA 2016).
Bird/Wetland	*Nycticorax nycticorax*	black-crowned night-heron	None	None	Covered	Nests in dense-foliaged trees and dense fresh or brackish emergent wetlands associated with marshes, ponds, reservoirs, and estuaries.	Observed in D4 in 2006, 2008, 2009, 2011, 2012, 2014, and 2015; in D7 in 2007, 2011, 2014, and 2015; in D11 in 2009 and 2011; and in D13 in 2014 (RCA 2016). There is suitable nesting and foraging habitat in the unit for this species in the riparian and pond habitats (CDFW 2012).
Bird/Upland	*Oreothlypis ruficapilla*	Nashville warbler	None	None	Covered	Breeds in variety of montane habitats, including chaparral, riparian, deciduous woodland, and coniferous woodland; occurs in a variety of habitats for migrant movements, including brush and scrub habitats, desert scrub, and wooded habitats.	Observed in D7 in 2007 and 2014 (RCA 2016).
Bird/Wetland	*Pandion haliaetus*	osprey (nesting)	None	WL	Covered	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast.	Observed in D1 in 2010, 2012, and 2015; in D4 in 2006, 2008, 2009, 2011, 2012, and 2014; in D7 in 2008 and 2009; in D8 in 2007; in D9 in 2011–2013; in D10 in 2011, 2012, and 2014; in D12 in 2008; in D13 in 2009; in D14 in 2012; and D15 in 2007, 2008, and 2012 (RCA 2016). The habitat (ponds and lakes) available on the site for this species to forage are suitable for this species (CDFW 2016a). An osprey nest was observed on a power pole in D14 in 2012 (RCA 2016).
Bird/Wetland	*Phalacrocorax auritus*	double-crested cormorant (nesting colony)	None	WL	Covered	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	Observed in D2 in 2007; D3 in 2011, 2012, and 2014; D4 in 2006 and 2012; D7 in 2011; and D14 in 2007 and 2011 (RCA 2016). This species may forage on the site (CDFW 2016a).
Bird/Riparian	*Picoides pubescens*	downy woodpecker	None	None	Covered	Nests in deciduous (often willow) woodlands, oak woodlands, orchards, suburban plantings, and occasionally conifers.	Observed in D1 in 2011 and 2012; in D3 in 2008 and 2012; in D4 in 2006 and 2008–2013; and in D7 in 2007 and 2011 (RCA 2016). There is minimal and marginally suitable foraging habitat in the unit for this species in the riparian areas (CDFW 2016a).
Bird/Wetland	*Plegadis chihi*	white-faced ibis (nesting colony)	None	WL	Covered	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries.	Observed in D1 in 2011; in D2 in 2007; in D3 in 2011 and 2012; in D4 in 2005–2015; in D5 in 2011; in D7 in 2006, 2007, 2009–2012, 2014, and 2015; in D9 in 2010–2012; in D10 in 2011, 2012, 2014, and 2015; in D11 in 2008 and 2011; in D13 in 2007, 2011, 2014, and 2015; and in D15 in 2011 (RCA 2016). These observations include flocks and groups of adults and juveniles. Also observed in D4 in 1993 (CNDDB occurrence data).
Bird/Riparian	*Tachycineta bicolor*	tree swallow	None	None	Covered	Nests in cavity-containing trees or snags near or in water; riparian forest and woodland, lodgepole pine belt; forages over water.	Observed in D1 in 2011 and 2012; in D3 in 2011, 2012, 2014, and 2015; in D4 in 2007–2009 and 2011–2015; in D7 in 2007 and 2011–2015; in D9 in 2011 and 2012; in D10 in 2011, 2014, and 2015; in D11 and D13 in 2011; and D15 in 2012 (RCA 2016). There is suitable nesting and foraging habitat for this species in the riparian and waterfowl ponds in the unit (CDFW 2016a).
Mammal/Upland	*Canis latrans*	coyote	None	None	Covered	Many areas except very highly urbanized areas.	Observed in D1 in 2008, 2010, and 2014; in D3 in 2010, 2011, and 2014; in D4 in 2009 and 2015; in D5 in 2011 and 2015; in D6 in 2006; in D7 in 2006, 2008, 2009, and 2014; in D11 in 2007 and 2015; in D12 in 2013; in D13 in 2006 and 2007; in D14 in 2007; and D15 in 2015 (RCA 2016). This species may use many of the habitats found throughout the unit (RCA 2006), and were detected the most during the 2008 carnivore survey (MSHCP EMP 2009f).
Mammal/Upland	*Dipodomys simulans*	Dulzura kangaroo rat	None	None	Covered	Coastal scrub, chaparral, grassland at elevations <4,500 feet above mean sea level.	Observed in D1 in 2010; D14 in 2006 and 2007; and D15 in 2006, 2007, and 2010 (RCA 2016). There is suitable habitat on the SJWA in the sage scrub and grassland habitats (CDFW 2016a).

Table 5.3-46
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Davis Unit

Taxon Guild	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
Mammal Upland	*Mustela frenata*	long-tailed weasel	None	None	Covered	Virtually all types of habitat, including agricultural and disturbed areas, wherever there is sufficient prey.	Observed in D2 in 2012, D3 and D4 in 2011, D7 in 2013 and 2015, and D15 in 2011 (RCA 2016). In general, this species is rare but present (MSHCP EIR/EIS 2006). May use many of the habitats present on the site.
Mammal Upland	*Puma concolor*	mountain lion	None	None	Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts.	Observed in D4 in 2009 (RCA 2016). This species may use many of the available habitats on the SJWA.
Mammal Upland	*Lynx rufus*	bobcat	None	None	Covered	Large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources.	Observed in D1 in 2008, D4 in 2006 and 2010, and D14 in 2011 (RCA 2016). Bobcats are common, but not always detected during transect surveys (RCA 2009). This species may use most of the habitats in the unit (CDFW 2016a).
Mammal Upland	*Sylvilagus bachmani*	brush rabbit	None	None	Covered	Dense, brush cover; mostly in chaparral, but also successional stages of oak and conifer habitats.	Observed on site on species lists but no locations mapped. There is suitable habitat for this species in the sage scrub areas on the site (CDFW 2016a).

Status Legend:
WL: CDFW Watch List species
None: No federal or state designation.
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan Covered Species. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.
* Considered adequately conserved when certain conservation requirements are met.

Table 5.3-47
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Potrero Unit

Taxon	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
MSHCP Covered Wildlife Species Observed within the Potrero Unit							
Reptile Upland	*Aspidoscelis [Cnemidophorus] hyperythrus*	orange-throated whiptail	None	None	Covered	Low-elevation coastal scrub, chaparral, and valley foothill hardwood.	Observed in P1 in 2008, P7 in 2010, P9 in 2012, and P11 in 2010 (RCA 2016). Also observed in P7 in 1994 (CNDDB occurrence data). There is marginally suitable habitat for this species in the unit.
Reptile Upland	*Sceloporus orcutti*	granite spiny lizard	None	None	Covered	Granitic rock outcrops within forest, woodland, chaparral, and coastal scrub habitats.	Observed in P2, P3, and P10 in 2008, and P11 in 2005, 2006, 2008, and 2009 (RCA 2016). There is suitable boulder habitat in the unit for this species (CDFW 2016a).
Reptile Upland	*Xantusia henshawi*	granite night lizard	None	None	Covered	Rock outcrops in desert, chaparral, and woodland habitats.	Observed in P11 in 2005 and 2008 (RCA 2016).
Bird Riparian	*Accipiter cooperii*	Cooper's hawk (nesting)	None	WL	Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water.	Observed in P1 in 2008; P2 in 2007 and 2010; P3 in 2010; P9 in 2006; and P10 in 2006, 2007, and 2011–2013 (RCA 2016). There is suitable nesting and foraging habitat in the riparian areas in the unit (CDFW 2016a).
Bird Riparian	*Accipiter striatus*	sharp-shinned hawk (nesting)	None	WL	Covered	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats.	Observed in P1 in 2009, P2 in 2007, P4 in 2010, P5 in 2006, P9 in 2008, and P10 in 2006 and 2012 (RCA 2016). This species may occasionally winter in the unit, but are not normally present during the breeding season (CDFW 2016a; MSHCP EIR/EIS 2006a).
Bird Upland	*Aimophila ruficeps canescens*	southern California rufous-crowned sparrow	None	None	Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches.	Observed in P1 in 2007; P2 in 2006 and 2014; P3 in 2007, 2010, and 2015; P4 in 2007 and 2014; P5 in 2007; P6 in 2014; P8 in 2006; P9 in 2006 and 2007; P10 in 2007 and 2011; and P11 in 2007 (RCA 2016). There is suitable nesting and foraging habitat in the unit in the chaparral and grassland areas. Moderate population densities were found at the Badlands (including Potrero) area based on 2006 and 2007 surveys (MSHCP EIR/EIS 2006c).

Table 5.3-47
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Potrero Unit

Taxon	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
Bird/Riparian	*Cardellina pusilla*	Wilson's warbler	None	None	Covered	Nests in montane meadows and low, dense willow thickets; in migration occurs in chaparral, woodlands, and forests with shrubs.	Observed in P2, P5, P9, and P10 in 2006 and 2007; P4 in 2007; P8 in 2006; and in P10 and P11 in 2006 (RCA 2016). There is potential for this species to occur as an occasional migrant through the sage scrub and riparian areas in the unit. It is not likely that this species will nest or occur during the breeding season in the unit (MSHCP BMP 2008a).
Bird/Upland	*Cathartes aura*	turkey vulture	None	None	Covered (nesting)	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting throughout most of California during breeding season.	Observed in P1 in 2007 and 2008, and in P2, P3, P7, and P9 in 2008 (RCA 2016). Also observed in P10. This species may forage over the grassland and agricultural areas in the unit (CDFW 2016a).
Bird/Upland	*Eremophila alpestris actia*	California horned lark	None	WL	Covered	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada.	Observed at one location in P5 in 2010 (RCA 2016). There is suitable habitat in the grassland and open areas in the unit (CDFW 2016a).
Bird/Wetland	*Falco columbarius*	merlin (nonbreeding/ wintering)	None	WL	Covered	Forages in semi-open areas, including coastline, grassland, agriculture, savanna, woodland, lakes, and wetlands.	Observed in P1 in 2008, P2 in 2006, P4 in 2007, and P10 in 2007 and 2008 (RCA 2016). This species may forage on the site during migration but is not expected to nest in the unit (CDFW 2016a).
Bird/Riparian	*Geothlypis tolmiei*	MacGillivray's warbler	None	None	Covered	Valley–foothill riparian, Douglas-fir, redwood, montane riparian, and desert riparian habitats; observed in weedy brush, streamside thickets, and desert wash scrub.	Observed in P10 in 2009 (RCA 2016). This species may forage in the riparian areas, but is unlikely to nest or occur during the breeding season in the unit (MSHCP BMP 2008a).
Bird/Wetland	*Melospiza lincolnii*	Lincoln's sparrow	None	None	Covered*	Breeds in bogs, wet meadows, and riparian thickets; winters in brushy areas, thickets, hedgerows, understory of open woodlands, forest edges, clearings, and scrubby areas.	Observed in P10 in 2009 and 2010 (RCA 2016).
Bird/Upland	*Oreortyx pictus*	mountain quail	None	None	Covered	Dense montane chaparral and brushy areas within coniferous forest, pinyon–juniper–yucca associations; uses shrubs, brush stands, and trees on steep slopes for cover.	Observed in P2 in 2006, P9 in 2007, and P10 in 2006 and 2015 (RCA 2016). This species typically occurs at higher elevations and montane areas (RCA 2006).
Bird/Riparian	*Oreothlypis ruficapilla*	Nashville warbler	None	None	Covered	Breeds in variety of montane habitats, including chaparral, riparian, deciduous woodland, and coniferous woodland; occurs in a variety of habitats for migrant movements, including brush and scrub habitats, desert scrub, and wooded habitats.	Observed in P2 and P8 (RCA 2016). The unit is not within the known range of this species, but this species may be an uncommon migrant throughout the unit (CDFW 2016a).
Bird/Wetland	*Phalacrocorax auritus*	double-crested cormorant (nesting colony)	None	WL	Covered	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	Observed at one location in P8 in 2007 (RCA 2016). There is very little suitable habitat for this species on this unit (CDFW 2016a).
Bird/Riparian	*Picoides pubescens*	downy woodpecker	None	None	Covered	Nests in deciduous (often willow) woodlands, oak woodlands, orchards, suburban plantings, and occasionally conifers.	Observed in P5 in 2006 and P10 in 2006 and 2007 (RCA 2016). There is suitable willow woodland habitat for this species. Also observed in P2 (CDFG 2016).
Bird/Riparian	*Tachycineta bicolor*	tree swallow	None	None	Covered	Nests in cavity-containing trees or snags near or in water; riparian forest and woodland, lodgepole pine belt; forages over water.	Observed at two locations in P5 and P9 in 2006 (RCA 2016). There is marginally suitable nesting and foraging habitat for this species in the riparian areas in the unit (CDFW 2016a).
Mammal/Upland	*Canis latrans*	coyote	None	None	Covered	Many areas except very highly urbanized areas.	Observed in P2 in 2014; P3, P7, and P9 in 2007; P5 in 2007, 2014, and 2015; P10 in 2008 and 2013; and P11 in 2006 (RCA 2016). This species may use many of the habitats found in the unit (CDFW 2016a).
Mammal/Upland	*Dipodomys simulans*	Dulzura kangaroo rat	None	None	Covered	Coastal scrub, chaparral, grassland at elevations <4,500 feet above mean sea level.	Observed in P2 in 2006–2008, 2010, 2013, and 2014; P4 in 2006–2008, 2010, and 2014; P5 in 2007, 2008, 2010, 2014, and 2015; P6 in 2008, 2010, and 2014; P9 in 2010; P10 in 2007, 2008, 2010, 2013, and 2014; and P11 in 2007, 2008, and 2010 (RCA 2016). There is suitable habitat in the sage scrub and grassland habitats in the unit (CDFW 2016a).

Table 5.3-47
MSHCP Covered Wildlife Species Observed or with a Moderate Potential to Occur in the Potrero Unit

Taxon	Scientific Name	Common Name	Federal Status	State Status	MSHCP	Habitat	Potential to Occur
Mammal/Upland	*Lynx rufus*	bobcat	None	None	Covered	Large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources.	Observed in P2 in 2007, 2010, and 2014; P5 in 2007–2009; P6 in 2009, 2012, and 2014; P8 in 2007; P10 in 2005, 2007, 2008, 2014, and 2015; and P11 in 2007 and 2014. This species may use most of the habitats in the unit (CDFW 2016a).
Mammal/Upland	*Mustela frenata*	long-tailed weasel	None	None	Covered	Virtually all types of habitat, including agricultural and disturbed areas, wherever there is sufficient prey.	Observed in P10 in 2012 (RCA 2016). May use many of the habitats present in the unit (CDFW 2016a).
Mammal/Upland	*Sylvilagus bachmani*	brush rabbit	None	None	Covered	Dense, brush cover, mostly in chaparral, but also successional stages of oak and conifer habitats.	Observed in P2 in 2007 and P5 in 2015 (RCA 2016). Suitable habitat for this species in the sage scrub areas in the unit.
MSHCP Covered Wildlife Species Not Observed but with a Moderate to High Potential to Occur within the Potrero Unit							
Bird/Wetland	*Ardea herodias*	great blue heron (rookery site)	None	None	Covered	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands.	High potential to occur. There is suitable habitat in the meadows/marshes and riparian habitats in the unit.
Bird/Wetland	*Botaurus lentiginosus*	American bittern	None	None	Covered	Nests in marshes with fairly tall freshwater vegetation (3 to 4 feet) and shallow water (less than 1 foot) near rivers, ponds, and lakes.	High potential to occur. There is suitable habitat in the meadows/marshes and riparian habitats in the unit.
Bird/Wetland	*Nycticorax nycticorax*	black-crowned night-heron	None	None	Covered	Nests in dense-foliaged trees and dense fresh or brackish emergent wetlands associated with marshes, ponds, reservoirs, and estuaries.	High potential to occur. There is suitable nesting and foraging habitat in the unit for this species in the riparian and pond habitats.
Mammal/Upland	*Puma concolor*	mountain lion	None	None	Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts.	High potential to occur. This species may use many of the available habitats in the unit. This species has been observed within 0.5 miles of the Potrero Unit.

Status Legend:
None: No federal or state designation.
WL: CDFW Watch List species
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan Covered Species. The term Covered Species refers to the 146 species within the MSHCP Plan Area that will be conserved by the MSHCP when the MSHCP is implemented. Use of this term does not indicate that CDFW is a permittee under the plan.
Covered*: Considered adequately conserved when certain conservation requirements are met.

5.3-12 Stephens' Kangaroo Rat Habitat Conservation Plan

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5.3.6.7.5 Management Unit 2

There are five Management Units in the MSHCP. The SJWA is located in MSHCP Management Unit No. 2 (Badlands/San Jacinto River Management Unit). Per the MSHCP, the Badlands Management Unit generally occupies the northeast section of the MSHCP Plan Area and is bisected by two large, connected habitat blocks: the Badlands and the San Jacinto River. Also included in the unit are the Box Springs Mountain Reserve, Sycamore Canyon Park, Reche Canyon, San Timoteo Canyon, Norton Younglove Reserve, Potrero Valley, San Jacinto Wildlife Area, Bautista Creek, the vernal pools of Hemet, Lakeview Mountains, the Four Seasons Conservation Land, and Kabian Park. Connections from the Badlands area to the north and east, along San Timoteo Creek, and from Norton Younglove Reserve through Cherry Valley are also made within this Management Unit. Anticipated conservation within this unit includes approximately 46,500 acres of existing Public/Quasi-Public Lands and 44,000 acres of Additional Reserve Lands.

The management and adaptive management programs developed for the MSHCP use a flexible approach to management to ensure that the Covered Species and vegetation communities within the MSHCP conservation areas are maintained or enhanced during the term of the permit. To achieve the overriding management goal of the MSHCP to establish and maintain self-sustaining MSHCP conservation areas, there is an integrated multidisciplinary effort that incorporates adaptive management principles (see Section 5.2 of the MSHCP) and monitoring (see Section 5.3 of the MSHCP). Adaptive management programs rely on monitoring efforts to detect changes in species, habitats, or threats. When change is detected, reserve managers evaluate the information and can respond by initiating, modifying, or even ending a particular management strategy. The MSHCP Biological Monitoring Program is described in Section 5.3 of the MSHCP.

CDFW would manage the SJWA consistent with the requirements of the MSHCP for Unit No. 2, and will collaborate with the RCA.

5.3.6.7.6 1996 Habitat Conservation Plan for the Stephens' Kangaroo Rat

The Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County (SKR HCP) was prepared by the Riverside County Habitat Conservation Agency (RCHCA) for the USFWS and in agreement with CDFW, and was approved in 1996. The SKR HCP covers approximately 533,954 acres within RCHCA jurisdiction and was developed in accordance with the state and federal endangered species acts to ensure the species' persistence in the plan area. The SKR HCP describes the proposed conservation, mitigation, and monitoring measures to be implemented for the preservation of the federally endangered Stephens' kangaroo rat (SKR). The SKR HCP proposes to establish a regional system of seven core reserves for the specific

conservation of SKR and the ecosystem upon which it depends. The SKR HCP lists general conservation principals for core reserve management and they include:

- Reserves that are well distributed across a species' native range will be more successful in preventing extinction than reserves confined to small portions of a species' range
- Large blocks of habitat, containing large populations of the target species, are superior to small blocks of habitat containing small populations
- Blocks of habitat located in close proximity to each other are superior to blocks far apart
- Habitat occurring in contiguous blocks is preferable to habitat which is fragmented
- Habitat patches that minimize edge-to-area ratios are superior to those that do not
- Interconnected blocks of habitat are superior to isolated blocks, and corridors or linkages function better when the habitat within them includes protected, preferred habitat for the target species
- Blocks of habitat without roads or other means of human access are superior to those traversed by roads or otherwise accessible (RCHCA 1996).

Primary goals of core reserve management stated in the SKR HCP are to:

- Maintain viable populations of SKR within the reserve system and each of the core reserves sufficient to ensure the long-term persistence of the species in the HCP area
- Maintain existing habitat values for SKR
- Enhance habitat values for SKR where not in conflict with other important biological resources
- Promote the maintenance and enhancement of the ecosystem upon which the SKR depends
- Maintain and enhance values for other species where not in conflict with other management goals
- Establish a core wildlife reserve system that is managed to enhance the conservation of biological diversity in western Riverside County
- Develop and continually refine management practices which identify and adapt to changing conditions both within the reserves and on lands adjacent to them
- Assist in determining future priorities to add lands that have definable conservation and/or management value to the reserve system
- Minimize the need for active management by allowing natural process to occur where not in conflict with other management goals

- Manage the reserve system adaptively by integrating existing knowledge with the results of ongoing experimental management and by refining management techniques in response to changing conditions
- Consistent with the primary goal of ensuring SKR persistence, establish programs which permit human access for activities deemed compatible with SKR habitat conservation by USFWS and CDFW (RCHCA 1996).

Applicable Core Reserves

Davis Unit

The San Jacinto–Lake Perris Core Reserve encompasses approximately 10,932 acres located south of central Moreno Valley and north of the Ramona Expressway (see Figure 5.3-12, Stephens' Kangaroo Rat Habitat Conservation Plan). A portion of this Core Reserve for SKR is located in the SJWA and labeled the Davis Unit.

Key issues to be addressed in the San Jacinto–Lake Perris Core Reserve regarding the conservation and management of SKR within these reserves, in addition to those mentioned for all core areas, include:

- Management of SKR within a multi-species context (e.g., sage scrub and wetlands habitats)
- Development of procedures to ensure the ability of public agencies to conduct recreational, operational, maintenance, and water quality activities
- Planning to anticipate and minimize potential habitat impacts resulting from future development in areas surrounding the reserve (RCHCA 1996).

The anticipated long-term conservation value of this core reserve is high. Some of the largest contiguous blocks of SKR occupied habitat exist here, and these are well protected by natural features. With the establishment of an active habitat management program and a corridor connection to SKR populations in the Badlands, prospects for long-term SKR persistence in this core reserve are quite good.

The SKR HCP acknowledged that the Davis Unit is managed for multiple species including SKR, wetland habitat, and some game species, and identified key management issues including the management of multiple species (and not SKR singularly) and development of procedures to ensure that the area could be used for purposes other than conservation. The HCP also acknowledged that the lands would be managed in a manner consistent with the goals of the SKR HCP and future habitat management plans, such as the LMP, would be developed to address reserve-specific management issues, such the management of many species and balancing different management priorities.

Potrero Unit

During the preparation of the SKR HCP, the Potrero Study Area (i.e., the Potrero Unit) was eliminated from the areas identified as Core Reserves. The exclusion of private lands in the Potrero Study Area as a reserve candidate is accompanied by a RCHCA commitment to work cooperatively with BLM and the Lockheed Corporation to effectuate a land trade for the purpose of expanding a proposed Area of Critical Environmental Concern in the area. This desire resulted from the high biological value of SKR habitat on the Lockheed property. Given the amount and density of SKR populations on site, absence of surrounding development, and proximity to large blocks of conserved public land, from a biological perspective Potrero should be considered among the very best potential candidates for a permanent SKR reserve (RCHCA 1996).

On December 31, 2003 CDFW purchased 8,552 acres of the 9,117-acre Potrero Canyon Unit from Lockheed Martin Corporation. Lockheed Martin Corporation retained the balance of the property (565 acres). Lockheed Martin Corporation deeded the remaining 565 acres to a conservation easement and provided CDFW with the option to purchase the 565 acres during the option term. The 565 acres is still in Lockheed Martin Corporation ownership. The Potrero Unit was placed in to conservation under the SKR HCP as a Core Reserve and March Air Force Base was removed from conservation under the SKR HCP as a Core Reserve.

5.3.6.7.~~6~~7 Summary

MSHCP

Without implementation of mitigation measures listed under Issue BIO-1, t~~T~~he draft LMP c~~w~~ould ~~not~~ conflict with the provisions of the MSHCP and impacts would be ~~**less than**~~**potentially significant (Class II~~I~~)**. Many of the Planning Species for the Reserve Features and Subunits within each Area Plan of the SJWA are special-status and addressed in Section 5.3.6.2 of this document. As described in Section 5.3.6.2, implementation of the draft LMP would result in significant impacts to special-status species, and these impacts would be avoided, minimized, or mitigated to less than significant through implementation of mitigation measures listed under Issue BIO-1: MM-BIO-1a through MM-BIO-1q.

Potential adverse effects to Planning Species that are covered, but that are not special-status, would be further reduced through implementation of mitigation measures. Additionally, implementation of MM-BIO-1d requires that CDFW avoids and minimizes direct impacts to Covered Species that are not considered special-status on a case-by-case basis. Finally, CDFW would manage the SJWA consistent with the requirements of the MSHCP for Unit No. 2, and would collaborate with the RCA. Therefore, with implementation mitigation measures, ~~of~~ the draft LMP would not conflict with the provisions the MSHCP and the impact is less than significant.

Figure 5.3-12 Stephens' Kangaroo Rat Habitat Conservation Plan

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SKR HCP

The draft LMP would not conflict with the provisions of the SKR HCP and impacts would be **less than significant (Class III)**. The Potrero Study Area (i.e., the Potrero Unit) was not originally included as a Core Reserve in the SKR HCP when this HCP was initiated; however, the purchase of this large area resulted in expanding the reserve system to include a high-value conservation area for SKR. Consistent with the goals of the SKR HCP, on December 31, 2003 CDFW purchased 8,552 acres of the 9,117-acre Potrero Unit from Lockheed Martin Corporation. Lockheed Martin Corporation retained the balance of the property (565 acres), but deeded the remaining area to a conservation easement and provided CDFW with the option to purchase the land during the option term. Therefore, with respect to the Potrero Unit, conservation and management of the Potrero Unit for multiple species, including SKR, consistent with the draft LMP, would not conflict with the provisions of the SKR HCP and actually facilitated the expansion of the Core Reserves outlined in the SKR HCP. Additionally, the majority of the Potrero Unit would be managed for SKR only and/or for uplands habitat management, which includes management for upland species, including SKR.

The general conservation principals and primary goals for reserve management stated in the SKR HCP are consistent with those outlined in the draft LMP. Additionally, the SKR HCP acknowledged that the Davis Unit is managed for multiple species including SKR, wetland habitat, and some game species, and identified key management issues including the management of multiple species and development of procedures to ensure that the area could be used for purposes other than conservation. The SKR HCP also acknowledged that while the lands would be managed in a manner consistent with the goals of the SKR HCP, future habitat management plans, such as the draft LMP, would be developed to address reserve-specific management issues, such the management of many species and balancing different management priorities. The draft LMP was fully anticipated in the SKR HCP and addresses the key management issues specific to the reserve (i.e., the majority of the Davis Unit).

As described in Section 5.3.6.2, implementation of the draft LMP would result in significant impacts to special-status species, including SKR, and these impacts would be avoided, minimized, or mitigated to less than significant through implementation of mitigation measures listed under Issue BIO-1: MM-BIO-1a through MM-BIO-1q. More specifically, the SKR HCP requires SKR biological surveys, with some exceptions, be conducted prior to issuing permits involving land disturbance in core reserves. MM-BIO-1d (Pre-Activity Surveys and Avoidance and Minimization Measures) sets forth procedures for activities that would result in land disturbance, as well as other types of impacts, and specifically addresses SKR. MM-BIO-1d requires a habitat assessment for SKR and additional surveys, if necessary. If active burrows or sign are detected, then additional avoidance and minimization measures would be required to avoid impacts to SKR. Therefore, implementation of MM-BIO-1d would ensure that implementation of the draft LMP would be

consistent with the SKR HCP's requirement to conducted SKR biological surveys prior to land-disturbing activities. Additionally, if proposed land disturbance activities in the SKR HCP Core Reserves, other than emergency response, fire prevention, and public facility maintenance and operations activities, would result in incidental take of SKR, concurrence from USFWS is required and satisfaction of 1:1 habitat replacement is required. MM-BIO-1d reiterates this habitat replacement requirement. The intent of MM-BIO-1d is to avoid impacts to SKR. However, if incidental take of SKR cannot be avoided, MM-BIO-1d requires 1:1 SKR habitat replacement within the SJWA.

In general, dryland farming occurring in the SKR HCP area has been shown not to be incompatible with SKR. SKR is known to coexist with ongoing agricultural operations in several portions of the SRKHCP area. Given that situation and the importance of agriculture to the economy of western Riverside County, the SKR HCP intends to facilitate the continuation of farming in the plan area. Agricultural operations located in the SKR HCP area are not required to perform SKR biological surveys. Additionally, take of SKR occurring incidental to agricultural operations is permitted under this HCP. Therefore, proposed agricultural management activities area consistent with the requirement of the SKR HCP.

In summary, the draft LMP would not conflict with the provisions of the SKR HCP and impacts would be **less than significant (Class III)** because: (1) the Potrero Unit was not originally included as a Core Reserve in the SKR HCP was initiated; however, the purchase of this large area resulted in expanding the reserve system to include a high-value conservation area for SKR; (2) SKR HCP assumed the Davis Unit would be managed for multiple species and various uses and that a habitat management plan like the draft LMP would be developed to address reserve-specific management issues; (3) mitigation measures that require surveys for SKR and habitat compensation for specific management actions will be implemented, consistent with the requirements outlined in the SKR HCP; and (4) take of SKR occurring incidental to agricultural operations is permitted under this HCP and, thus, proposed agricultural management activities under the draft LMP area consistent with the requirement of the SKR HCP.

5.3.6.8 Mitigation Measures

These mitigation measures avoid, minimize, or reduce potentially significant biological impacts to less-than-significant levels consistent with the California Environmental Quality Act (CEQA). The California Department of Fish and Wildlife (CDFW) is responsible for implementation of each of the mitigation measures. The CDFW ~~regulatory group~~ will review implementation of Land Management Plan (LMP) activities on the San Jacinto Wildlife Area (SJWA) prior to their initiation, throughout the activity implementation process, and during post-construction monitoring, as appropriate. A biological monitor can be a staff person that is qualified to perform needed tasks. If

CDFW staff does not have the expertise and qualifications to perform the task, they will hire outside consultants or other qualified individuals to perform the work on their behalf.

The mitigation measures identified for air quality, water quality, and hazards would also avoid, minimize, and mitigate impacts to biological resources. Particularly, mitigation measures to address fugitive dust and other air quality impacts during construction and operation, or mitigation measures to address surface water quality and hydromodification impacts would avoid, minimize, and mitigate potential impacts to sensitive biological resources that could be affected by degradation of air and water quality. Additionally, the mitigation measures to avoid and minimize the risk of wildfire are addressed in Section 5.6, Hazards and Hazardous Materials, of this PEIR, and would mitigate potential impacts to biological resources from prescribed burning, ignitions by the public, and other ignition sources.

The following is a full list of mitigation measures in alphanumeric order:

MM-BIO-1a (general construction-related avoidance and minimization measures)

MM-BIO-1b (restoration of temporary impacts)

MM-BIO-1c (environmental awareness training)

MM-BIO-1d (pre-construction surveys and avoidance and minimization measures)

MM-BIO-1e (siting and design criteria)

MM-BIO-1f (restrictions on landscaping or restoration palettes and plants)

MM-BIO-1g (restrictions on the use of motor vehicle and aircraft use)

MM-BIO-1h (preparation and implementation of a GMP)

MM-BIO-1i (practices for the control of invasive and non-native species)

MM-BIO-1j (preparation and implementation of an alkali habitat management plan)

MM-BIO-1k (management and monitoring of trail use)

MM-BIO-1l (management and monitoring of hunting)

MM-BIO-1m (minimize effect of repeated surveys)

MM-BIO-1n (compliance with existing regulations)

MM-BIO-1o (reduce raptor electrocution)

MM-BIO-1p (restrictions on lighting)

MM-BIO-1q (trash abatement)

The mitigation measures are organized into the following sections by topic:

Section 5.3.6.1: compliance with existing regulations

Section 5.3.6.2: general construction-related avoidance and minimization measures

Section 5.3.6.3: pre-activity surveys and avoidance and minimization measures

Section 5.3.6.4: measures related to siting and design

Section 5.3.6.5: operations-related measures

5.3.6.8.1 General Requirements

MM-BIO-1n Compliance with Existing Regulations

CDFW will coordinate with other resource agencies with permit approval authority over aspects of management activities undertaken within the SJWA to identify the relevant permit practices and to ensure compliance with applicable state and federal regulations. Additionally, management activities undertaken in accordance with the Land Management Plan shall meet the applicable permitting and regulatory practices of local, state, and federal agencies, including the following:

- CDFW
- U.S. Fish and Wildlife Service (USFWS)
- Regional Water Quality Control Board
- U.S. Army Corps of Engineers

The best management practices and measures described herein will be revised or updated if USFWS or CDFW issue new or revised species survey or protection guidelines. Additionally, the hunting season for all species would be restricted to designated areas.

5.3.6.8.2 Construction or Other Ground-Disturbance-Related Measures

MM-BIO-1a General Construction-Related Avoidance and Minimization Measures

Construction Work Hours

Construction activities will not occur during evening or nighttime hours, with the exception of an emergency situation, when crepuscular and nocturnal special-status species are active and vulnerable to injury or mortality from vehicles or equipment. If evening or nighttime construction is required due to an emergency (defined by an

imminent threat to life or significant property), CDFW will ensure that all activities requiring vehicle or equipment use during evening and nighttime hours are conducted to minimize impacts to special-status species.

Flagging/Fencing/Demarcation

Prior to initiating any new ground-disturbing activities and expansion of existing activities into areas previously undisturbed within the SJWA, CDFW will clearly delineate the boundaries of the work area and any off-road access routes with fencing, stakes, flags, or other visible boundaries. CDFW will restrict activities that may disturb special-status species and their habitats to the fenced, staked, or flagged areas. CDFW will maintain all fencing, stakes, and flags until the management activity is complete and then carefully remove and either reuse or dispose of the materials used.

Vehicle and Equipment Restrictions and Maintenance

- CDFW will confine all parking, storage areas, staging, laydown sites, equipment storage, and any other surface-disturbing activity to designated, existing disturbed areas or areas that do not represent sensitive habitat, as determined by a qualified CDFW staff member.
- Workers will inspect for wildlife under vehicles and equipment before vehicles and equipment are moved. If wildlife is present, the worker will allow the wildlife to move unimpeded to a safe location without assistance or capture. If the wildlife does not move without assistance (i.e., passively), qualified staff will move the wildlife to a safe location.

Other Restrictions on Construction Activities and Personnel

- No pets belonging to construction personnel will be allowed on the SJWA during construction activities.
- CDFW will prohibit the use of all erosion-control materials that are potentially harmful to wildlife, such as monofilament netting (erosion-control matting) or similar material.
- The ends of pipes, culverts, and similar structures with a diameter of 3 inches or more that are staged for construction or other management activity will be capped prior to being left on SJWA overnight. If that is infeasible for some reason, all such pipes, culverts, or similar structures left uncapped overnight, will be thoroughly inspected for entrapped animals before being moved,

capped, or buried. Any animals found inside will be allowed to passively escape before the pipe or culvert is moved, capped, or buried. If the wildlife does not, or cannot, escape without assistance within 30 minutes of detection, a qualified biologist will move the wildlife to a safe location. During construction or other relevant management activity, all partially installed pipe ends, culverts, and similar structures will remain covered unless closely attended by a monitor designated by CDFW. In addition, pipe, culverts, and similar material to be stored on site will have their ends covered prior to being stored or left on site. The ends of pipes stored on site will have ends capped before or immediately after off-loading. In all cases, pipes will be inspected for presence of wildlife before moving or use. If a species has taken occupancy in a section of pipe, a qualified staff person will remove it prior to the pipe being used.

BMP-BIO-1b Restoration of Temporary Impacts

Upon completion of construction or restoration activities, CDFW will ensure unused roads and work sites will be restored with non-invasive native species, and signs or barriers will be installed to prevent continued travel on construction roads. Restoration can include control of invasive, non-native species rather than replanting or seeding the area. CDFW will ensure that the species used in the restoration are appropriate to the region and the vegetation community being restored.

MM-BIO-1c Environmental Awareness Training

Prior to conducting work on site for new activities and expanding existing activities into areas previously undisturbed, and at least annually thereafter, CDFW will ensure all personnel involved in operation or performance of routine maintenance and management tasks and volunteers will attend a species awareness training program specific to the potentially affected species, habitat or resource in the area where such work will take place. The awareness training program will consist of a presentation by persons who are knowledgeable about local species biology and applicable regulatory protections. The information communicated during the training program will be posted in an easily accessible area for all workers and work-site visitors to review as needed. The training program will be provided to contractors and persons conducting work to address concerns pertaining to special-status species and other species of management concern (e.g., nesting birds). The program will include the special-status species that may be present in the area of disturbance. Information presented will include species' habitat needs, generalized location information, an explanation of the species' legal status and their protection under federal or state law, and a list of measures being taken to reduce impacts to

the species during site activities. A fact sheet conveying a summary of this information will be prepared for distribution to the aforementioned people and anyone else who may enter the construction site.

If potential adverse biological issues have been identified, a biological monitor will be designated by CDFW to minimize impacts as part of CEQA compliance. The biological monitor will be responsible for field crews to ensure compliance with protection measures, performing surveys in front of crews as needed to locate and avoid sensitive species and habitat features, and monitoring for mitigation compliance. Biological monitors will be required to be present on site during initial ground-surface-disturbing actions and any other activities that have a potential for "take" of federal or state listed species.

5.3.6.8.3 Pre-Activity Surveys and Species-Specific Avoidance and Minimization Measures and Management Plans

MM-BIO-1d Pre-Activity Surveys and Avoidance and Minimization Measures

The following pre-activity surveys will be conducted to avoid and minimize impacts to special-status plant and wildlife species. Any person handling special-status species must have all appropriate permits issued by CDFW and the U.S. Fish and Wildlife Service (USFWS), also referred to herein as a "qualified biologist."

Special-Status Plants

The following procedures will be followed where ground-disturbance, construction, demolition, maintenance, vegetation management, or restoration has the potential to adversely impact special-status plant occurrences. Where applicable, CDFW will also consider implementation of these measures for species not considered special-status and for those that are covered by the Multiple Species Habitat Conservation Plan (MSHCP) and are therefore not subject to additional mitigation requirements.

1. CDFW will review existing surveys and any other species data available for the area of potential disturbance to determine if a focused survey inventory of special-status plants has been conducted in the disturbance area within the prior two years and, if so, whether special-status plants were detected. If an inventory has not been conducted in the area of potential disturbance within the prior two years, a qualified CDFW biologist will perform a field reconnaissance of the area of potential disturbance to determine whether there are any special-status plants or suitable habitat present in the potential disturbance area. At the discretion of

CDFW, and with concurrence from USFWS for federally listed species, existing information, in lieu of a site-specific survey (item 2), may be used to determine the presence of federally listed species and appropriate measures to be undertaken to protect such resources.

2. If there are special-status plants present in the disturbance area or if there is suitable habitat for special-status plants in an area where an adequate inventory has not been conducted, CDFW will avoid these areas when feasible. If avoidance is not feasible, CDFW will conduct a special-status plant survey in accordance with the most recent and applicable guidelines from CDFW, USFWS, and the California Native Plant Society. The survey will identify and map special-status plants.

If avoidance of impacts to special-status plants is not feasible, the following procedures will be followed:

1. If federally listed species are documented in the disturbance area and the plants cannot be avoided, CDFW will consult with USFWS regarding the appropriateness of avoidance, minimization, and mitigation for potential impacts to federally listed plant species, as described below.

2. In cases where disturbance to special-status plant species cannot be avoided, a mitigation plan will be developed that includes restoration activities, which could include reseeding or translocation. Prior to implementation, a mitigation and monitoring plan will be submitted to the CDFW ~~regulatory group~~ and USFWS (only for federally listed species) for review. Prior to ground disturbance to occupied habitat and an agreement by resource agencies of the mitigation plan, the plan will be implemented by CDFW. Habitat replacement/enhancement will be at a 1:1 ratio within the SJWA (occupied acres restored/enhanced to occupied acres impacted).

   The mitigation and monitoring plan for the special-status plant(s) will describe habitat improvement/restoration measures to be completed. Habitat improvement/ restoration will be based on native special-status plant occupied habitat. The plan will specify the following, if applicable, to the mitigation activity: (1) the location of mitigation sites; (2) a description of "target" vegetation that includes estimated cover and abundance of native shrubs and grasses in occupied habitat; (3) site preparation measures to include topsoil treatment, soil decompaction, erosion control, temporary irrigation systems, seed collection, or other measures as appropriate; (4) methods for the removal of non-native plants (e.g., mowing, weeding, raking, herbicide application, or burning); (5) the source of all plant propagules (seed, potted nursery stock, etc.),

the quantity and species of seed or potted stock of all plants to be introduced or planted into the restoration/enhancement areas; (6) a schedule and action plan to maintain and monitor the enhancement/restoration areas, to include at minimum, qualitative annual monitoring for revegetation success and site degradation due to erosion, trespass, or animal damage for a period no less than two years; (7) as needed where sites are near trails or other access points, measures such as fencing, signage, or security patrols to exclude unauthorized entry into the restoration/enhancement areas; and (8) adaptive management and contingency measures such as replanting, weed control, or erosion control to be implemented if habitat improvement/restoration efforts are not successful. In addition, the plan will specify methods to collect special-status plants and introduce them into this mitigation site.

3. CDFW personnel familiar with the subject special-status plant or a biological monitor designated by CDFW will be required to be present during ground-disturbing and construction activities. Special-status plants near planned activities will be temporarily fenced or prominently flagged to prevent inadvertent encroachment by vehicles and equipment during the activity. Ground surface disturbance will be scheduled after seed set and prior to germination. Collection of seed, with reseeding undertaken at the site following the activity, during seasonal timeframes and when weather conditions are favorable for germination and growth may also be required. If deemed appropriate, topsoil will be stockpiled and replaced, or topsoil translocated, as soon as practicable after project completion.

Special-Status Wildlife

In addition to the species-specific best management practices (BMPs) listed below, the following procedures will be followed where construction, demolition, maintenance, vegetation management, or restoration have the potential to adversely impact special-status wildlife. Where applicable, CDFW will also consider implementation of these measures for species not considered special-status and for those that are covered by the MSHCP and are therefore not subject to additional mitigation requirements.

1. CDFW will review existing survey and any other species data available for the area of potential disturbance to determine if a focused survey inventory of special-status wildlife has been conducted within the prior two years in the disturbance area and, if so, whether special-status wildlife are present. If an inventory has not been conducted in the area of potential disturbance within the prior two years, a qualified biologist will perform a field reconnaissance of the

area of potential disturbance to assess whether there is suitable habitat present in the potential disturbance area. At the discretion of CDFW, and with concurrence from USFWS for federally listed species, existing information, in lieu of a site-specific survey (item 2), may be used to determine the presence of federally listed species and the appropriate measures to be undertaken to protect such resources.

2. If special-status wildlife are present or potentially present, CDFW will avoid these areas when feasible. If avoidance is not feasible, CDFW will conduct surveys following appropriate protocols established by CDFW and relevant USFWS protocols or those established by the Regional Conservation Authority (RCA) for the MSHCP. Additionally, species-specific surveys will be conducted in accordance with current guidelines for each rare, threatened, and endangered animal species potentially occurring at the site.
3. If federally listed wildlife species are found to occupy or use the existing habitat within a proposed area of disturbance, CDFW will confer with USFWS regarding appropriate avoidance, minimization, and mitigation prior to undertaking such activity.
4. Mitigation measures may include avoidance of the habitat and implementation of project-specific measures designed to reduce potential impacts for individual wildlife species. These measures will be based on the biological requirements of each species found at, or potentially using, a disturbance area, and the proposed impact and its potential impacts to the subject special-status wildlife species.
5. As determined necessary by the CDFW ~~regulatory group~~, CDFW personnel or a designated biological monitor (e.g., authorized to capture and handle the subject species), familiar with the subject special-status wildlife, will be required to be present during construction activities.

General Clearance Surveys for Special-Status Reptiles

Impacts to special-status reptiles will be avoided and minimized during clearing, grading, and grubbing activities through one of the following:

a. A qualified biologist, if necessary, will perform daily pre-activity surveys prior to clearing, grading, and grubbing by walking through suitable habitat to clear the area of special-status and non-special-status reptiles and relocate them to suitable habitat safely outside of the disturbance area; OR

b. In lieu of a daily monitor prior to ground-disturbing activities, an exclusion plan will be developed that could include a silt fence or other blocking device around the work zone. After erection of the fence or other device(s), CDFW personnel or a designated biological monitor will perform an initial clearance survey followed by periodic checks to verify that the fencing/device(s) are intact and functioning. Once an area has been cleared completely, additional daily monitoring and fencing/device(s) will not be required.

   Pre-activity surveys or clearance surveys followed by exclusion methods (e.g., silt fence) will include species-specific surveys as appropriate to increase the chance of detection and capture of certain reptile species, such as placement of boards or other surface covers and pitfall or other traps to attract or capture various reptiles, and raking for silvery legless lizards (*Anniella pulchra*). The CDFW ~~regulatory group~~ will determine the most suitable methods for the clearance surveys.

Nesting Bird Surveys and Nest Buffers

Ground- and vegetation-disturbing activities as well as hunting will be scheduled to avoid the bird breeding season (generally late winter through summer) to the extent feasible, but vegetation management on the SJWA may be required March through June, depending on rainfall patterns. CDFW may also extend the upland small game hunting season on the Potrero Unit which could overlap with nesting bird activity. If ground- and vegetation-disturbing activities or hunting occur on the Potrero Unit during the nesting season, the measures listed below will be implemented, where applicable, to protect nesting special-status bird and other common species protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code.

Pre-Activity Survey

CDFW or a designated qualified biologist will conduct pre-activity nesting bird surveys no more than 72 hours prior to conducting activities that could affect a nesting birds, including vegetation management and ~~extending the~~ adding upland small game hunting areas ~~season~~ where applicable on the Potrero Unit, which may overlap with nesting birds. Nesting bird surveys will generally be conducted February 15 through September 1. With respect to hunting, see MM-BIO-1l (Management and Monitoring of Hunting) for additional information.

Avoidance Measures

If occupied nests are found during pre-activity surveys, an appropriate protective buffer will be established by CDFW in the field with flagging, fencing, or other appropriate barriers between the nest and work activities. For any state or federally listed bird species (e.g., coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*)) and raptors, if an active nest is confirmed, at least a 500-foot disturbance-free buffer between the nest and the nearest work activities will be established and demarcated by fencing or flagging. For other nesting birds, without species-specific requirements noted herein, at least a 300-foot disturbance-free buffer between the nest and the nearest work activities will be established and demarcated by fencing or flagging. No activities may occur in these areas unless otherwise authorized by USFWS and CDFW. The CDFW ~~regulatory group~~ may adjust the distance of the protective buffer from the nest at its discretion, and with concurrence from USFWS for a federally listed species, depending on the species, the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation), and the nature of the work activity. Once the nest is no longer occupied for the season, the activity may proceed in the protective buffer area. The presence of nesting birds may also guide the Fish and Game Commission in modifying the hunting seasonal timeframes as needed.

Burrowing Owl

To reduce significant impacts to burrowing owl (*Athene cunicularia*) from construction or management activities, a Burrowing Owl Management Plan will be developed to detail the avoidance, relocation, habitat management, monitoring, and reporting measures that will avoid impacts to and loss of burrowing owls and increase burrowing owl populations within the Davis and Potrero Units.

The purpose of the Burrowing Owl Management Plan is to provide measures to avoid impacts to burrowing owls when feasible, provide a mechanism to improve the probability of success of passively relocated owls, and to improve the process of establishing new territories or augmenting existing territories through active relocations and habitat management within areas designated for uplands management in the Davis or Potrero Unit.

The Burrowing Owl Management Plan will include the following information and criteria:

1. ***Avoidance and Minimization*.** If burrowing owls occupy a site where construction or management activities are planned, but direct or substantial indirect impacts to owl burrows can be avoided (e.g., burrows are not directly in the footprint of planned impact or management activity), then buffer zones will be implemented to avoid disturbance during the breeding and non-breeding seasons. A substantial indirect impact would be a situation where a burrow is not directly impacted during construction, but construction activities could result in injury or mortality of owls (e.g., collisions with nearby construction equipment or vehicles). Nest buffer areas may be marked in the field using pin flags, or stakes, or orange safety fencing to help construction personnel avoid owl nests during construction activities. Baseline nest or burrow buffers are as follows:

    a. Breeding season (generally February 1 through August 31): 150 meters (500 feet)

    b. Non-breeding season (generally September 1 through January 31): 50 to 75 meters (164 to 246 feet)

2. ***Relocation*.** If it is not feasible to avoid or buffer around occupied burrowing owl burrows, passive or active relocation will be implemented to avoid owl take. Owls that occupy burrows that are outside the direct disturbance footprint but close to construction activities (e.g., within the 50- to 150-meter buffer area), will be left in place to make their own decision whether to abandon the occupied burrow or not. Owls that voluntarily vacate a burrow are expected to have more success in relocating to suitable off-site areas than owls that are physically excluded through passive or active relocation. A qualified CDFW biologist will work with construction personnel to identify feasible measures to maximize the likelihood that owls either shelter in place or can safely voluntarily abandon roost burrows (e.g., working as far from the occupied burrows as feasible for as long as possible, gradually moving construction equipment closer to occupied burrows, or providing for escape routes). For owls that refuse to vacate burrows close to construction activities (e.g., birds that are tolerant of human activities, noise, vibration), the qualified CDFW biologist will assess the risk of injury or mortality of the owl (e.g., due to collisions with construction equipment or vehicles, collapse of burrows). If the qualified CDFW biologist determines that the imminent risk of injury or mortality is high, passive or active relocation will be implemented, as described below.

a. Passive Relocation.

When take of burrowing owls will occur as a result of construction, owls may be passively relocated to conserved lands within the areas designated for uplands management. The passive relocation method assumes owls will find and move to an alternate burrow on their own. The Burrowing Owl Management Plan will outline the following criteria for passive relocation:

i. Circumstances when passive relocation is the appropriate method used for burrowing owl.

ii. Description of the relocation site and criteria to allow for long-term success of relocated owls.

iii. Description of enhancement activities at the relocation site, such as installation of artificial burrows or habitat restoration/management.

iv. Success criteria parameters for the relocated owls.

v. Monitoring and management of the relocation site.

b. Active Relocation.

Active relocation will be used when avoidance or passive relocation options are not feasible. Active relocation involves capturing owls from the original burrow scheduled to be destroyed by construction activities, taking them to a new site generally well-removed from the original site, holding them in a temporary field enclosure, and then releasing them into a new burrow (Smith and Belthoff 2001; Trulio 1995). The Burrowing Owl Management Plan will outline the following criteria for active relocation:

i. Circumstances when active relocation is the appropriate method used for burrowing owl.

ii. Description of the relocation site and criteria to allow for long-term success of relocated owls.

iii. Description of enhancement activities at the relocation site, such as installation of artificial burrows or habitat restoration/management.

iv. Success criteria parameters for the relocated owls.

v. Monitoring and management of the relocation site.

3. ***Habitat Enhancement and Restoration***. In addition to or as part of the relocation efforts, management of designated upland areas should identify areas for burrowing owl habitat enhancement or restoration. This includes managing upland areas for low vegetation cover that provides visibility for foraging and

predator detection, that support fossorial species that create burrows that owls use for roosts and nest burrows, that have available prey species, and that are large enough to support the home range of burrowing owls. Enhancement should also focus on installing artificial burrows. The Burrowing Owl Management Plan will outline the following criteria for habitat enhancement and restoration:

a. Vegetation communities, soil types, and micro-habitat characteristics that are suitable for burrowing owl.

b. Description of acceptable or compatible conservation status, management activities/responsibilities, human disturbance, and edge effects for the proposed habitat areas.

c. Baseline data collection for the proposed habitat areas, including a description of the number and location of existing burrowing owls/owl pairs, burrowing owl predators, ground squirrels (or other burrowing mammals), and estimates of prey population size (e.g., arthropods, reptiles, and small mammals).

d. Appropriate artificial burrow design and installation.

e. The quantity and siting criteria for artificial burrows.

f. Monitoring and success criteria for habitat enhancement and restoration.

4. ***Monitoring Reports***. Reports and data will be submitted to the Regional Conservation Authority (RCA) and wildlife agencies before, during, and after passive and active burrowing owl relocations. In general, all reports must provide a discussion of avoidance buffers, relocation methods and actions, results of relocation activities, maps and GPS locations of owls and burrows (artificial and natural) used by owls, and habitat enhancement or restoration activities.

Tricolored Blackbird

To reduce direct or indirect significant effects to tricolored blackbird (*Agelaius tricolor*) from construction or management activities, a Tricolored Blackbird Management Plan will be developed to detail the avoidance, foraging and nesting habitat management, monitoring, and reporting measures that will avoid loss of tricolored blackbirds and increase tricolored blackbird populations within the Davis and Potrero Units.

The purpose of the Tricolored Blackbird Management Plan is to provide measures to avoid direct and indirect impacts to tricolored blackbirds when feasible, increase

nesting and foraging habitat, and monitor the success of tricolored blackbirds within the Davis and Potrero Units.

The Tricolored Blackbird Management Plan will include the following information and criteria:

1. ***Avoidance and Minimization (Breeding Season).*** If tricolored blackbirds are nesting at a site where construction or management activities are planned, then buffer zones will be implemented until the colony has completed its nesting cycle and young have fledged. The baseline avoidance buffer for active nesting colonies is 300 feet. Baseline buffers can be reduced depending on the activity and at the discretion of the CDFW ~~regulatory group~~. CDFW will inform local farmers if tricolored blackbirds are nesting in agricultural fields, as there are several programs to compensate farmers for harvest losses due to delayed harvesting that protect tricolored blackbird breeding. Areas where direct or substantial indirect impacts to tricolored blackbirds can occur will be avoided during the breeding and non-breeding seasons. A substantial indirect impact would be a situation where tricolored blackbirds are not directly impacted during construction but construction activities could result in mortality or reduced nesting success of the birds (e.g., pesticide application or harvesting adjacent field crops). All avoidance buffers identified in the Tricolored Blackbird Management Plan will be applied to upland small game hunting.

   Travel distances measured at the SJWA between nest sites and foraging areas averaged 2.3 kilometers (1.4 miles), with a maximum of 5 kilometers (3.1 miles) –(RCA 2016). Therefore, activities within 5 kilometers (3.1 miles) will have limited uses, including the following:

   a. Pesticide Application.

      Adult tricolored blackbirds feed on grain and invertebrate prey throughout the year; young up to 9 days old depend entirely on insects and other invertebrates gathered from upland areas and agricultural fields (Cook 2016). Low reproductive success in the Central Valley has been documented associated with low insect abundance (Meese 2013). Pesticide application eliminates or reduces invertebrates (Beedy and Hamilton 1997; Graves et al. 2013), which could affect tricolored blackbird success in the SJWA. Therefore, pesticide application will be prohibited within 5 kilometers (3.1 miles) of active nesting colonies, or applied in such a manner that it does not decrease the colonies' overall source of prey (e.g., hand spraying from a small container). Pesticide application during the non-

breeding season will be approved and monitored by the CDFW ~~regulatory group~~.

b. Vegetation Clearing or Crop Harvesting.

In Riverside County, triticale (*Triticale hexaploide*) and alfalfa (*Medicago sativa*) are used by tricolored blackbirds as foraging due to the abundant insects at these crops (Cook 2016). Complete failure of breeding colonies has been observed when nearby alfalfa fields were plowed (Cook 2016). Therefore, clearing of habitat that provide significant invertebrate sources will be prohibited within 5 kilometers (3.1 miles) of active nesting colonies, or limited in such a manner that it does not decrease the colonies' overall source of prey (e.g., hand clearing). CDFW will inform local farmers if tricolored blackbirds are nesting near agricultural fields, as there are several programs to compensate farmers for harvest losses due to delayed harvesting that protect tricolored blackbird breeding.

2. ***Avoidance and Minimization (Non-Breeding Season).*** Roosting colonies in non-dairy-farm areas during the non-breeding season will be avoided where feasible, and management activities will be implemented in such a manner to avoid long-term displacement due to disturbance to roosting habitat and reduction in foraging areas. All avoidance buffers identified in the Tricolored Blackbird Management Plan should be applied to upland small game hunting.

3. ***Habitat Creation, Enhancement and Restoration***. CDFW and the RCA have ongoing measures to enhance tricolored blackbird habitat in the SJWA. Preliminary studies show increases in the colonies as a result of these habitat enhancement efforts (Cook 2016). To better increase tricolored blackbird populations in the SJWA, the Tricolored Blackbird Management Plan will outline the following criteria for habitat creation, enhancement, and restoration:

   a. Suitable microhabitat, including a mosaic of habitat features (e.g., protective nesting substrate, shallow pools for bathing/drinking, taller shrubs for perching, and access to a wide variety of invertebrate prey).

   b. Description of acceptable or compatible conservation status, management activities/responsibilities, human disturbance, and edge effects for the proposed habitat enhancement areas.

   c. Baseline data collection for the proposed habitat areas, including a description of the number and location of existing tricolored blackbirds, tricolored blackbird predators, estimates of prey type and abundance, and distance to foraging areas.

d. Surveys to better understand the foraging habitat and prey base of the colonies, during both the breeding and non-breeding seasons.

e. Monitoring and success criteria for habitat enhancement and restoration.

4. ***Monitoring Reports*.** Reports and data documenting avoidance of direct or indirect impacts to tricolored blackbird colonies will be prepared. Annual monitoring reports will document the methods and results of implementing the Tricolored Blackbird Management Plan.

Bat Roosts

Although no occupied bat roosts are known from the SJWA, rock outcrops, large trees, and buildings that could provide bat roosting habitat are present in some areas. These measures apply to all bat species.

Pre-Activity Surveys

No earlier than 30 days prior to the commencement of construction or operations and maintenance/management activities[1] a bat roosting habitat suitability assessment of all structures, trees, and/or rock outcrops that may be removed, altered, or indirectly impacted by the proposed activities will be completed by CDFW. The survey will include an appropriate combination of structure/habitat inspection, sampling, exit counts, and acoustic surveys. Surveys will be conducted during the appropriate time of day/night to ensure detection of bats. Detected bats will be identified to species level, and the size of any colony will be evaluated to determine its size and significance. The type of roost will also be determined (i.e., a night or day roost; maternity/non-maternity, etc.). Because bats are highly mobile species that may change roosting locations, pre-activity surveys will be completed each time activities are proposed at a location, regardless of whether surveys were previously completed.

Avoidance Measures

If bats are detected during pre-activity surveys, the following avoidance measures will be implemented.

Maternity Roosts

If an active maternity roost is identified, the maternity roost will not be directly disturbed, and any activities that generate vibration, dust, and/or exhaust (above ambient, pre-activity-levels) will not occur within 300 feet of the maternity roost until the maternity roost is vacated and juveniles have fledged, as determined by

the CDFW ~~regulatory group~~ or a designated qualified biologist with concurrence from CDFW.

Non-Maternity Roosts

If non-breeding bat roosts are found within a disturbance area, and work must be performed, the following avoidance and minimization measures will be implemented:

For night roosts (measures to be implemented if night work is necessary):

1. Night lighting will be focused on the work area only, and will be shielded away from roosting habitat to the greatest extent practicable.
2. Air space to/from the roost will not be obstructed, except in direct work areas.
3. Internal combustion equipment such as vehicles, generators, etc., will not be parked or operated beneath or adjacent to the roost, unless placement at that specific location cannot be avoided.
4. Personnel working on the activity will limited their physical presence to the specific work location, and will not be present in non-active areas near roosting habitat.

For day roosts:

1. If work must be performed at or in the vicinity of a day roost, bats will be humanely evicted/excluded from the affected work location plus a buffer. Eviction/exclusion should be limited to fall (September or October) preceding activities to avoid impacting non-volant pups and/or hibernating bats.
2. If roosting habitat will be permanently impacted, new roosting habitat will be created to replace lost habitat. Created habitat may include bat roosting habitat panels or other structures documented to provide suitable roosting habitat for bats.
3. All exclusion/eviction will be completed under the direction of CDFW.
4. Exclusion/eviction will only occur during appropriate weather conditions.
5. All exclusionary materials will be removed once activities are complete. No materials will be left in place after activities have been completed.

Western Spadefoot Toad

Pre-Activity Surveys

Prior to the initiation of ground-disturbing activities in suitable habitat for western spadefoot toad (*Spea hammondii*), pre-activity surveys (including aboveground

visual searches) will be conducted for western spadefoot in suitable breeding habitat within the disturbance areas and within 300 feet of the disturbance areas. Surveys will be conducted during a time of year when the species can be detected aboveground at suitable breeding sites. Suitable breeding habitat is defined as areas of temporarily ponded water, including within creeks and vernal pools and other ephemeral water features within uplands. Suitable breeding sites should support ponded water for at least 3 weeks. To ensure that diseases are not conveyed between work sites by CDFW biologists' or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (DAPTF 2009) will be followed at all times.

Avoidance Measures

If western spadefoot is detected within the disturbance area, measure "a," below, will be implemented. If western spadefoot is detected outside the disturbance areas, but within 300 feet of the disturbance area boundary, measure "b" will be implemented.

a. If western spadefoot toad is detected (including egg masses, larvae) in water within a disturbance area and cannot be avoided, suitable breeding habitat will be created within suitable natural sites in areas with biological resource management activities that would allow the species to continue breeding. The amount of occupied breeding habitat to be disturbed will be replaced at a 2:1 ratio. The habitat creation location will be in suitable habitat and located away from public use areas, as feasible. The created breeding habitat will be designed such that it only supports standing water for no more than 3 months following winter rains so that aquatic predators (e.g., fish, bullfrogs, and crayfish) cannot become established. Terrestrial habitat surrounding the proposed relocation site will be as similar in type, aspect, and density to the location of the impacted breeding site as feasible. No disturbance will be permitted within 300 feet of the vicinity of the impacted breeding site until the design and construction of the pool habitat in the mitigation area has been completed, and all detected western spadefoot tadpoles, egg masses, and adults are moved to the created breeding habitat.

   CDFW will monitor the relocation site for a cumulative total of 5 years in which environmental conditions are conducive for western spadefoot to successfully complete the breeding cycle (i.e., adequate rain for pools to hold water for a sufficient period). Monitoring will be conducted during and immediately following the peak breeding season such that surveys can be conducted for adults, egg masses, and larval and metamorphic western spadefoot. Success criteria for the monitoring program will include verifiable evidence of western

spadefoot reproduction at the relocation site during 5 years with suitable breeding conditions.

b. If western spadefoot is detected (including egg masses, larvae) in water within 300 feet of the disturbance area, but not within the impact area itself, an exclusion fence will be constructed along the boundary between the disturbance area and the occupied breeding site to prevent western spadefoots from moving into and aestivating within the disturbance area. The exclusion fencing will consist of 16-inch metal flashing, or an equivalent material, which will be buried at least 6 inches below the ground surface and extend at least 8 inches above the ground. The fencing will cover a sufficient length of the boundary to inhibit western spadefoots from entering the disturbance area. The necessary length and appropriate location of the exclusion fence relative to the occupied breeding site will be determined by a CDFW biologist.

   No construction activities involving heavy equipment generating noise, ground vibration, or dust will be allowed within 300 feet of occupied breeding sites until western spadefoots have metamorphosed and are no longer present in the breeding pool, as determined by a CDFW biologist or a designated qualified biologist. Acceptable construction activities (e.g., quiet or low-impact activities) within 300 feet of the occupied breeding site will be allowed at the discretion of CDFW or a designated qualified biologist with CDFW concurrence.

American Badger

Pre-Construction Surveys (Wintering)

During the colder months (generally from early November through early March), when American badgers (*Taxidea taxus*) may use winter dens during torpid periods, pre-activity surveys will be conducted in suitable habitat no more than 14 days prior to disturbance to determine whether American badger winter dens are present within the disturbance area or within 50 feet of the disturbance area boundary.

Avoidance Measures (Wintering)

If an occupied American badger winter den is within the disturbance area or within 50 feet of the disturbance area, the den location will be clearly marked with fencing or flagging to avoid inadvertent impacts on the den.

Pre-Activity Surveys (Natal Dens)

During the late winter and summer (generally mid-March through late July), when American badgers may use natal dens for birthing and cub rearing, pre-activity surveys will be conducted no more than 14 days prior to ground-disturbing activities to determine whether American badger natal dens are present within the disturbance area or within 200 feet of the disturbance area.

Avoidance Measures (Natal Dens)

If active natal dens are located within these areas during pre-activity surveys, construction activities will be postponed. If natal dens are detected during the ground-disturbing activity, any activity within 200 feet of the natal den will be halted. This buffer may be reduced based on the location of the den or type of activity, and the direction of the CDFW ~~regulatory group~~. Construction activities will not preclude the ability of the badgers to disperse when the natal den is vacated. Work activity will be postponed or halted in these areas until it is determined that the young are no longer dependent on the natal den. To avoid inadvertent impacts during work activities and to ensure that such activities are at least 200 feet from active natal dens, any active natal dens within the survey area will be clearly marked with fencing or flagging in a manner that will not inhibit normal behavioral activities (e.g., foraging and dispersing from the site) by the mother and cubs.

San Diego Black-Tailed Jackrabbit

Pre-Activity Surveys

Prior to ground-disturbing activities in suitable habitat for San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), CDFW personnel, a designated biological monitor, or qualified biologist will conduct daily surveys for the species within the disturbance area and within 200 feet of the disturbance area.

Avoidance Measures

If San Diego black-tailed jackrabbits are present, non-breeding rabbits will be flushed from areas to be disturbed prior to work. Dens, depressions, nests, or burrows occupied by kits will be flagged, and ground-disturbing activities avoided within a minimum of 200 feet during the kit-rearing season (generally mid-February through early July). This buffer may be reduced based on the location of the den upon direction by the CDFW Regional Habitat ~~Management Branch regulatory~~ Conservation Program ~~Branch regulatory group~~. Occupied maternity

dens, depressions, nests, or burrows will be flagged for avoidance, and CDFW personnel, a designated biological monitor, or qualified biologist will be present during work activities. If unattended young are discovered, they will be relocated to suitable habitat by a qualified biologist.

San Diego Desert Woodrat

Pre-Activity Surveys

No more than 30 days prior to ground-disturbing activities in suitable habitat for San Diego desert woodrat (*Neotoma lepida intermedia*), a CDFW biologist or a designated qualified biologist will conduct daily surveys for the species within the disturbance area and within 200 feet of the disturbance area.

Avoidance Measures

If active San Diego desert woodrat nests (stick houses, rocky areas) are identified within the disturbance area or within 100 feet of the disturbance area, a fence will be erected around the nest site adequate to provide the woodrat sufficient foraging habitat at the direction of a CDFW biologist. Clearing and disturbance within the fenced area will be postponed or halted until young have left the nest. CDFW or a designated qualified biologist will monitor ground-disturbing activities during those periods when disturbance activities occur near active nest areas to ensure that no inadvertent impacts to these nests will occur.

If avoidance is not possible, CDFW will take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest; (2) each occupied nest will then be disturbed by CDFW or a designated qualified biologist until all woodrats leave the nest and seek refuge outside of the disturbance area; and (3) to the extent feasible, the nest will be removed from the disturbance area and piled in suitable nearby habitat. Relocated nests will not be less than 100 feet apart, unless it is determined by CDFW that a specific habitat can support a higher density of nests.

Stephens' Kangaroo Rat and San Bernardino Kangaroo Rat

Pre-Activity Surveys

Prior to the start of ground-disturbing activities, a qualified biologist will conduct a habitat assessment in potentially suitable habitat to determine the presence of burrows for Stephens' kangaroo rat (*Dipodomys stephensi*) (SKR) and San

Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SBKR), or diagnostic surface sign (e.g., scat, tracks, tail drags, runways) of kangaroo rat. The habitat assessment surveys will be conducted 7 to 14 days before the start of ground-disturbing activities. If no burrows or other surface sign of SKR or SBKR presence are detected, no further measures will be required.

Avoidance Measures

If burrows or sign are detected, a qualified biologist will conduct a visual survey for burrows occupied or potentially occupied by SKR or SBKR. Active burrows will be marked with exclusionary fencing and avoided to the maximum extent practicable. A qualified biologist will be present for all work within 50 feet of marked burrows. If earthwork (clearing and grubbing, grading, blading, filling) must occur within active burrows areas, these areas will be live-trapped by CDFW or a designated qualified biologist for no less than 3 consecutive nights and up to 5 consecutive nights prior to the initiation of ground-disturbing activities in these areas to minimize direct mortality. Trapping may be terminated if no captures occur in 3 consecutive nights (i.e., nights 4 and 5 would not be required if no SKR or SBKR are captured). Any captured SKR or SBKR will be relocated to an appropriate release site determined in coordination with USFWS such that return of individuals to the disturbance area prior to earthwork activities is unlikely (e.g., moving individuals more than 500 meters [1,640 feet]).

Habitat Compensation

If proposed land disturbance activities in the Davis Unit, other than emergency response, fire prevention, and public facility maintenance and operations activities, would result in incidental take of SKR, concurrence from USFWS will be required and satisfaction of 1:1 habitat replacement will also be required. Specifically, for each acre of SKR occupied habitat disturbed CDFW will set aside a replacement acre of SKR occupied habitat within the SJWA. The location of such replacement acreage will be subject to approval by USFWS.

Los Angeles, Northwestern San Diego, and Dulzura Pocket Mice, and Grasshopper Mouse

Pre-Activity Surveys

Before the start of any ground-disturbing activities, a qualified biologist will conduct a habitat assessment in potentially suitable habitat within the disturbance areas to determine potential presence of Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM), northwestern San Diego pocket mouse

(*Chaetodipus fallax fallax*) (NSDPM), Dulzura pocket mouse (*Perognathus californicus femoralis*) (DPM), and grasshopper mouse (*Onychomys torridus*) (GM). These surveys may be conducted concurrent with surveys for SKR and SBKR, but will be primarily habitat-based because diagnostic burrows and surface sign for these species cannot be detected with any certainty. The habitat assessment surveys will be conducted 7 to 14 days before the start of ground-disturbing activities. If no suitable habitat for LAPM, NSDPM, DPM, or GM is detected, no further measures will be required.

Avoidance Measures

If suitable habitat is present for LAPM, NSDPM, DPM, or GM, CDFW or a designated qualified biologist will establish non-disturbance exclusion zones (i.e., wildlife exclusion fencing [e.g., a silt fence or similar material]) in habitat areas where these species may be present. Non-disturbance exclusion areas will be established 7 to 14 days before the start of ground-disturbing activities. The non-disturbance exclusion fence with one-way exit/escape points will be placed to exclude these special-status small mammals from the disturbance area in a passive manner. The wildlife exclusion fence will be established around potential habitat in a manner that allows state-listed species to leave the disturbance area.

Additional measures, such as one or both of the following, will be implemented after the exclusion fencing with one-way exit/escape points is installed:

1. A CDFW biologist or a designated qualified biologist will trim and clear vegetation to the ground by hand or using hand-operated equipment to discourage the presence of LAPM, NSDPM, DPM, or GM in the disturbance areas. The cleared vegetation will remain undisturbed for 14 days to allow species to passively relocate through the one-way exit/escape points along the wildlife exclusion fencing.
2. A CDFW biologist or a designated qualified biologist will conduct live-trapping and relocation of individuals for up to 5 nights prior to ground-disturbing activities in suitable habitat for LAPM, NSDPM, DPM, or GM. Live-trapping and relocation of these species may be conducted concurrent with live-trapping for SKR and SBKR.

Jurisdictional Waters of the United States/State

The following procedures will be followed where construction, demolition, maintenance, vegetation management, or restoration has the potential to adversely impact jurisdictional waters of the United States/State:

1. CDFW will review existing jurisdictional waters, if available, in the area of potential disturbance to determine if an adequate baseline is available in the disturbance area and, if so, whether jurisdictional areas are present or absent. If an adequate survey has not been conducted in the area of potential disturbance, CDFW will perform a field reconnaissance of the area of potential disturbance to assess whether there are potentially jurisdictional waters in the disturbance area.
2. If there is the potential for waters of the U.S./State to be present in the disturbance area, CDFW will avoid these areas when feasible. If avoidance is not feasible, CDFW will conduct a formal jurisdictional delineation in accordance with the most recent and applicable guidelines from the U.S. Army Corps of Engineers (ACOE), CDFW, and the Regional Water Quality Control Board (RWQCB). The survey will identify and map jurisdictional waters of the U.S./State under the jurisdiction of ACOE, CDFW, or RWQCB.

If avoidance of impacts to potentially jurisdictional areas is not feasible, then CDFW will obtain the applicable permits to impact these resources, such as a 404 permit from ACOE and a 401 Water Quality Certification from the RWQCB. For impacts to waters subject to CDFW jurisdiction, the activity will be reviewed by qualified CDFW staff for avoidance and minimization measures. Where impacts are not avoidable, appropriate mitigation measures with concurrence of CDFW regulatory staff will be identified. Final mitigation requirements for the impact will be established by these agencies, and a final wetlands/waters mitigation plan will be prepared.

The following requirements could be included, as appropriate:

1. A mitigation program will be designed to replace the functions and values of the jurisdictional resources impacted. The mitigation areas will be designed to have similar vegetative characteristics (excluding exotic species) to those of the affected areas. If establishment or creation is provided, the site will be designed to emulate the density and structure of the affected areas once the establishment areas have met the mitigation success criteria. As applicable, the designated

restoration biologist will determine the appropriate planting and seeding palettes.

2. The mitigation plan will include measures to be taken to ensure a performance criterion of 70% survival of plantings for a period of 5 consecutive years, including up to 3 years with supplemental irrigation and a minimum of 2 years without such assistance. Performance standards for percent cover will be developed by the designated restoration biologist based on the observed cover of the areas to be impacted.

3. Minimum growth, survivorship, and cover performance at the mitigation site(s) will be measured based on random samples taken during Years 3 and 5. Plant survivorship requirements apply to tree and shrub species that are planted from containers. Tree and shrub species used in the mitigation areas will have a minimum of 80% survivorship after 3 years and 70% survivorship after 5 years. Natural recruitment of native species may be used to offset percent survivorship of planted trees and shrubs to achieve standards. If the minimum growth, survivorship, or cover are not achieved at the time of the 3- and 5-year evaluations, CDFW will be responsible for taking the appropriate corrective measures to achieve the specified growth, survivorship, or cover criteria. If natural disasters, such as flood, fires, or drought, occur after the habitats have met the success criteria, CDFW will not be responsible for replanting damaged areas. If these events occur prior to the plants meeting the success criteria, CDFW will be responsible for replanting the area one time only.

4. Mitigation sites will be weeded to prevent an infestation of perennial, non-native, invasive weeds. Weeding can be accomplished using the following methods: hand removal, use of herbicides in accordance with federal and state laws governing the use of herbicides, or mechanically in coordination with the designated biologist or restoration biologist. All perennial, non-native, invasive weed species will be controlled for 5 years after the initial mitigation, or until the 5-year mitigation success criteria described in the detailed final wetlands/waters mitigation plan are met. The cover of annual, non-native plant species at the mitigation sites will not exceed 10% at any time during the period of documenting successful restoration.

5. Supplemental irrigation will only be used during plant establishment, as the goal of the restoration effort is to create native, self-sustaining communities. The irrigation schedule will be set to promote deep rooting of plant materials, with infrequent, long-duration cycles. Irrigation use will be discontinued at least 2 years before the end of the 5-year maintenance period to demonstrate the vegetation community's ability to survive without supplemental water.

6. Annual monitoring reports will be submitted to the applicable resource agencies during the 5-year maintenance and monitoring period of the mitigation site(s). Annual reports outlining the results of the monitoring will describe the existing conditions of the mitigation areas derived from qualitative field observations and quantitative data collection. The reports will provide a comparison of annual success criteria with field conditions, identify all shortcomings of the mitigation site, and recommend remedial measures necessary for the successful completion of the mitigation. Each yearly report will provide a summary of the accumulated data.
7. Temporary impacts to unvegetated jurisdictional resources will be re-contoured and revegetation will be limited to passive restoration and application of a native seed mix, if necessary. The low-flow channel will be returned as nearly as practical to pre-project topographic conditions and contours. If temporary impacts to vegetated jurisdictional resources are required, the mitigation program outlined above for permanent impacts will apply, but the mitigation ratio will be 1:1 regardless of vegetation type.

5.3.6.8.4 Measures Related to Siting and Design

MM-BIO-1e Siting and Design Criteria

BMPs for Siting and Timing of Management Activities

The following best management practices (BMPs) will be implemented when scheduling or siting required management activities.

When considering the authorization of new ground-surface-disturbing activities, CDFW will encourage the use of previously or existing disturbed areas, thereby minimizing impacts to special-status biological resources.

Vegetation removal and ground surface disturbance will be minimized. CDFW will apply surface rehabilitation measures (e.g., light ripping of compacted soils) as necessary to protect the soil surface. CDFW will emphasize hand clearing over heavy equipment use.

Construction activities near intermittent or perennial waters or streams will be avoided whenever possible. This restriction is intended to minimize wildlife disturbance at key water locations and to limit impacts to sensitive watersheds.

The timing of activities with the potential to disturb sensitive resources will be planned to minimize impacts to such resources to the extent practical and as a take avoidance strategy.

Activities with the potential to disturb raptor nest sites will have seasonal restrictions imposed within a 0.5-mile radius around such sites. Seasonal restrictions will allow for undisturbed courtship, nest building, incubation, and fledging. This seasonal restriction could last as long as 6 months, depending on the species. Restrictions could be imposed around high-use areas during other seasons.

Trail Design Criteria

New trails within the SJWA will have the following:

Be consistent with all relevant BMPs and consistent with the overall objectives of the SJWA.

Be designed to avoid sensitive resources.

Follow the natural topography wherever possible.

Minimize ground surface disturbance, removal of vegetation, and grading by using existing roads for trails wherever possible.

Minimize or avoid the use of culverts, bridges, and retaining walls.

Incorporate connections to existing parking areas.

Not modify existing water flow patterns, including sheet flow.

Parking Design Criteria

New or expanded parking areas will do the following:

Be located and designed to provide adequate pullout and turnaround area, sight distance, and spacing between parking areas and other driveways to ensure public safety.

Be consistent with all relevant BMPs and consistent with the overall objectives of the SJWA.

Incorporate signage and visitor information as necessary.

Avoid sensitive resources.

Be located at existing established parking areas or disturbed areas wherever possible.

Minimize ground surface disturbance, removal of vegetation, and grading.

Incorporate a permeable surface to minimize erosion and to protect surface water quality.

Take advantage of natural topography, vegetation, and other physical features to provide screening from public view.

Incorporate features to screen parked vehicles from public view.

Fencing Design Criteria

To avoid attracting Argentine ants, footings from fence posts will be constructed to avoid collecting moisture at the base (e.g., earthen footings, not concrete footings).

Watering Facility Design Criteria

New watering facilities will incorporate design features to protect wildlife, including the following:

- Effective escape structures.
- Unobstructed access to the water surface.
- A minimum length or diameter of at least 6 feet, with a longer length or diameter preferred.

MM-BIO-1f Restrictions on Landscaping or Restoration Palettes and Plants

- Prior to installation of plants for landscaping or restoration, the plant palettes proposed will be reviewed by the CDFW ~~regulatory group~~ to minimize the effects that proposed landscape plants could have on native vegetation and wildlife within the SJWA. Landscape plants will not include invasive plant species, as identified by the most recent version of the California Invasive Plant Inventory for the region as published by the California Invasive Plant Council. Landscape plans will include a plant palette composed of California native species that do not require high irrigation rates.
- Immediately prior to installation of container plants, container plants to be installed within 100 feet of open space will be inspected by the biologist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases will be rejected.

MM-BIO-1o Reduce Raptor Electrocutions

CDFW will work with utility companies to configure or modify power lines to eliminate raptor electrocutions to the greatest extent practicable.

MM-BIO-1p Restrictions on Lighting

To reduce the adverse impacts of light and glare, CDFW will require new light sources to be shielded and hooded to focus lighting downward, and only on the area in need of illumination.

5.3.6.8.5 Operations-Related Measures

MM-BIO-1g Restrictions on the Use of Motor Vehicles and Aircraft

The following restrictions on the use of motor vehicles and aircraft in the SJWA will be required:

- Vehicle speed will not exceed 15 miles per hour. Speed limits will be posted at roadway entrances to the SJWA.
- Vehicle travel for operation and maintenance purposes will be limited to existing roadways except in the case of an emergency or as determined through project design. Appropriate biological surveys will be conducted prior to off-road-vehicle travel, including travel that does not result in habitat disturbance. Construction of new roads will be avoided if existing roads can be used.
- Fish and Game Code Title 14 section 550 (aa) states "No visitor shall operate any aircraft, hovercraft or hot air balloon within Department lands except as authorized by a special use permit issued by the Department." This has been interpreted to include drones and to exclude official duties such as those performed by CalFire.
- Fish and Game Code Title 14 section 251.1 intentional harassment of wildlife states "Except as otherwise authorized in these regulations or in Fish and game Code, no person shall harass, herd or drive any game or non-game bird or mammal or furbearing mammal. For purposes of this section, harass is defined as an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering."
- CDFW will coordinate with appropriate federal agencies to restrict low-altitude flights over the SJWA to protect sensitive resources.

MM-BIO-1h Preparation and Implementation of a Grazing Management Plan

Any authorization or reauthorization of new or expanded grazing activities will be preceded by the adoption of a Grazing Management Plan for that area, subject to the review and concurrence by the CDFW ~~regulatory group~~, following compliance with the California Environmental Quality Act. The grazing management planwill, at a minimum, include the following information and criteria:

- Specific goals, objectives, and targets that define the desired habitat conditions to be achieved through grazing as a management tool that are based on the resource protection and enhancement goals of the LMP.
- Performance standards will be measurable, objective, and relevant to grazing management while incorporating the flexibility necessary for effective adaptive management.
- Grazing prescriptions will identify how grazing will be conducted to attain the various goals, objectives, and performance standards. Grazing prescriptions will include the following:
    - Animal class: the kind of animals, in terms of species, breed, and age
    - Spatial distribution: which portions of the SJWA will be grazed
    - Temporal distribution: when animals will be grazing
    - Density of animals: the number of grazing animals within each area to be grazed
- Grazing prescriptions and methods developed based on a review of the best available scientific literature examining the effects of various types of grazing (based on the seasonality, intensity, and frequency) on biological systems and the site-specific conditions of the SJWA.
- Grazing facilities, such as water and fencing, that are currently present or that would be needed.
- Performance standards such as minimum standards for residual dry matter or grass height to ensure the protection of water and soil quality, which will be important considerations for determining the performance standards that define future conditions.
- Monitoring protocols and performance standards that will be used to assess effective implementation of the grazing prescriptions.
- Lease management requirements to ensure compliance and cooperation between the lessee and CDFW staff.

The Grazing Management Plan will address the methods to avoid or minimize impacts of grazing on sensitive species, special communities, cultural resources, and public uses. More specifically, CDFW will implement appropriate measures to protect special-status biological resources that could be negatively affected from the potential impacts of grazing activities based on resource-specific information.

Such measures will include one or more of the following:

- Excluding livestock from areas where special-status plants that may be negatively impacted by grazing, or have the potential to occur but have not been surveyed, including through the construction of exclusion fencing.
- Excluding livestock from areas where special-status plants are known to occur, or have the potential to occur, during the flowering/fruiting period (generally March through June).
- CDFW will adjust grazing prescriptions or eliminate grazing following restoration treatments, if necessary, to protect populations of vulnerable species or facilitate establishment of newly planted sites.
- Where possible, water for livestock will be piped away from the riparian zone. If possible, livestock water sources will be kept on year-round for use by wildlife.
- Use livestock that had previously grazed locally to reduce the probability of invasive species.

MM-BIO-1i Practices for the Control of Invasive and Non-Native Species

- All uses of compounds for pest control will comply with the application restrictions mandated by the U.S. Environmental Protection Agency and the California Department of Pesticide Regulation.
- CDFW will implement an Integrated Pest Management (IPM) program to establish criteria and methods for control of invasive species, including mechanical, chemical, and other accepted control methods.
- CDFW will develop an invasive plant species control strategy designed to minimize herbicide use and associated impacts on non-target species, consistent with the IPM program.
- The IPM program will establish a prioritized ranking of invasive plant species targeted for control based on potential threats to managed natural resources. The ranking will give special consideration to species with the ability to rapidly invade and establish within the habitat on site, including stinknet (*Oncosiphon piluliferum*), slenderleaf iceplant (*Mesebranthemum nodiflorum*), and Sahara mustard (*Brassica tournefortii*).
- The IPM program will include a detailed description of triggers for initiating invasive plant species control measures, methods of control, and monitoring and reporting protocols.

- CDFW will encourage other authorized users (e.g., fire crews, researchers) and visitors to employ management practices that minimize the spread of weeds, such as cleaning equipment prior to entering the SJWA and requiring the use of certified weed-free hay and feed on the SJWA.
- CDFW will prohibit the release of non-native animal species other than those introduced specifically for the purpose of control of specific noxious weeds, or those released for legal hunts if authorized by the Fish and Game Commission. If individuals of non-native animal species are discovered, CDFW will attempt to eradicate them before the species becomes established.

MM-BIO-1j Preparation and Implementation of an Alkali Habitat Management Plan

An alkali habitat management plan will be prepared to complement the existing LMP and provide operational guidelines for managing alkali habitat resources within the Davis Unit. The following contents will, at a minimum, include the following information and criteria:

- A delineation of alkali habitats within the reserve subject to management described in the plan (e.g., alkali vernal pool, alkali playa, native alkali grassland, and alkali scrub).
- An analysis of the use of recycled water for seasonal ponding in alkali habitats and measures to address management of the water resources within the reserve as it relates to alkali habitat management.
- A review process to be implemented prior to modifying management measures in alkali habitat areas that considers the presence of alkali habitats and associated alkali-soil-dependent plant species.
- Guidelines for planning and implementing alkali habitat enhancement and restorationactivities, including evaluating site suitability based on appropriate soils (e.g., Willows, Trever, and Chino soils), existing and modified hydrology, and existing and modified surface topography.
- An adaptive management strategy to address the variable conditions and management actions expected within the Davis Unit.

The following criteria will be incorporated into the alkali habitat management plan:

- Specific goals, objectives, and targets that define the desired habitat conditions to be maintained through alkali habitat management, which are based on the resource protection and enhancement goals of the LMP.

- Measurable performance standards that are objective and relevant to alkali habitat management while incorporating the flexibility necessary for effective adaptive management.
- Conditions for operational constraints for actions that could potentially negatively affect alkali habitat conditions (e.g., seasonal flooding, mowing, grazing, and pipe and drainage repairs).
- Specifications for invasive species control that include details on timing and methods to effectively control target species within alkali habitats.
- Measures for revegetating alkali habitats, where needed.

The list of performance standards by which to measure the success of the alkali habitat management plan will be as follows:

a. Non-native plant species cover will be no more than 5% absolute cover at the alkali management areas.

b. Any species listed on the California State Agricultural list (CDFA 2009) or Cal-IPC list of noxious weeds (Cal-IPC 2017) will not be present on the alkali management areas within one year of plan implementation.

c. Non-native wildlife species at the alkali management areas will be controlled through management activities.

- Measures to exclude unauthorized entry into the alkali habitat management areas.
- Contingency measures such as erosion control, replanting, or weeding to implement in the event that management efforts are not successful.

The plan will include a monitoring program to consistently evaluate the status of alkali habitats and the vegetation and species dependent on these habitats. The monitoring program will include the following:

- Monitoring protocols for alkali habitat quality, including species diversity, cover, and non-native plant species presence and abundance.
- Monitoring protocols for special-status plant species that occur within alkali habitats and provide a measure of habitat quality, such as thread-leaved brodiaea (*Brodiaea filifolia*), spreading navarretia (*Navarretia fossalis*), and San Jacinto Valley crown-scale (*Atriplex coronata* var. *notatior*), among others.
- Monitoring protocols for water level inundation and ponding duration within alkali habitats.

MM-BIO-1k Management and Monitoring of Trail Use

CDFW will install trailhead and trail signage every mile indicating the SJWA is a biological conservation area and that people and their animals are required to stay on existing trails at all times. Signage will also be posted stating that no deliberate feeding of wildlife is allowed. CDFW will provide quarterly maintenance patrols to remove litter and monitor trail expansion, erosion, and fire hazards within the SJWA. Off-trail use detected during inspections will be monitored by CDFW. Management actions triggered by excessive off-trail use will include increased educational materials, signage, or information; temporary or partial closure of trails; trail repair; increased patrol; or if off-trail use is noted in biologically sensitive areas, then permanent fencing or signage along limited segments of trails or closing trails located within 100 feet of these biologically sensitive areas.

MM-BIO-1l Management and Monitoring of Hunting

All hunters will receive environmental awareness training annually. The environmental awareness training will include a description of the SJWA and the conservation values of the lands. Additionally, the restrictions on hunting activities will be described. Maps will be provided that show the existing trails/roads where driving, hiking, and equestrian uses are allowed. These maps will also display where hunting uses are allowed and where they are restricted. In new areas designated for hunting, CDFW will monitor hunting activities weekly from February 15 through September 1 and monthly for the remainder of the year to ensure compliance with this mitigation measure. If guidelines on the SJWA are not adhered to, CDFW will ban the offending parties from public opportunities in the area. In addition, the environmental awareness training program will cover the following information:

- Non-lead ammunition will be used at all times.
- Non-permitted hunting of any wildlife species will be strictly prohibited.
- Feeding wildlife is prohibited.
- Nesting birds must be avoided.
- Unauthorized capturing (i.e., poaching) of wildlife is prohibited and could result in negative effects.
- The collection of rocks, plants, trees (including branches, logs), or any other natural objects or materials is prohibited.

- Native animals (e.g., coyote, bobcat, and mountain lion) may be present on the SJWA.
- All trash must be packed out and deposited in wildlife-proof trash cans.
- Vehicles must travel on existing roads.
- Vehicles must maintain a speed of 15 miles per hour or slower.

In new areas designated for hunting (e.g., Potrero Unit), generally from February 15 to September 1, during upland game hunting and the nesting bird season, riparian areas and a 500-foot buffer from the edge of the riparian areas will be off limits to hunters. CDFW will install signage 500 feet from the riparian edge during this season, indicating that the area is off limits to hunting. The signage will be spaced out at 500-foot or greater intervals if signage is visible from a greater distance. If the 500-foot buffer from the riparian edge cannot be avoided by hunters, CDFW or a designated qualified biologist will conduct pre-activity nesting bird surveys no more than 72 hours prior to hunting activities. If occupied nests are found during pre-activity surveys, an appropriate protective buffer will be established by CDFW in the field with flagging, fencing, or other appropriate barriers between the nest and hunting activities. For any state or federally listed bird species and raptors, if an active nest is confirmed, at least a 500-foot disturbance-free buffer between the nest and the nearest hunting activity will be established and demarcated by fencing or flagging. For other nesting birds, without species-specific requirements noted herein, at least a 300-foot disturbance-free buffer between the nest and the hunting will be established and demarcated by fencing or flagging. No hunting may occur in these areas unless otherwise authorized by USFWS and CDFW. The CDFW ~~regulatory group~~ may adjust the distance of the protective buffer from the nest at its discretion, and with concurrence from USFWS for a federally listed species, depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). Once the nest is no longer occupied for the season, the hunting may proceed in the protective buffer area for 72 hours. After the 72 hours, another nesting bird survey would be required to hunt within 500 feet of the riparian areas. The presence of nesting birds may also guide the Fish and Game Commission in modifying the hunting seasonal timeframes as needed.

MM-BIO-1m BMPs to Minimize Effect of Repeated Surveys

Prior to starting and ending field work, biologists will remove seeds from their boots or shoes. Field equipment and vehicles will be cleaned once a month or immediately

prior to taking equipment to another unit. During field surveys, biologists will drive and park on established roads. If vegetation becomes trampled in a survey area, biologist will modify survey methods to avoid effects of repetitive surveys. Field boots or shoes will be sterilized with chlorine bleach before each visit to a vernal pool. As feasible, field work will be scheduled and performed to avoid disturbing nesting birds.

MM-BIO-1q Trash Abatement Program

To protect wildlife, CDFW will initiate a trash abatement program for the SJWA that establishes at least the following conditions: trash and food items are contained in animal-proof containers and removed regularly to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs; no deliberate feeding of wildlife will be allowed.

5.3.7 Cumulative Impacts and Mitigation

Cumulative Loss of Habitat for Special-status Species

The overarching management goal of the LMP is to sustainably protect the resources and public recreation within the SJWA in perpetuity. The LMP primarily includes biological and public use management goals that are intended to meet the public demand for recreational facilities and opportunities and comply with the primary requirements to conserve and manage species covered under the SKR_HCP and MSHCP. The management areas are intended to guide future management of specific geographic areas within the SJWA, not necessarily to prescriptively develop specific habitat conditions, but to apply management goals and objectives while refining resource and management area mapping precision over time. Implicit in all of the goals and activities described in this draft LMP is the requirement for adaptive management through implementation of a cycle of management actions, collection of monitoring data, assessment of the data in view of the management actions carried out, and implementation of revised or adapted management actions.

The SJWA is currently composed of 19,600 acres of land and is one of the largest public land holdings in the Inland Desert region of Southern California and is a highly visited recreation area. The SJWA also supports a diverse array of biological resources including habitats associated with the San Jacinto River floodplain and the San Jacinto foothill region. It is an important stop for a number of migratory birds along the Pacific flyway. As such, it provides important conservation for a variety of state and federal special-status species that require the management of habitat conditions and the monitoring of species status. Given the cumulative projects in the region, the importance of the SJWA as a refuge for special-status plants and animals is expected to increase over time.

As discussed under Sections 5.3.6.2 through 5.3.6.7, Issue BIO-1 through Issue BIO-2, above, implementation of the management actions and Best Management Practices recommended by the LMP is expected to have a less than significant impact on special-status species, their habitats, and vegetation communities after mitigation. The draft LMP recommends a range of management actions and Best Management Practices to ensure implementation of the LMP protects and enhances the biological resources of the SJWA.

In conjunction with the draft LMP, all of the projects in the cumulative scenario could contribute to the cumulative loss of special-status species, habitat and vegetation communities. Similar to the draft LMP, the development of those projects considered in the cumulative scenario would be required to implement mitigation measures to reduce potentially adverse effects to the environment resulting from construction and operation. While the effects of each project would be evaluated and if determined to be significant would be mitigated accordingly in the related environmental document, realization of the cumulative scenario would entail an increase in the acreage of developed land in the County of Riverside. Individually the impacts of each project may not be considerable; however, when combined potentially adverse effects to the environment would occur and may include significant unavoidable impacts. This is considered a potentially significant cumulative impact.

The overall benefits of the draft LMP include supporting a diverse array of biological resources including habitats associated with the San Jacinto River floodplain and the San Jacinto foothill region; providing an important stop for a number of migratory birds along the Pacific flyway; and providing important conservation for a variety of state and federal special-status species that require the management of habitat conditions and the monitoring of species status. The contribution of the draft LMP to the cumulative impact on biological resources is considered potentially significant (Class II). Implementation of mitigation measures MM-BIO-1a through MM-BIO-1m would reduce the draft LMP's contribution, in conjunction with the overall benefits of implementing the draft LMP, and in conjunction with other projects considered in the cumulative scenario, to a less-than-significant cumulative contribution.

5.3.8 Level of Significance After Mitigation

Issue BIO-1

Potential temporary direct and indirect impacts to special-status plant species would be reduced to a less-than-significant level with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1m. These measures would significantly reduce the potential for temporary direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct and indirect impacts to special-status plant species would be reduced to a less-than-significant level with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1l. These measures would significantly reduce the potential for permanent direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential temporary direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1o. These measures would significantly reduce the potential for temporary direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1l ~~with the exception of nesting birds. Because the hunting season may overlap with the nesting bird season, potential impacts are considered significant. MM-BIO-1l addresses management and monitoring of hunting activities, but because the State generally establishes the hunting season and the SJWA accommodates hunting, it may not be feasible to further limit hunting to outside of the nesting season. However, to extent possible, CDFW will use the nesting bird survey results to guide them in modifying the hunting areas and seasonal timeframes as needed. Thus, Because these hunting areas are larger and thus nesting birds could be missed during surveys, and because interruption of nesting behavior can occur even before birds are detected constructing a nest, impacts could be considered potentially significant. Because this measure may not always be able to adequately capture all nesting activity in large areas on the Potrero Unit, there are no feasible mitigation measures available to ensure that all direct and indirect impacts to nesting birds could be reduced to a less-than-significant level; therefore, impacts to nesting birds are significant and unavoidable.~~. For the remaining impacts, these measures would significantly reduce the potential for permanent direct and indirect impacts, which means the level of significance after mitigation is less than significant.

Issue BIO-2

Potential temporary direct and indirect impacts to sensitive vegetation communities would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1m. These measures would significantly reduce the potential for temporary direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct and indirect impacts to sensitive vegetation communities would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1c,

MM-BIO-1e through MM-BIO-1l. These measures would significantly reduce the potential for permanent direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Issue BIO-3

Potential temporary direct and indirect impacts to potentially jurisdictional waters would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1m. These measures would significantly reduce the potential for temporary direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct and indirect impacts to potentially jurisdictional waters would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1l. These measures would significantly reduce the potential for permanent direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Issue BIO-4

Potential temporary direct impacts to wildlife moving through the SJWA would be less than significant with incorporation of mitigation measures MM-BIO-1a, MM-BIO-1c, and MM-BIO-1g. These measures would significantly reduce the potential for temporary direct impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct impacts to wildlife movement associated with implementation of the draft LMP would be less than significant.

Potential temporary indirect impacts to wildlife moving through the SJWA would be less than significant with incorporation of mitigation measures MM-BIO-1a, MM-BIO-1c, MM-BIO-1e, MM-BIO-1n, and MM-BIO-1q. These measures would significantly reduce the potential for temporary indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent indirect impacts to wildlife moving through the SJWA would be less than significant with incorporation of mitigation measures MM-BIO-1c, MM-BIO-1e, MM-BIO-1g, MM-BIO-1h, MM-BIO-1i, MM-BIO-1p, and MM-BIO-1q. These measures would significantly reduce the potential for temporary indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Issue BIO-5

Potential temporary direct and indirect impacts to oak-dominated vegetation communities would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1m. These measures would significantly reduce the potential for temporary direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Potential permanent direct and indirect impacts to oak-dominated vegetation communities would be less than significant with incorporation of mitigation measures MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1l. These measures would significantly reduce the potential for permanent direct and indirect impacts, but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

Issue BIO-6

The draft LMP will not conflict with the MSHCP. Many of the Planning Species for the Reserve Features and Subunits within each Area Plan of the SJWA are special-status and addressed in Section 5.3.6.2 of this document. As described in Section 5.3.6.2, implementation of the draft LMP would result in significant impacts to special-status species, and these impacts will be avoided, minimized, or mitigated to less than significant through implementation of mitigation measures listed in Section 5.3.6.8 (MM-BIO-1a through MM-BIO-1q). Potential adverse effects to Planning Species that are covered, but that are not special-status, would be further reduced through implementation of the mitigation measures listed in Section 5.3.6.8. Additionally, implementation of MM-BIO-1d requires that CDFW avoids and minimizes direct impacts to Covered Species that are not considered special-status on a case-by-case basis. Finally, CDFW will manage the SJWA to not conflict with the MSHCP for Unit No. 2, and will collaborate with the RCA. Therefore, implementation of the draft LMP would not conflict with the provisions the MSHCP and the level of significance after mitigation is less than significant.

5.3.9 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

16 U.S.C. 1531–1539. Federal Endangered Species Act of 1973.

16 U.S.C. 668a–668d. Bald and Golden Eagle Protection Act of 1940.

16 U.S.C. 703–712. Migratory Bird Treaty Act, as amended.

33 CFR 320. Section 404(b)(1) Guidelines For Specification of Disposal Sites For Dredged or Fill Material

40 CFR 230.1–230.98. Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

40 CFR 1500–1508. CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.

42 U.S.C. 4321–4370f. National Environmental Policy Act of 1969, as amended.

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5.4 CULTURAL AND PALEONTOLOGICAL RESOURCES

5.4.1 Introduction

This section provides an analysis of impacts to cultural resources that would result from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.4.2 provides a description of the existing conditions for cultural and paleontological resources in the SJWA, and Section 5.4.3 describes the regulatory setting. Section 5.4.4 describes the methodology used for the analysis of cultural and paleontological resources. Section 5.4.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts of implementation of the draft LMP and mitigation measures are provided in Section 5.4.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.4.7. The level of significance after mitigation is provided in Section 5.4.8, and Section 5.4.9 lists the references cited in this section.

There were no comments received in response to the Notice of Preparation (NOP) regarding cultural or paleontological resources. A copy of the NOP and comment letters received are included in Appendix A.

Information on cultural resources provided in this section is summarized from the *Cultural Resources Constraints Analysis* (Dudek 2017), which is included as Appendix 5.4-A of this Program Environmental Impact Report (PEIR).[1] This section evaluates previously recorded cultural and paleontological resources within the SJWA and provides management recommendations on a program level.

Definitions

Cultural resources are the remains and artifacts left from past human activity. The importance of cultural resources under the California Environmental Quality Act (CEQA) is connected to the research value and the information that the resources contain.

Cultural resources are categorized into three subtopics: archaeological, historic structures, and Tribal Cultural Resources (TCR).

- Archaeological resources are divided into two categories—prehistoric and historical. Prehistoric archaeological resources date from before the onset of the Spanish

[1] Pursuant to CEQA Guidelines Section 15120(d): "No document prepared pursuant to [CEQA] that is available for public examination shall include … information about the location of archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code." As such, Appendix 5.4-A includes a redacted version of Dudek's (2017) report that protects the confidentiality of such locations, and thereby protects against the potential disturbance and vandalism of potentially significant sites.

Colonial period (1769 through 1821), and historical archaeological resources date from after the onset of the Spanish Colonial period.

- Historic structures are commonly referred to as the "built environment." Any building, structure, or object that is at least 50 years old is referred to as a historic structure in this PEIR. This age threshold is specifically defined in federal regulations (36 CFR part 60.6); however, it is adopted as a general rule applied to CEQA-compliant evaluations for historical resources. The only exception for reducing this age threshold is if it can be demonstrated that sufficient time has passed for a resource to achieve significance within the past 50 years (14 CCR Section 4852).
- Tribal Cultural Resources are either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
    b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Paleontological resources represent the remains or traces of prehistoric life, exclusive of human remains, and include the localities where fossils are collected and the sedimentary rock formations in which they are found. The defining character of fossils or fossil deposits is their geologic age, which is generally regarded as older than 10,000 years, the generally accepted end of the last late Pleistocene glaciation and the beginning of the current Holocene epoch.

5.4.2 Existing Conditions

Cultural Setting

Evidence of continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside County, chronology building in the Inland Empire must rely on data from

neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1769), and Ethnohistoric (post-AD 1769).

Paleoindian Period (pre-5500 BC)

Evidence for Paleoindian occupation in the region is tenuous. Knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12 in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multi-component fluted point site, and MNO-680—a single component Great Basined Stemmed point site (see Basgall et al. 2002). At MNO-679 and MNO-680, ground stone tools were rare while finely made projectile points were common.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is intensely debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos's interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominately of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of groundstone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date from a shell produced a date of 6630 BC. Grenda (1997) suggested this site represents seasonal exploitation of lacustrine resources and small game and resembles coastal San Dieguito assemblages and spatial patterning.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the early Holocene (see Basgall and Hall 1990).

Archaic Period (8000 BC – AD 500)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in the coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (see Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among others), is relatively easy to define with assemblages that consist primarily of processing tools, such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (see Basgall and Hall 1990; Byrd and

Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow was adopted around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric Period (AD 500 – 1769)

The period of time following the Archaic and before Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before AD 1400. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone-handstone versus mortar-pestle technology is tenuous due to incomplete information on archaeological assemblages.

Ethnohistoric Period (post-AD 1769)

The SJWA area is located in close proximity to the Soboba Indian Reservation and the Soboba Band of Luiseño Indians. The area is located in the western portion of the ethnographic area of the Cahuilla (Kroeber 1925), with Luiseño and Cupeño directly to the south, Serrano to the north, Gabrielino to the northwest, and Juaneño to the southwest.

Luiseño

The Luiseño language is derived from the Cupan segment of the Takic language branch, a part of the Uto-Aztecan linguistic family. Luiseño is a term that was derived for Native Americans who were administered by the Mission San Luis Rey, and later applied specifically to the

Payomkawichum ethnic nation who were present in the region where the mission was founded. Meaning the "western people," the name Payomkawichum can also be applied to the closely related coastal Luiseño who lived north of the mission.

Luiseño territory was situated in the north half of San Diego County and the western edge of Riverside County. Their lands encompassed the southern Santa Margarita Mountains and the Palomar Mountains, and their foothills to the Pacific Ocean. The territory extended eastward into the San Jacinto Valley and the western foothills of the San Jacinto Mountains. Their neighbors to the north were the Juaneño (Acjachemen) who spoke a Luiseño dialect; the Cahuilla and Cupeño to the east who spoke other Takic Cupan languages; and the Ipai to the south who spoke a California-Delta Yuman language. Today, many contemporary Juaneño and coastal Luiseño identify themselves as descendants of the indigenous people living in the local area, termed the Acjachemen Nation.

The Luiseño resided in permanent villages and associated seasonal camps. Village population ranged from 50–400 with social structure based on lineages and clans. A single lineage was generally represented in smaller villages, while multiple lineages and a dominant clan presided in larger villages. Each clan/village owned a resource territory and was politically independent, yet maintained ties to others through economic, religious, and social networks in the immediate region. There were contact period villages in the vicinity of this segment, near the towns of Vista, San Marcos, and Escondido, but researchers have been unable to place rancheria names from the mission registers with these locations.

Like other indigenous California groups, the primary food staple was the acorn (Bean and Shipek 1978, p. 552), supplemented by other plant resources, fish, shellfish, waterfowl, and marine and terrestrial mammals. Villages were situated near reliable sources of water, needed for the daily leaching of milled acorn flour. Other plant foods included pine nuts and the seeds from grass, manzanita, sunflower, sage, chia, lemonade berry, wild rose, holly-leaf cherry, prickly pear, and lamb's quarter. Large and small prey included deer, antelope, rabbit, jackrabbit, wood rat, mice, and ground squirrel, as well as quail, ducks, and other birds. Fish, such as trout and salmon, were caught in rivers and creeks.

The first direct European contact with the Luiseño occurred in July 1769 with the Spanish expedition led by Gaspar de Portolá. During the next 6 years, 8 missions and forts were founded north and south of Luiseño territory. In 1776, Mission San Juan Capistrano was founded less than 10 miles north, and the populations of 5 northern Luiseño villages had been halved within 15 years. In 1798, Mission San Luis Rey was established within Luiseño territory, and the proselytizing among the Payomkawichum began in earnest. The Luiseño were not moved to the mission and consequently, the disruption of traditional lifeways and deaths from introduced diseases were not as devastating as experienced by many other indigenous Californian groups.

Several Luiseño leaders signed the statewide 1852 treaty, locally known as the Treaty of Temecula (an interior Luiseño village), but the U.S. Congress never ratified it. By 1875, however, reservations for the Luiseño were established in the Palomar Mountains and nearby valleys, including Pala, Pauma, Rincon, Pechanga, La Jolla, and San Pasqual. No reservations were established for the remaining coastal people, whose lands had already been usurped by the Mexican ranchos.

Cahuilla

The name "Cahuilla" is possibly derived from a native word meaning a "master, boss" (Bean 1978, p. 575). *'Ivi'lyu'atam* is the traditional term for the linguistically and culturally defined Cahuilla cultural nationality, and "refers to persons speaking the Cahuilla language and recognizing a commonly shared cultural heritage" (Bean 1972, p. 85). It is thought that the Cahuilla migrated to southern California about 2,000 to 3,000 years ago, most likely from southern Sierra Nevada ranges of east–central California with other related socio-linguistic groups (Takic speakers) (Moratto 1984, p. 559). The Cahuilla settled in a territory that extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains. While 60% of Cahuilla territory was located in the Lower Sonoran Desert environment, 75% of their diet from plant resources was acquired in the Upper Sonoran and Transition environmental zones (Bean 1978, p. 576).

The Cahuilla had three primary levels of socio-political organization (Bean 1978, p. 580). The highest level was the cultural nationality, encompassing everyone speaking a common language. Next were the two patrimoieties of the Wildcats (*tuktum*) and the Coyotes (*'istam*). Every clan of the Cahuilla fell into one or the other of these moieties. The third basic level consisted of the numerous political–ritual–corporate units called sibs, or a patrilineal clan (Bean 1978, p. 580). While anthropologists have designated groups of Cahuilla clans by their geographical location into Pass, Desert, and Mountain, suggesting dialect and ceremonial differences between these groupings, these social and linguistic areas were more a result of proximity than actual social connections. In reality, there was a continuum of minor differences from one clan to the next. Lineages within a clan cooperated in defense, in community subsistence activities, and in religious ceremonies. While most lineages owned their own village site and particular resource area, much of the territory was open to all Cahuilla people.

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water, such as springs or where large wells could be dug. Each family and lineage had their houses (*kish*) and granaries for the storage of food, and ramadas for work and cooking. There would often be sweat houses and song houses (for non-religious music). Each community also had a separate house for the lineage or clan leader. There was a ceremonial

house, or *kíš ʔámnawet*, associated with the clan leader, where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, and a "village" could spread out over a mile or two.

A wide variety of tools and implements were employed by the Cahuilla to gather and collect food resources. For the hunt, these included the bow and arrow, traps, nets, slings and blinds for hunting land mammals and birds, and nets for fish in Holocene-epoch Lake Cahuilla. Rabbits and hares were commonly brought down by the throwing stick, but communal hunts for these animals utilized tremendously large nets and clubs. Foods were processed with a variety of tools, including portable stone mortars, bedrock mortars and pestles, basket hopper mortars, manos and metates, bedrock grinding slicks, hammerstones and anvils, woven strainers and winnowers, leaching baskets and bowls, woven parching trays, knives, bone saws, and wooden drying racks. Food was consumed from a number of woven and carved wood vessels and pottery vessels. The ground meal and unprocessed hard seeds were stored in large finely woven baskets, and the unprocessed mesquite beans were stored in large granaries woven of willow branches and raised off the ground on platforms to keep it from vermin. Pottery vessels were made by the Cahuilla, and also traded from the Yuman-speaking groups across the Colorado River and to the south.

By 1819, several Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto, but interaction with Europeans was not as intense in the Cahuilla region as it was for coastal groups. The topography and lack of water also made the area less attractive to colonists than the coastal valley regions. By the 1820s, however, the Pass Cahuilla were experiencing consistent contact with the ranchos of Mission San Gabriel, while the individuals and families of the Mountain branch of the Cahuilla were frequently employed by private rancheros and were also recruited to Mission San Luis Rey.

By the 1830s, Mexican ranchos were located near Cahuilla territory along the upper Santa Ana and San Jacinto rivers, thus introducing the Cahuilla to ranching and an extension of traditional agricultural techniques. The Bradshaw Trail was established in 1862, and was the first major east–west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River with the coast. Bradshaw based his trail on the Cocomaricopa trail, with maps and guidance provided by local Native Americans. Journals by early travelers along the Bradshaw Trail told of encountering Cahuilla villages and walk-in wells during their journey through the Coachella Valley.

The continuing expansion of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862–63. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978, pp. 583–584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their territory (Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez) (Bean 1978, p. 585). Four of the reservations are shared with other groups, including the Chemehuevi, Cupeño, and Serrano.

Serrano

The Serrano Indians inhabited the southwestern Great Basin from the Tehachapi Mountains in the west; though, and south of the San Bernardino Mountains to the south and through the Mojave River corridor and the broader Barstow region (Bean and Smith 1978; Kroeber 1925). Kroeber (1925) also notes that the Serrano likely inhabited parts of the San Bernardino Valley, from what is now Rancho Cucamonga to Riverside. The Serrano territory was bordered by the Kitanemuk to the northwest, Tataviam and Gabrieleno to the west, the Cahuilla to the south, the Southern Paiute to the east, and the Kawaiisu.

Much of the information on the Serrano relates to areas near 29 Palms and Victorville (see Bean and Smith 1978; Strong 1929), with less information available further north. However, it is generally inferred that subsistence among the Serrano was based on a typical Mojave Desert adaptation, similar to other groups such as the Chemehuevi. Staple foods included Mesquite, pinyon, acorns, yucca, cactus, small seeds, chia, and ricegrass, with other plants supplementing the diet when available. Small game, including reptiles, rodents, and birds were the primary game targeted, but larger-bodied antelope and mountain sheep were taken if encountered (Bean and Smith 1978). Subsistence technology was relatively standard and included bows and arrows, throwing sticks, traps and snares, deadfalls, millingstones and handstones, and mortars and pestles; although the daily economic significance of any one of these is not well understood. Communal hunting (deer and rabbit) and gathering (acorn and mesquite) events were sometimes organized on an annual basis; Bean and Smith (1978) reporting that community activities were organized during the annual mourning ceremony (see also Drucker 1937). The Serrano also had a relatively standard material culture consisting of cordage-based containers, mats, and baskets, undecorated brownware pottery (paddle and anvil method), with basketry providing supplemental containers of various kinds, winnowers, and as hoppers for portable stone mortars (Drucker 1937).

Settlement was centered on single families, with dwellings consisting of basic circular wood lattice structures covered with either brush or mats as available (Drucker 1937). Like the Chemehuevi, more substantial dwellings occurred at seasonal villages; including shade structures, sweat houses, and granaries (elevated acorn or seed/nut storage facilities).

Historic Setting

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769 – 1821)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Father Crespi named "the campsite by the river Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002).

Mexican Period (1822 – 1848)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. Fourteen ranchos were granted between 1819 and 1846 in the future Riverside County (Middlebrook 2005). Ranchos deeded within and around the future SJWA were Rancho San Jacinto Nuevo y Potrero (encompassing the future SJWA) and Rancho San Jacinto Sobrante, granted by Governor Pio Pico in 1846, Rancho San Jacinto Viejo, granted by Governor Manuel Jimeno in 1842, and Rancho San Jacinto y San Gorgonio, granted by Governor Manuel Micheltorena in 1843 (Hallan-Gibson 1986). The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

American Period (1848 – Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories (Waugh 2003). Horticulture and

livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005).

Historical Overview of San Jacinto Valley

One of Riverside County's oldest communities, the City of San Jacinto was founded in 1870, and incorporated in 1888. The first Spanish explorers came to the San Jacinto Valley in the early 1770s. They returned in 1774 and finally in 1775, Colonel Juan Bautista de Anza led two excursions from Mexico, crossing the Colorado River at Yuma and crossing the Borrego Desert and up Coyote Canyon (City of San Jacinto 2006).

Around 1820, a cattle ranch was established in the San Jacinto Valley by the Mission San Luis Rey, named St. Hyacinth. In 1834, following Mexico's independence from Spain, the government took over the Mission San Luis Rey and granted its lands to private individuals. In 1842, Jose Antonio Estudillo and his family were granted over 110,000 acres of land in the area, including the 35,500-acre Rancho San Jacinto Viejo (City of San Jacinto 2015). The Estudillo family owned most of the San Jacinto Valley until the late 1880s, and developed several properties including two-story brick mansions in 1885, one of which is located on Main and Seventh Streets in San Jacinto. After California gained statehood in 1850, it took several years for other settlers to find the valley. The Estudillo family sold portions of the San Jacinto ranch in the late 1860s, following which the first American settlers moved into the valley. By 1868, one of the first communities developed was located near the San Jacinto River on the southern section of the valley. A school district was established during the following year, and the first store and post office were formed in 1870. San Jacinto was primarily an agricultural community for over 100 years. However, by the 1870s, the valley's local economy shifted from cattle ranching to horticulture. Local ranchers, who had begun by growing grains, later shifted to walnuts, apricots, and citrus, which became later the primary economic activity. Turkey ranching, dairy farming and local lime kilns were also among the valley's local economic activities (Warneke and Holtzclaw 2008).

Local development began to change shape during the 1870s, as a small town was slowly growing around the first established store. Furthermore, by 1889 a number of Los Angeles investors who

acquired roughly 15,000 acres of Estudillo's old ranch organized the San Jacinto Land Association, and established a rival town site less than 2 miles away from Old San Jacinto. During the following years, the Old and New San Jacinto battled for dominance, which did not end until the Santa Fe railroad was built in 1888. The railroad had built a branch line that ended on the west side of New San Jacinto on land previously donated by the Estudillo family for that purpose. As the Old San Jacinto was far from the tracks, it eventually faded away and eventually the City of San Jacinto was incorporated in 1888 (City of San Jacinto 2015).

Between 1900 and 1930s, tourism became a large source of income as tourist resorts, hotels, bath houses, and cabins began developing near the natural hot springs along the foothills to the north side of the valley. However, in 1937, after the Metropolitan Water District dug a tunnel through an adjacent mountain, the hot springs dried up, and the resorts were forced to close down (Warneke and Holtzclaw 2008).

The San Jacinto Valley continues to grow as an urban environment. The City of San Jacinto's focus is currently on commercial and industrial development. However, the area's economic growth continues to attract new residents.

Paleontological Setting

Review of geologic maps (Rogers 1965) of the area indicate surficial sedimentary deposits defined as recent Quaternary alluvium (map unit Qa) derived as alluvial fan deposits from the neighboring mountains and San Jacinto River wash. Geotechnical work conducted at a nearby solar energy project within the San Jacinto Valley produced similar deposits of younger and older Quaternary alluvium and fan deposits (Siren 2015). Younger alluvial deposits have a low paleontological resource sensitivity. However, older alluvium of Pleistocene age (~2.7 million – 12,000 years ago) may produce "Ice Age" deposits containing vertebrates and hence have a moderate to high paleontological resource sensitivity (McLeod 2016). Surrounding the LMP are Mesozoic (~ 252 – 66 million years ago) granites of which comprise the Lakeview Mountains to the south and San Jacinto Mountains to the east. As much of the elevated bedrock within the Davis and Potrero Units are igneous and metamorphic in origin, these rocks will be void of paleontological resources. Pliocene (~ 5 – 2.7 million years ago) nonmarine deposits of the Badlands east of the LMP, also referred to as the San Timoteo Badlands (Rogers 1965) crop out north of the Potrero Unit whereas the southern portion of the same unit exposes deposits from the late Miocene (~ 12 – 5 million years ago) Mount Eden Formation (McLeod 2016).

Native American Coordination

Native American Heritage Commission Sacred Lands File Search

A search of the Sacred Lands File (SLF) for the SJWA was requested from the Native American Heritage Commission (NAHC) on January 9, 2017. The NAHC responded on January 10, 2017, and stated that sites were located within the SJWA that may be impacted by the LMP. Because the SLF search does not include an exhaustive list of Native American cultural resources, the NAHC suggested contacting Native American individuals or tribal organizations who may have direct knowledge of cultural resources in or near the SJWA. The NAHC provided the contact list along with the SLF search results. Documents related to the NAHC SLF search are included in Appendix 5.4-A, *Cultural Resources Constraints Analysis* (Dudek 2017).

Letters were prepared and sent to each of the persons and entities on the contact list requesting information about cultural sites and resources in or near the LMP. These letters, mailed on February 21, 2017, contained a brief description of the LMP, a summary of the SLF search results, and a reference map. Recipients were asked to reply within 15 days of receipt of the letter should they have any knowledge of cultural resources in the area.

Four responses to the initial inquiry letters were received. Vincent Whipple, manager of the Cultural Resource Department for the Rincon Band of Luiseño Indians, replied via post mail dated February 24, 2017 that the LMP is within the Luiseño Aboriginal Territory of the Luiseño people but not within Rincon's historic boundaries. Mr. Whipple suggested that further inquiries defer to the Pechanga Band of Luiseño Indians or the Soboba Band of Luiseño Indians.

Hannah Feeney, Archaeologist and Archives Technician for the Agua Caliente Band of Cahuilla Indians, responded via email dated March 13, 2017. Ms. Feeney stated that the LMP area is within the Tribe's Traditional Use Area (TUA) and requested copies of all cultural resources documents for the LMP. Ms. Feeney further requested a cultural resources inventory of the LMP by a qualified archaeologist prior to any development activities in the area.

The two remaining responses to the initial inquiry letters requested initiation of consultation with CDFW under AB 52. Lee Clauss, Cultural Resources Management Director of the San Manuel Band of Mission Indians, replied via email on March 30, 2017. Ms. Clauss stated that TCRs and resources listed on the SLF are located within and adjacent to the Davis Unit and between the Davis and Potrero Units. Ms. Clauss requested the contact information for the lead agency to initiate consultation.

Joseph Ontiveros, cultural resource director of the Soboba Band of Luiseño Indians, responded via email on March 28, 2017. Mr. Ontiveros stated that there are multiple areas of concern and potential impacts surrounding the LMP. Mr. Ontiveros requested the following: (1) to initiate

consultation with the lead agency; (2) the transfer of project information to the Tribe; (3) for the Tribe to continue to act as a consulting tribal entity for the LMP; (4) that the Tribe be present during any cultural resources surveys or testing and during any ground-disturbing activities within the LMP; and (5) that specific mitigation language be included in the environmental document prepared for the LMP.

Assembly Bill 52

Assembly Bill (AB) 52 was signed into law on September 25, 2014, by Governor Jerry Brown and seeks to protect a new class of resources under CEQA: "tribal cultural resources." It requires that lead agencies undertaking CEQA review must, upon request of a California Native American tribe, begin consultation before the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project.

Under AB 52, a tribe requests to be on an agency notification list and the lead agency is required to send a notice to those tribes upon deciding to carry out a project subject to CEQA review. The tribes then have 30 days to formally request consultation with the agency. If a tribe sends a timely request, the agency has to initiate consultation within 30 days. Consultation is determined to be complete if the agency and the tribe agree to either avoid or mitigate any impacts to TCRs or if both entities conclude after a good faith, reasonable effort, that no such agreement can be reached before release of the CEQA document for public review.

On March 29, 2016, the CDFW sent (via certified mail) letters to each individual on the NAHC Local Government Tribal Consultation List pursuant to AB 52. The Pechanga Band of Luiseño Indians was not included on the consultation list; however, as a good faith effort to provide notification of the proposed LMP, CDFW sent a letter on April 29, 2016 to Anna Hoover, Cultural Analyst of the Pechanga Band of Luiseño Indians. The CDFW received two responses requesting formal consultation from Anna Hoover, Pechanga Band of Luiseño Indians, and Leslie Mouriquand, Consultant within the Cultural Resources Management Department, San Manuel Band of Mission Indians. CDFW held a consultation meeting with the Pechanga Band of Luiseño Indians on July 20, 2016.

As part of the NAHC SLF process (discussed above) additional letters were sent in February 2017 to Native American individuals or tribal organizations that may have direct knowledge of cultural resources in or near the SJWA. Two requests to meet with CDFW were made in response to letters sent as part of the NAHC SLF process by Lee Clauss, Director of the Cultural Resources Management Department, San Manuel Band of Mission Indians and Joseph Ontiveros, Director of Cultural Resources, Soboba Band of Luiseño Indians. The CDFW held meetings with Director Lee Clauss on April 11, 2017 and May 4, 2017.

Table 5.4-1 provides a summary of communication with the Tribes to date.

Table 5.4-1
Native American Communications

Date CDFW Provided Notification of "Project" under AB 52	Name and Title of Individual Contacted	Tribe/ Organization	Were Responses Received?	Type of Communication Received and Date	Request from the Tribe	CDFW Follow-through	Results of Consultation	Date Consultation Ended
April 29, 2016	Anna Hoover, Cultural Analyst	Pechanga Band of Luiseño Indians	Yes	Letter – May 23, 2016	Request for consultation	Meeting- July 20, 2016	LMP discussed and draft will be reviewed and any questions or comments will be directed to CDFW.	Ongoing
March 29, 2016	Leslie Mouriquand	San Manuel Band of Mission Indians	Yes	Email – July 21, 2016	Request for consultation	Meeting- May 4, 2017	Meeting with Lee Clauss, A link to LMP emailed for review. Questions and comments will be directed to CDFW.	Ongoing
Other Tribal Requests								
N/A. The Tribe's request to consult was included within the Tribe's response to the tribal information scoping letters initiated during the SLF search.	Lee Clauss, Cultural Resources Management Director	San Manuel Band of Mission Indians	Yes	Email – March 20, 2017	Request for consultation		See above	Ongoing
N/A. The Tribe's request to consult was included within the Tribe's response to the tribal information scoping letters initiated during the SLF search.	Joseph Ontiveros, Director of Cultural Resources	Soboba Band of Luiseño Indians	Yes	Letter – March 28, 2017	Request for consultation	Phone message- August 7, 2017	CDFW left a phone message. No return call to date.	Ongoing

California Historic Resources Information System (CHRIS) Records Search

In 2010, an initial records search was conducted at the CHRIS Eastern Information Center at University of California, Riverside (UC Riverside). An additional records search was completed in December 2016 which included a revised LMP area and a one-mile search radius. A total of 163 previous cultural resources studies have been conducted within a one-mile radius of the SJWA LMP. Of these, 47 studies have previously been conducted within the SJWA. Moreover, only seven of these prior studies are considered recent (conducted no longer than 5 years ago). These previous studies have included many types of investigations (i.e., archival review, built-environment documentation, pedestrian surveys, evaluations, and monitoring). The draft LMP's *Cultural Resources Constraints Analysis* (Dudek 2017) documents all previous cultural resources investigations completed within the SJWA area (see Appendix 5.4-A, Tables 1 and 2).

Within the Davis Unit, 32 cultural resource studies have been conducted since the mid-1970s. Based on the distribution of these studies, approximately 30% of the Davis Unit has been subject to previous cultural resource study, with the majority of these studies occurring within Subunits D1, D2, D6, and D14.

Within the Potrero Unit, seven cultural resources studies have been conducted since the early 1980s. Based on the distribution of these studies, approximately 25% of the Potrero Unit has been subject to previous cultural study, with the majority of these studies occurring along Potrero Creek within subunits P2, P5, and P10.

The CHRIS records search identified a total of 76 cultural resources within the LMP area (see Appendix 5.4-A, Tables 3 and 4). These include 43 prehistoric archaeological sites, ten prehistoric isolated artifacts, eight historic-age archaeological resources, ten multi-component resources with both prehistoric and historic components, and five historic structures.

Davis Unit

Fifty documented cultural resources are within the Davis Unit. These include 29 prehistoric sites, six prehistoric isolates, five multi-component sites with both prehistoric and historic components, five historic-age archaeological sites, and five historic structures. These sites are generally within the foothills of the Bernasconi Hills that form the eastern flank of Lake Perris. Of the prehistoric sites and prehistoric components or the multi-component sites within the Davis Unit, 24 contain bedrock milling surfaces; six sites contain rock art represented in various forms; six sites contain either midden soils readily visible on the surface or buried midden deposits; and four sites consist of surface artifact scatters. The historic-age archaeological sites and historic-age component of the multi-component sites are associated with homestead or farmstead ruins. The five documented historic structures within the Davis Unit pertain to either water storage and conveyance systems or roadway/transportation features.

According to the records search data, only one of these cultural resources has been recommended eligible for listing in the California Register of Historical Resources (CRHR). The CRHR-eligible resource, CA-RIV-6726, consists of the entire 242-mile alignment of the Colorado River Aqueduct.[2] Segments of this resource are mapped as running adjacent to the southern border of the Davis Unit (D14) for approximately one mile and again, for a relatively shorter distance, through the southern portion of the Potrero Unit (P8 and P9).

Two multi-component sites (P-33-00062 and P-33-00529) and one prehistoric site (P-33-00202) within the Davis Unit are considered "possibly eligible." These sites are generally within Subunits D6 and D14. The following paragraphs provide a description of these resources.

Site P-33-00062, located within Davis Subunit D14, consists of prehistoric rock art and milling and historic features such as a concrete foundation, remnants of an asphalt road, and landscaping features. Romano et al. (1989a) remarked that the site was "possibly eligible," however, no formal significance evaluation has been conducted at the site to verify eligibility.

Site P-33-00529, located within Subunit D6, was originally recorded in 1972 as consisting of prehistoric bedrock milling features and a midden deposit and a historic-age rock foundation, orchard, and refuse scatter. No midden was observed in the most recent update from 1989 (Owens et al.). Owens et al. (1989) mentioned that the site was "possibly eligible," however, no formal significance evaluation has been conducted at the site to verify eligibility.

Prehistoric site P-33-00202, within Subunit D1, was originally recorded in 1975 as a habitation site consisting of numerous loci of cultural features including rock art, milling, and artifact scatters. The site was mentioned as "possibly eligible" in the most recent update from 1989, although site conditions were considered fair to poor at the time (Romano et al. 1989b).

None of the remaining 40 sites within the Davis Unit have been evaluated to determine their historical significance and eligibility for listing in the CRHR. The six prehistoric isolates are not considered eligible for listing in the CRHR due to their limited potential to provide important archaeological or cultural information.

Potrero Unit

Twenty-seven documented cultural resources are within the Potrero Unit (within Subunits P2, P3, P5, P6, and P7). These include 14 prehistoric sites, four prehistoric isolates, five multi-component sites with both prehistoric and historic components, three historic-age archaeological sites, and one historic structure. The prehistoric sites, prehistoric isolates, and the prehistoric components of the

[2] Since this resource is in both the Davis and Potrero Unit, the record is applied to the total number of cultural resources found in each unit. Therefore, the total records found for the SJWA are 76; however, the totals under each unit account for this resource separately.

multi-component sites are entirely within the upland valley of the Potrero Creek tributary and Massacre Canyon. Of the prehistoric and prehistoric components of the multi-component sites within the Potrero Unit, seven contain bedrock milling surfaces, four sites contain rock art represented in various forms; rock shelters are represented at three sites; ephemeral midden soil is noted at one site; and five sites consist of surface artifact scatters. The historic-age archaeological sites and historic-age components of the multi-component sites (each within proximity to a road or dirt tract) are scattered throughout the Potrero Unit. The majority of these historic-age archaeological sites are associated with homestead ruins and infrastructure from ranching activity; however, two recorded lime quarry sites are also documented within the Potrero Unit. While recorded as two different sites, these two independent records for the lime quarry sites may actually represent one site. An early twentieth century Metropolitan Water District survey marker is also recorded within the Potrero Unit. The single historic structure within the Potrero Unit consists of a segment of the Colorado River Aqueduct (CA-RIV-6726).

According to the records search data, only one of these cultural resources has been recommended eligible for listing in the CRHR. As previously discussed, the CRHR-eligible resource CA-RIV-6726 consists of the entire 242-mile alignment of the Colorado River Aqueduct. Segments of this resource are mapped as running adjacent to the southern border of the Davis Unit for approximately one mile and again, for a relatively shorter distance, through the southern portion of the Potrero Unit.

One site within the Potrero Unit (P-33-00239) is considered "most likely eligible" (Romano et al. 1989c). The multi-component site is located within Subunits P10 and P11. The site, originally recorded in 1961, consists of prehistoric rock art, milling features, and an "extensive midden deposit" (1989c), and a historic-age concrete foundation and refuse scatter. The site was last updated in 1991. No formal significance evaluation has been conducted at the site to verify eligibility.

None of the remaining 21 sites within the Potrero Unit have been evaluated to determine their historical significance and eligibility for listing in the CRHR. The four isolates are not considered eligible for listing in the CRHR.

Archival Review

As previously defined, any building, structure, or object that is at least 50 years old is referred to as a historic structure in this PEIR. Historic topographic maps from 1901 to the present and aerial photographs going back to 1966 were reviewed. These items showed numerous areas within the LMP which may contain previously undocumented historic structures (NETR 2016). This observation was based solely on "desktop" analysis. A site-specific survey would be required to confirm the presence or condition of these resources. The following paragraphs discuss general areas of sensitivity for historic structures within the Davis and Potrero Units.

Ranching was practiced in the SJWA for well over a century. As described above under the Mexican Period (1822 – 1848) discussion, Rancho San Jacinto Nuevo y Potrero, a Mexican land grant deeded in 1846, subsumed the future SJWA. While it is unlikely that historic-age settlement buildings within the LMP are still present, evidence of homesteading/ranching activities may still exist. This may include elements such as cisterns, troughs, landscape features, environmental adaptations such as windbreaks, remnants of fencing and corrals, the presence of orchards, water conveyance structures, and evidence of other landscape modifications.

Davis Unit

A prominent feature on the 1901 topographic map is Colony Heights. Colony Heights was a late nineteenth century settlement established at the base of the Bernasconi Hills. The settlement flourished for only a few years before a lack of domestic water forced settlers to move to Riverside (Friends of Nuevo Community Council 2014). There is a high probability of encountering undocumented historic structures and archaeological sites associated with Colony Heights within the Davis Unit (Subunits D1, D2, D6, D8, D14, and D15).

Potrero Unit

The Potrero Unit remains largely undeveloped due to the rugged character of the area. However, there is a high probability of encountering undocumented historic structures and archaeological sites especially within Potrero Creek, as well as tributary valleys. By 1901, settlements dotted the landscape throughout the Potrero Unit, with a few homesteaders settling in and around Potrero creek. The area remained unchanged until the 1960s when Lockheed Martin constructed facilities within Potrero Creek. The weapons testing facilities ceased operations by the mid-1970s. According to information from Lockheed Martin, the abandoned historic-age buildings/structures associated with the facilities shall remain in their current location and may be restored/modified by CDFW after Lockheed Martin completes remediation of the area for hazards.

Existing Structures and Facilities

There are existing known structures and facilities within the SJWA that will be subject to the LMP. While this is not a comprehensive list of all the buildings and structures within the SJWA, the following known buildings and structures are within the LMP management areas where there are specific proposed activities (i.e., Existing, Proposed, and Future Potential designations) and Operations and Maintenance existing and proposed tasks.

Davis Unit

Within the Davis Unit there is an existing clubhouse and 15 small cabins on Subunit D4. These buildings would not be removed or altered in any way under the LMP. Within Subunit

D8 there is an existing office/check station, public restroom; shop and utility building, three shade structures, two double-wide trailers, two approximately 1,500-gallon water tanks, and a domestic water well. The existing office/check station, restroom, shop and utility building, shade structures, water tanks, and water well will remain on site; however, minor repairs may occur on an as needed basis. These buildings were all constructed in the 1980s and would not be considered historic structures. The draft LMP includes removal of the two existing employee residences (trailers) and construction or installation of three new manufactured homes for employees. The existing trailers date back to 1973 and 1980 and would not be considered historic structures. Other construction activities under the draft LMP would not affect any of the other known existing buildings including the headquarters office, a self-check hunting station, and shop and utility building located on Davis Road by Subunits D7 and D8.

Potrero Unit

There are several known buildings/structures on the Potrero Unit that were formerly owned/maintained by Lockheed Martin and are proposed to be restored/modified and remain in their current location. These buildings include a brick warehouse with garage and office, three bunkers, a temple with a hut next to the temple, a missile silo, and a trailer. There is also a historic landing strip and rocket launching structure with a 30-foot-tall concrete vertical wall within Subunit P3.

Given that Lockheed Martin constructed the facility within Potrero Creek in the 1960s, buildings and structures associated with the facility would be considered historic structures (50 years old or greater). According to the draft LMP, these potential historic structures may be impacted through restoration or modification activities undertaken by CDFW after the area is remediated.

Paleontological Resources Records Search

To identify paleontological resource localities that may exist in or near the SJWA, and to assess the possibility for such resources to be encountered during implementation of the draft LMP, geologic maps and available reports for the SJWA and neighboring projects were reviewed. In addition, a museum record search was conducted through the Natural History Museum of Los Angeles County on December 30, 2016. The findings of the geologic maps and the record search is summarized below.

Review of geologic maps of the SJWA area indicate surficial sedimentary deposits defined as recent Quaternary alluvium derived as alluvial fan deposits from the neighboring mountains and San Jacinto River wash. Younger alluvial deposits have a low paleontological resource sensitivity. Due to the younger alluvium, igneous and metamorphic deposits onsite, it is assumed that there is low-sensitivity in these areas. However, older alluvium of Pleistocene age may produce “Ice Age” deposits containing vertebrates and hence have a moderate to high

paleontological resource sensitivity (McLeod, 2016). Surrounding the SJWA area are Mesozoic granites that comprise the Lakeview Mountains to the south and San Jacinto Mountains to the east. As much of the elevated bedrock within the Davis and Potrero units are igneous and metamorphic in origin, these rocks will be void of paleontological resources. Pliocene nonmarine deposits of the Badlands east of the SJWA area, also referred to as the San Timoteo Badlands (Rogers, 1965) outcrop north of the Potrero Unit whereas the southern portion of the same unit exposes deposits from the late Miocene Mount Eden Formation (McLeod, 2016).

The museum records search provided information on any known or documented fossil localities within or near the SJWA. Although no vertebrate fossil localities were found to lie directly within the SJWA boundaries, the same sedimentary deposits found elsewhere, have produced fossils. The closest locality is from gravel pits west of Jack Rabbit Trail located on the western side of Mount Eden outside the eastern parcel of the Davis Unit where a specimen of a fossil horse (LACM 4540), *Equus*, was recovered. A fossil horse (LACM 5168), *Equus*, and camel (6059), *Camelops hesternus*, was also found in older Quaternary sediments southwest of the SJWA area near Lake Elsinore. Additional fossil localities associated with the Pliocene San Timoteo Formation were located within the north-central portion of the Potrero Unit and include fossil mastodon (LACM 6596), a fossil fish (LACM 65235), and fossil plant cones and algae (LACM 1014 and 1016, respectively) (McLeod 2016). Bedrock exposures of the Mount Eden Formation around and east of Eden Hot Springs have produced fossils of camel, deer, horse, and rhinoceros, *Teleoceras hicksi* (LACM 1118-1119 and 5377) as well as specimens of fossil camels (LACM 1120), *Pliauchenia merriami* and *Titanoylopus,* outside the eastern parcel of the Davis Unit (McLeod 2016). Earlier fossil vertebrate discoveries from the San Timoteo Badlands, which include both the Mount Eden and San Timoteo formations, may be traced back to the early 1900s. Sedimentary rocks of the San Timoteo Badlands have produced fossils that span across three of the four North American Land Mammal Ages (Albright 1999).

The County of Riverside General Plan's Paleontological Sensitivity map was also reviewed for relative sensitivity. The Paleontological Sensitivity map indicates high sensitivity (H) within much of the SJWA area, as shown on Figure 5.4-1. Paleontological sensitivity is defined as "geologic formations or mapable rock units that contain fossilized body elements and trace fossils such as tracks, nests, and eggs" (County of Riverside 2016). A designation of H indicates areas where nonrenewable paleontological resources are known to exist due to surface outcrops and where sediments containing paleontological resources are expected.

Figure 5.4-1 Paleontological Sensitivity

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A designation of low sensitivity (L) is an area determined by a qualified vertebrate paleontologist to have a low potential for resources to be present, while an undetermined sensitivity (U) notes those areas underlain by sedimentary rocks where literature and unpublished studies are not available and therefore, must be evaluated by field studies.

Older Quaternary alluvial deposits, characteristically reddish-brown in color, have been known to produce Ice Age mammals in the SJWA vicinity and throughout Riverside County, as confirmed by the record search results. Although fossils, including a whipsnake (*Masticophis*) and a specimen of an extinct deer (*Odocoileus*), have been found west and west-southwest of the SJWA near I-15 and between the Cities of Corona and Norco, no paleontological resources were identified within the boundaries of the SJWA as a result of the record search. However, given the number of fossil discoveries within the older Quaternary deposits, the Pliocene San Timoteo Formation, and Miocene Mount Eden Formation, as well as their close proximity to the SJWA, the area is considered moderate to highly sensitive for the presence of paleontological resources.

5.4.3 Applicable Regulations, Plans, and Policies

As summarized below, the treatment of cultural resources located on the SJWA is governed by state and local laws and regulations. There are specific criteria for determining whether prehistoric and historic sites or objects are significant or protected by law. For instance, state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. As a whole, the laws and regulations seek to avoid impacts to significant prehistoric or historic resources, and, when avoidance is not feasible, to mitigate those impacts to less-than-significant levels. In some cases, mitigation can be achieved through "preservation in place" techniques; but when such techniques are infeasible, mitigation can be accomplished through other techniques, such as data recovery.

Federal

National Historical Preservation Act

The National Historic Preservation Act of 1996 established the National Register of Historic Places (NRHP) as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. Properties listed or eligible for listing in the NRHP must meet certain criteria for historical significance and possess integrity of form, location, and setting. Under Section 106, federal agencies are required to consider the effects of their actions, or those they fund or permit, on properties that are listed or may be eligible for listing. The regulations in 36 CFR 60.4 describe the criteria to evaluate cultural resources for inclusion in the NRHP. Properties may be listed in the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. No historic properties, buildings or resources eligible for listing in the NRHP are known to exist on the SJWA.

The Department of the Interior has set Standards and Guidelines for Archaeology and Historic Preservation. While these standards and guidelines are not regulatory and do not set or interpret agency policy, a project that follows the standards and guidelines generally shall be considered mitigated to a less-than-significant level, according to Section 15064.5(b)(3) of the CEQA Guidelines (14 CCR 15000 et seq.).

State

The California Register of Historical Resources (California Public Resources Code Section 5020 et seq.)

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." (Public Resources Code (PRC) Section 5020.1(j)). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." (PRC Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Generally, resources less than 50 years old are not considered for listing in the CRHR; however, they may be considered for listing if the evidence indicates that sufficient time has passed to allow one to understand the historical importance of the resource (see 14 CCR, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes

properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

The Native American Historic Resources Protection Act (Public Resources Code Section 5097, et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHP to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Environmental Quality Act and CEQA Guidelines

As described further below, the following excerpts from the CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological, historic resources, and tribal cultural resources:

1. PRC Section 21083.2(g) defines "unique archaeological resource."
2. PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines historical resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource. It also defines the circumstances when a project would materially impair the significance of a historical resource.
3. PRC Section 21074 (a) defines "tribal cultural resources" and §21074(b): defines a "cultural landscape."
4. PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.

5. PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource." (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). An "historical resource" is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term "historical resource" also includes any site described in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." Public Resources Code Section 21083.2(g) defines a "unique archaeological resource" as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2014, CEQA was amended to apply to "tribal culture resources" as well. PRC Section 21074 provides some guidance for defining tribal cultural resources as either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or

determined to be eligible for inclusion in the CRHR; or (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

In applying the criteria set forth in PRC subdivision (c) of Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

All historical resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code section 21084.1; CEQA Guidelines Section 15064.5(a)). A site or resource that does not meet the definition of "historical resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further. (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)).

Under CEQA, a project will be deemed to cause a significant cultural impact if it results in a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." (CEQA Guidelines Section 15064.5(b)(1); PRC §5020.1(q)). The significance of a historical resource is "materially impaired" when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

   (CEQA Guidelines Section 15064.5(b)(2)).

Pursuant to these sections, the lead agency first evaluates whether a project site contains any "historical resources," then assesses whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements. Specifically, "[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:"

1. "Planning construction to avoid archaeological sites."
2. "Deeding archaeological sites into permanent conservation easements."
3. "Capping or covering archaeological sites with a layer of soil before building on the sites."
4. "Planning parks, greenspace, or other open space to incorporate archaeological sites."

(PRC Section 21083.2(b)(1)-(4).)

If these "preservation in place" options are not feasible, mitigation may be accomplished through data recovery, which may involve excavation. (PRC Section 21083.2(d); CEQA Guidelines Section 15126.4(b)(3)(C).) Public Resources Code Section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

These same requirements are set forth in slightly greater detail in CEQA Guidelines Section 15126.4(b)(3), as follows:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;

3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]

4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.

Note that, when conducting data recovery, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation." (*Ibid*.) However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center." (CEQA Guidelines Section 15126.4(b)(3)(D).)

Further, CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are set forth in PRC Section 5097.98 which is discussed further below.

Finally, under California law, paleontological resources are protected by CEQA and PRC 5097.5, which indicates that no person shall knowingly and willfully excavate upon, remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over the lands.

California Public Resources Code, Section 5097.98

Section 5097.98 of the PRC addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in

any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify the Most Likely Descendant. With the permission of the landowner, the Most Likely Descendant may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the Most Likely Descendant by the NAHC. The Most Likely Descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Assembly Bill 52

AB 52 was signed on September 25, 2014, by Governor Jerry Brown and seeks to protect a new class of resources under CEQA: "tribal cultural resources." It requires that lead agencies undertaking CEQA review must, upon request of a California Native American tribe, begin consultation before the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project.

Under AB 52, lead agencies must now evaluate, just as they do for other historical and archaeological resources under CEQA, a project's potential impact to a tribal cultural resource. A tribal cultural resource is defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe, which may include non-unique archaeological resources previously subject to limited review under CEQA. "California Native American tribes" are all tribes (federally recognized or not) on the "contact list" maintained by the NAHC. If substantial evidence demonstrates that a project may cause a substantial adverse change to a tribal cultural resource, AB 52 provides that the project may have a significant effect on the environment. AB 52 also contains a list of potential mitigation measures, including a preference for preservation in place, which must be considered by a lead agency, unless it determines that the measure is infeasible (BBK LLP 2014).

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless otherwise noted. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan (2015)

According to the Multipurpose Open Space Element (Chapter 5) of the County of Riverside's General Plan (Riverside County 2015), cultural resources are nonrenewable resources and often yield unique information about past societies and environments, and provide answers for modern day social, scientific, and heritage concerns. The consideration and preservation of important examples of history within Riverside County benefit the public by maintaining historic identity and a sense of place and tradition. The following policies are provided:

Policy OS 19.1: Cultural resources (both prehistoric and historic) are a valued part of the history of the County of Riverside.

Policy OS 19.2: The County of Riverside shall establish a Cultural Resources Program in consultation with Tribes and the professional cultural resources consulting community that, at a minimum would address each of the following: application of the Cultural Resources Program to projects subject to environmental review; government-to-government consultation; application processing requirements; information database(s); confidentiality of site locations; content and review of technical studies; professional consultant qualifications and requirements; site monitoring; examples of preservation and mitigation techniques and methods; curation and the descendant community consultation requirements of local, state and federal law.

Policy OS 19.3: Review proposed development for the possibility of cultural resources and for compliance with the cultural resources program.

Policy OS 19.4: To the extent feasible, designate as open space and allocate resources and/or tax credits to prioritize the protection of cultural resources preserved in place or left in an undisturbed state.

Policy OS 19.5: Exercise sensitivity and respect for human remains from both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

The following policies are intended to ensure that paleontological resources are appropriately considered:

Policy OS 19.6: Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8 (of the General Plan), a paleontological resource impact mitigation

program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.

Policy OS 19.7: Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8 (of the General Plan), no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.

Policy OS 19.8: Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8 (of the General Plan), a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.

Policy OS 19.9: Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet.

City of Moreno Valley General Plan

The Conservation Element of the City of Moreno Valley General Plan (City of Moreno Valley 2006) includes the following policies, objective, and programs related to cultural resources:

Objective 7.6: Identify and preserve Moreno Valley's unique historical and archaeological resources for future generations.

Policy 7.6.1: Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.

Policy 7.6.2: Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities.

Policy 7.6.3: Minimize damage to the integrity of historic structures when they are altered.

Policy 7.6.4: Encourage restoration and adaptive reuse of historical buildings worthy of preservation.

Policy 7.6.5: Encourage documentation of historic buildings when such buildings must be demolished.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) includes the following goal and policy related to cultural and paleontological resources:

Goal 5: The City of Beaumont will participate in Cultural Resources management and/or preservation efforts.

Policy 15: The City of Beaumont will identify and preserve those sites/buildings that are important to the community for the benefit of the future generations that will reside or work in the City.

City of San Jacinto General Plan

The City of San Jacinto General Plan (City of San Jacinto 2006) includes goals, objectives, and policies that seek to preserve and protect the City's important cultural, historic, and paleontological resources. The following policies from Land Use Goal 6 apply to the preservation and protection of these resources:

Policy 6.1: Balance the benefits of development with potential impacts to existing cultural resources.

Policy 6.2: Identify, designate, and protect buildings, districts, and sites of historic importance within San Jacinto.

Policy 6.5: Encourage the use of project design features that reduce impacts to important local and regional environmental resources.

Resource Management Goal 4 promotes cultural awareness through the preservation of the City's historical, archaeological, and paleontological resources. The following policies encourage the protection and enhancement of these resources for generations to come:

Policy 4.1: Wherever possible, identify, protect and preserve the historical resources of the City.

Policy 4.4: Ensure new development is compatible with and complementary to adjacent historic resources.

Related Resource Management Elements include implementation of the following programs:

RM-16: Continue to assess development proposals for potential impacts to sensitive historic, archaeological, and paleontological resources pursuant to CEQA

a. For structures that potentially have historic significance, the City shall require that a study be conducted by a professional archaeologist or historian to determine the actual significance of the structure and potential impacts of the proposed development in accordance with CEQA Guidelines Section 15064.5. The City may require modification of the project and/or mitigation measures to avoid any impact to a historic structure, when feasible, such as retaining or rehabilitating historic buildings pursuant to City of San Jacinto guidelines. If a historic building cannot be avoided by a project associated with the proposed General Plan, the significant historic building may be relocated to avoid impacting the structure. (See Implementation Program RM-19 below).

b. For all development proposals within areas with the potential to contain prehistoric/historic resources, the City shall require a study to be conducted by a professional archaeologist. The objective of the study will be to determine if significant archaeological resources are potentially present and if the project will significantly impact these resources. If significant impacts are identified, the City may require the project to be modified to avoid the impacts, or require mitigation measures to mitigate the impacts. Mitigation may involve archaeological investigation and resources recovery.

c. The City shall require an assessment of the potential for development proposals to significantly impact paleontological resources pursuant to the California Environmental Quality Act Guidelines. If the project involves earthworks, the City may require a study conducted by a professional paleontologist to determine if paleontological assets are present, and if the project will significantly impact the resources. If significant impacts are identified, the City may require the project to be modified to avoid impacting the paleontological materials, require monitoring of rock units with high potential to contain significant nonrenewable paleontological resources, or

require mitigation measures to mitigate the impacts, such as recovering the paleontological resources for preservation.

d. The City shall make provisions for archaeological resources accidentally discovered during construction, or when the City does not have approval authority over the project, encourage the lead agency to make such provisions. These provisions shall include an immediate evaluation of the find and contingency funding and time allotment sufficient to allow for the recovery of the archaeological resource or implement measures to avoid disturbing the resource if the archaeological resource is determined to be unique.

e. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, the City shall halt excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the descendants from the deceased Native Americans have made a recommendation to the landowner or the persons responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC section 5097.98, or the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.

f. Prior to adopting any general plan, specific plan, or any amendment thereto, the City shall notify appropriate tribes of the opportunity for consultation for the purpose of preserving, or mitigating impacts to, cultural places located on land within the City's jurisdiction that may be affected by the proposed plan or amendment.

g. Prior to the adoption or substantial amendment of a general plan or specific plan, the City shall refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the City's jurisdiction for a 45 day comment period. In addition, at least 10 days prior to a public hearing, the City shall send notice to tribes that have filed a written request for such notice.

h. Prior to designating open space, the City shall consult with tribes if the affected land contains a cultural place and if the affected tribe has requested public notice under Government Code section 65092.

5.4.4 Methodology

This PEIR evaluates the potential short-term (during construction), direct, indirect, and cumulative environmental impacts of future activities implemented under the draft SJWA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity, which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning that any activities that are existing and will not be modified or expanded into previously undisturbed areas are not evaluated in this PEIR (but are part of the existing baseline conditions). Specific to potential indirect impacts to cultural resources from future public use at the Potrero Unit, the public would adhere to existing rules and regulations that govern specific activities; therefore, only those indirect impacts associated with specific draft LMP activities under the jurisdiction of CDFW or their contractors are evaluated in this PEIR.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Section 1600 et seq. or 2081 of the Fish and Game Code, or be reviewed by CDFW as a responsible agency under CEQA Guidelines Section 15096, CDFW may use that opportunity to evaluate those other project permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

The draft LMP is a program level plan that considers possible future activities, some of which do not have specific project footprints or areas of potential disturbance. Once these activities are formally proposed under the LMP, the CDFW would be responsible to ensure that cultural resource identification, assessment, and treatment is carried out consistent with the requirements of CEQA, or in the case of federal funding or permitting, Section 106 of the National Historic Preservation Act (NHPA).

The mitigation measures developed for the SJWA LMP establish protocols for identification and treatment of cultural resources, including any TCRs that may be present within LMP. For the purposes of this PEIR, the potential for impacts to previously identified cultural and paleontological resources are considered on a program level only and are intended to assist with implementation of the draft LMP. The records search, historic topographic maps, and aerial images review conducted for this PEIR (described in Section 5.4.2., Existing Conditions) provided information on the areas in which cultural resources are known to exist and should be considered early in the LMP activity planning process. This review also provided information on

the areas where the probability of encountering undocumented cultural resources is potentially high. One or more of the consulting Tribes have identified areas where TCRs may be present. It is the intent of CDFW to avoid any TCRs associated with future new or expanded LMP activities. It is assumed that through ongoing coordination and review of this PEIR, the Tribes will notify CDFW regarding specific locations of known TCRs, and coordinate with CDFW regarding further action, including the possibility of designating these areas as off-limits to the public, if necessary.

As only 30% of the Davis Unit and 25% of the Potrero Unit have been subject to previous cultural studies (see Appendix 5.4-A), it is assumed that any ground-disturbing activities (which involve disturbing subsurface soil layers such as grading, excavation, and disking in areas not previously disturbed) within the SJWA under the draft LMP could potentially affect cultural resources. Direct impacts to archaeological resources or human remains most often occur during excavation or grading, but archaeological sites can also be subject to indirect impacts (e.g., vegetation stripping that could increase erosion). Impacts to historic built environmental features may result from demolition or the physical alteration of the structure. Impacts may also occur if the physical setting of the building is changed by adding elements that may impact integrity of the surrounding landscape, if that landscape contributes to the significance of the structure.

Evaluation of the potential for paleontological resources to exist within the SJWA area was derived from examining geologic maps, reviewing past project reports, and reviewing information gathered through the Natural History Museum of Los Angeles County records search.

Prior to release of this PEIR, the Cultural and Paleontological Resources section and the Cultural Resources Constraints Analysis (see Appendix 5.4) were provided to the San Manuel Band of Mission Indians, Pechanga Band of Luiseño Indians, Soboba Band of Luiseño Indians, and the Agua Caliente Band of Cahuilla Indians for their review. The only comments received were from the San Manuel Band of Mission Indians. The Agua Caliente Band of Cahuilla Indians deferred to the comments provided by San Manual Band of Mission Indians.

5.4.5 Standards of Significance

The State of California has developed guidelines to address the significance of cultural and paleontological resources based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Cultural and paleontological impacts would be considered significant if a project would:

1. Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of a unique archaeological resource, pursuant to CEQA Guidelines Section 15064.5.

3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Causes a substantial adverse change in significance of a tribal cultural resource as defined in PRC Section 21074.
5. Disturb any human remains, including those interred outside of formal cemeteries.

Paleontological Resources Standards of Significance

Fossils considered "unique" under the CEQA Guidelines are addressed in the Society of Vertebrate Paleontology's (2010) *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. According to the Society of Vertebrate Paleontology (SVP 2010):

> "Significant paleontological resources are fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, stratigraphic and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."

Fossils that would be considered unique under CEQA Guidelines, Section V(c) of Appendix G (CEQA; Public Resources Code Section 21000, et seq.) should be collected, prepared, analyzed, reported, and curated.

5.4.6 Impact Analysis and Mitigation

Issue CUL-1 Would the project cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5?

Davis Unit

The draft LMP's Cultural Resources Constraints Analysis included in Appendix 5.4-A (Dudek 2017) documents all previous cultural resources investigations completed within the SJWA LMP area. Approximately 30% of the Davis Unit has been subject to previous cultural resource study, with the majority of these studies occurring within Subunits D1, D2, D6, and D14. Based on the distribution, intensity, and timeframe of the previous studies conducted within the Davis Unit, it can be determined that the majority of the LMP area would need to be inventoried for cultural resources associated with implementation of future activities.

Direct and Indirect Impacts

Based on the analysis of the literature review, the probability of encountering surficial or subsurface cultural resources is high within the Davis Unit, especially within Subunits D1, D2, D6, D8, D14, and D15. Native people occupied the area extensively for prolonged periods of time, as evidenced by numerous sites with midden deposits, and the large number of recorded bedrock milling surfaces attests to extensive gathering and processing of food and other resources along seasonal and larger drainages. The presence of documented rock art within the SJWA represents an area of enduring importance to Native Americans as these sites are typically associated with religious or spiritual activities. The documented historic sites within the SJWA represent settlement of the San Jacinto Valley by farmers and ranchers in the late nineteenth and early twentieth centuries.

Future construction activities that are entirely new and/or are existing activities being expanded into previously undisturbed areas within the Davis Unit that involve land grading, trenching, or excavation include the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources (through targeted grading); installation of water distribution, management, and water storage systems; construction of employee residences (manufactured homes); and expanded trail/interpretive services projects and new roads. In addition to construction activities, future expanded activities include passive recreation (e.g., hiking and wildlife viewing), agriculture, hunting dog training, and fire management. One of the larger future LMP activities includes a water storage facility project and a new on-site pipeline that could occupy as much as approximately 275 acres and be excavated to a depth of 9 feet within Subunit D2. The other potential location for this reservoir could occupy approximately 235 acres within Subunits D1 and D2. The LMP includes removal of two existing employee residences (mobile homes) and construction or installation of three new manufactured homes for employees. The existing mobile homes date back to 1973 and 1980 and would not be considered historic structures. Installation of the new residential units (e.g., manufactured homes) would not require significant land disturbance or excavation. Other construction activities under the draft LMP would not affect any of the other existing buildings including the headquarters office, a self-check hunting station, and shop and utility building located on Davis Road by Subunits D7 and D8. These buildings were all constructed in the 1980s and would not be affected by activities under the draft LMP.

Three cultural resources of undetermined significance that are within the Steven's Kangaroo Rat (SKR) resource management areas are located in the 648 acres proposed for SKR management in Davis Subunits D1, D2, and D3. Proposed tasks within this new management area include mowing and shallow disking for habitat management required as part of the original basis for

establishing SKR management in the SJWA[3]. One of the cultural resources, P-33-21096, is the historic-age Gilman Springs Road. This is a developed and improved road that would not be impacted by the proposed activities. Resource P-33-21095 is the historic Jackrabbit Trail Route, an unimproved dirt road. Resource P-33-11621 consists of remnants of an early twentieth century farmstead. These latter two resources of undetermined significance may be impacted by habitat management activities.

All other potential activity locations within the Davis Unit contain no known cultural resources. There are, however, a number of recorded cultural resources near existing facilities. that would be subject to ongoing, maintenance activities (i.e., maintaining existing trails, invasive species removal, repairing fences, etc.) under the draft LMP. The current ongoing maintenance activities of these facilities are not evaluated in this PEIR because they are not new or an expansion of an existing activity, as such the mitigation measures proposed below do not apply to existing maintenance activities. Table 5.4-2 lists the previously recorded resources and the feature closest to the resource and is included for informational purposes only because these features are located near existing trails or infrastructure. Only new or expanded activities, including maintenance, in the vicinity of CA-RIV-6726 (a CRHR-eligible resource, consisting of the entire 242-mile alignment of the Colorado River Aqueduct) have the potential to significantly impact this historical resource.

Table 5.4-2
Previously Recorded Cultural Resources within the Davis Unit

Primary Number	NRHP/CRHR Eligibility Status	Resource Description (1)	Unit	Management Subunit	Potential Impacts
33-00395	Unknown	Prehistoric: Habitation site with bedrock milling, a rock ring, and lithic scatter.	Davis	D12	Near Existing Features: Unimproved Trails
33-00396	Unknown	Prehistoric: Bedrock milling station.	Davis	D12	Near Existing Features: Unimproved Trails
33-00524	Unknown	Prehistoric: Bedrock milling station.	Davis	D6	Near Existing Features: Unimproved Trails, Utility Line
33-00525	Unknown	Prehistoric: Bedrock milling station.	Davis	D6	Near Existing Features: Unimproved Trails, Utility Line
33-00526	Unknown	Prehistoric: Bedrock milling station.	Davis	D6	Near Existing Features: Unimproved Trails, Utility Line
33-00608	Unknown	Prehistoric: Bedrock milling station.	Davis	D6	Near Existing Features: Utility Line
33-01773	Unknown	Prehistoric: Lithic tool and debitage scatter.	Davis	D15	Near Existing Features: Unimproved Trails

[3] Both the Davis and Potrero Units are designated as SKR Core Reserve management areas pursuant to the approved SKR Habitat Conservation Plan.

Table 5.4-2
Previously Recorded Cultural Resources within the Davis Unit

Primary Number	NRHP/CRHR Eligibility Status	Resource Description (1)	Unit	Management Subunit	Potential Impacts
33-02951	Unknown	Prehistoric: Bedrock milling station.	Davis	D6	Near Existing Features: Transmission Line
33-03388	Unknown	Prehistoric: Bedrock milling station.	Davis	D15	Near Existing Features: Unimproved Trails, Transmission Line
33-04211	Unknown	Prehistoric: Bedrock milling station with lithic tool and debitage scatter and ceramic scatter. "Subsurface component may be present" (Schmidt 1990).	Davis	D6	Near Existing Features: Unimproved Trails, Utility Line
33-04212	Unknown	Prehistoric: Sparse lithic scatter "at edge of plowed field and in road berm…may be result of redeposition of materials" (Schmidt 1990).	Davis	D6	Near Existing Features: Unimproved Trails, Utility Line
33-04461	Unknown	Historic: Irrigation ditch and associated fence line likely from establishment of Colony Heights settlement.	Davis	D7	Near Existing Features: Unimproved Trails, Gas Line
33-04632	Unknown	Prehistoric: Possible bedrock milling station. Historic: Remnants of homestead including foundation, well, reservoir, and olive orchard.	Davis	D6	Near Existing Features: Utility Line
33-08170	Unknown	Prehistoric: Buried deposit of lithic debitage discovered during trenching. Debitage recovered from a depth of 60 to 120 cm.	Davis	D1	Near Existing Features: Unimproved Trails
33-08171	Unknown	Prehistoric: Buried deposit of lithics including tools and debitage and mammal bone discovered during trenching. Material recovered from a depth of 120 to 270 cm.	Davis	D1	Near Existing Features: Unimproved Trails

Table 5.4-2
Previously Recorded Cultural Resources within the Davis Unit

Primary Number	NRHP/CRHR Eligibility Status	Resource Description (1)	Unit	Management Subunit	Potential Impacts
33-08266	Unknown	Prehistoric: Buried deposit of lithics including tools and debitage and mammal bone discovered during trenching. Material recovered from a depth of 30 to 480 cm. "Several groundstone fragments and a hammerstone were also noted along Davis Road…" (Horne 1998).	Davis	D1, D4	Near Existing Features: Unimproved Trails, Utility Line
33-09028	Not eligible	Prehistoric: Isolated debitage.	Davis	D7	Near Existing Features: Unimproved Trails, Gas Line
33-11621	Unknown	Historic: Farmstead ruins including a burnt house, a shed, a stable, a windmill, farming equipment, and a trough inscribed with "1-4-25."	Davis	D2	Near Existing Features: Gas Line Within Proposed SKR Management Area
33-12499	Not eligible	Prehistoric: Isolated debitage.	Davis	D13	Near Existing Features: Unimproved Trails
33-16691	Not eligible	Prehistoric: Isolated debitage.	Davis	D1	Near Existing Features: Unimproved Trails
33-19920	Unknown	Historic: Cistern ruins. Historic refuse scatter also present.	Davis	D15	Near Existing Features: Unimproved Trails, Utility Line
33-19921	Unknown	Historic: Ruins of possible well house and well.	Davis	D15	Near Existing Features: Unimproved Trails, Utility Line
33-21095	Overall alignment unknown. A surveyed segment was determined not eligible.	Historic: Jackrabbit Trail Route. The overall length of the Jackrabbit Trail Route is approximately 15 miles. The surveyed segment includes associated elements such as a "C" monument and an abandoned segment of a historic-age automobile road.	Davis	D2	Near Existing Features: Gas Line Within Proposed SKR Management Area
33-21096	Overall alignment unknown. A surveyed segment was determined not eligible.	Historic: Gilman Springs Road. The surveyed segment includes associated elements such as two culverts and two borrow pits.	Davis	D2	Near Existing Features: Gas Line Within Proposed SKR Management Area

(1) "Prehistoric" and "Historic" designation refers to the estimated age of the resource, and is not a determination of eligibility as a significant cultural resource.

Due to the number of resources identified within the Davis Unit, there is the potential that new or expanded construction or new or expanded subsurface ground-disturbing activities associated with implementation of the draft LMP activities could directly disturb historical resources, as defined in CEQA Guidelines Section 15064.5. This would be a **potentially significant impact (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant.

Indirect impacts to historical resources could also occur as a result of implementing new or expanded LMP activities. Specific indirect impacts would depend on the type of activity or project; these could include, but are not necessarily limited to, vibration affects to buildings during construction, increased public access along and near trails, which could lead to looting or damage of resources, and alterations to the viewshed or setting of historical resources. Specific to potential indirect impacts to cultural resources from future public use, the public would adhere to existing rules and regulations that govern specific activities which include fencing and signage installed to protect any known cultural resources; therefore, indirect impacts associated with an increase in public access would be **less than significant (Class III)**. Potential indirect impacts associated with new or expanded draft LMP activities under the jurisdiction of CDFW that could alter the viewshed or setting of a historical resource or contribute to construction-related vibration effects would be **potentially significant impacts (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant as these measures include treatment of both direct and indirect impacts.

Potrero Unit

Approximately 25% of the Potrero Unit has been subject to previous cultural studies, with the majority of these studies occurring along Potrero Creek within Subunits P2, P5, and P10. Based on the distribution, intensity, and timeframe of the previous studies conducted within the Potrero Unit, it can be determined that the majority of the Potrero Unit would need to be inventoried for cultural resources during the implementation of future activities under the draft LMP.

Direct and Indirect Impacts

A review of historic aerial images and photographs identified the locations of numerous structures within Potrero Creek and its tributaries on the 1901 topographic map. These structures were most likely associated with the early ranching, farming, and mining settlers of the San Jacinto Valley. Infrastructure was brought to Potrero Creek in the 1960s with the development of the Lockheed Martin facility. Buildings and structures associated with the facility may be considered historic structures (50 years old or greater). According to the draft LMP, these historic structures would remain in their current location and may be impacted through restoration or modification. Implementation of MM-CUL-1d would reduce impacts to potential

historic structures associated with the Lockheed Martin facility; however if any buildings listed below are determined eligible for listing and found to be a significant historic resource and avoidance or restoration is not feasible, the removal of this significant historic resource could result in a potentially significant impact.

Based on the analysis of the literature review, there is a high probability of encountering undocumented historic structures and archaeological sites within the Potrero Unit, especially within Potrero Creek, as well as tributary valleys within Subunits P2, P3, P5, P6, and P7.

The draft LMP proposes two new future residences in the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet. A visitors' center/interpretive area is also a proposed feature in Subunit P5 located south of the northeastern entrance gate to the Potrero Unit (see Figure 2-16B in Chapter 2, Project Description). There are several buildings/structures on the Potrero Unit that were formerly owned/maintained by Lockheed Martin and are proposed to be restored/modified and remain in their current location. These buildings include the following:

- 640-square-foot brick warehouse (40 feet by 16 feet) with garage and office,
- 3 bunkers – (1) 375-square-foot (15 feet by 25 feet); (2) 880-square-foot (22 feet by 40 feet), and (3) 28-foot round bunker that is 30 feet deep,
- 4,875-square-foot building (65 feet by 75 feet) with an adjacent small 80-square-foot shed structure (8 feet by 10 feet,)
- 6,500-square-foot (130 feet by 50 feet) missile silo, and
- 720-square-foot (60 feet by 12 feet) trailer.

There is also a historic landing strip and rocket launching structure with a 30-foot-tall concrete vertical wall within Subunit P3. These structures would also remain in place.

Given that Lockheed Martin constructed the facility within Potrero Creek in the 1960s, buildings and structures associated with the facility would be considered potential historic structures (50 years old or greater). According to the draft LMP, these potential historic structures may be impacted through restoration or modification. Implementation of MM-CUL-1d would reduce impacts to potential historic structures associated with the Lockheed Martin facility to less than significant.

There are a number of resources located in areas where existing activities currently occur and where future activities and management tasks may occur. Table 5.4-3, lists the previously recorded resources and the features closest to the resource. Information provided in Table 5.4-3 pertaining to the existing trails or infrastructure is included for informational purposes. Only

those new or expanded activities shown in Table 5.4-3, including maintenance may cause a potentially significant impact on these cultural resources. Implementation of MM-CUL-1a and MM-CUL-1b would reduce potential impacts to less than significant.

A multi-component site has been identified within Subunits P10 and P11, P-33-00239. The site consists of prehistoric rock art, milling features, and an "extensive midden deposit" (1989c), and a historic-age concrete foundation and refuse scatter. The site was last updated in 1991 and no formal significance evaluation has been conducted at the site to verify eligibility. This site was determined "most likely eligible" and should be reevaluated before any planned construction. Another of these resources, P-33-15440, is an isolated hand stone and is considered not eligible for the CRHR. No further cultural resources consideration is necessary for this cultural resource. Implementation of MM-CUL-1a and MM-CUL-1b would reduce potential impacts associated with new or expanded activities, or maintenance, or new or expanded subsurface ground-disturbing activities under the draft LMP to less than significant.

Within the proposed new trails in Subunits P2, P5, and P10/P11, there are three resources that may be impacted with the creation of the new trail system. One of these sites, P-33-00239, was determined "most likely eligible" and should be reevaluated before planned construction. Implementation of MM-CUL-1b would reduce potential impacts associated with new or expanded activities, including maintenance, or new or expanded subsurface ground-disturbing activities under the draft LMP to less than significant.

Within the proposed SKR habitat expansion in Subunit P5, there are two cultural resources of undetermined significance, P-33-03073 and P-33-03074, which may be impacted with planned LMP activities. Implementation of MM-CUL-1b would reduce potential impacts associated with new or expanded activities, including maintenance, or new or expanded subsurface ground-disturbing activities under the draft LMP to less than significant.

Within the proposed near future/potential parking lot proposed in Subunit P2/P3, there is one cultural resource of undetermined significance, P-33-04329, that may be impacted by LMP activities. Implementation of MM-CUL-1b would reduce potential impacts associated with new or expanded activities, including maintenance, or new or expanded subsurface ground-disturbing activities under the draft LMP to less than significant.

Within the proposed future/potential Visitor's Center/Interpretive area proposed in Subunit P2, there is one cultural resource, P-33-15440, in the area. This resource is an isolated handstone and is considered ineligible for the CRHR. No further cultural resource considerations are necessary for this cultural resource.

Table 5.4-3
Previously Recorded Cultural Resources within the Potrero Unit

Primary Number	NRHP/CRHR Eligibility Status	Resource Description (1)	Unit	Management Subunit	Potential Impacts
33-00175	Unknown	Prehistoric: Possible location of village site and Massacre Canyon; however, no prehistoric component identified since 1960. Historic: Lime kilns, quarry, and refuse scatter.	Potrero	P7	Within Proposed Riparian Resources
33-00239	"Most likely eligible" (Romano et al. 1989)	Prehistoric: Habitations site with bedrock milling, rock art, possible rock shelters, and ceramic and lithic scatters. Historic: Refuse scatter and concrete foundation.	Potrero	P10/P11	Near Existing Features: Asphalt Trails Near Proposed Features: Trail Within Proposed Riparian Resources
33-00240	Unknown	Prehistoric: Habitation site with bedrock milling.	Potrero	P2	Near Existing Features: Asphalt Trails
33-03073	Unknown	Prehistoric: Lithic tool, debitage, and fire-affected rock scatter. "…midden here and there" (Van Horn 1990).	Potrero	P5	Proposed SKR Management Are
33-03074	Unknown	Prehistoric: Lithic tool, debitage, and fire-affected rock scatter.	Potrero	P5	Near Existing Features: Asphalt Trails Near Proposed Features: Trail Proposed SKR Management Area
33-03928	Unknown	Historic: Trash deposit and can scatter.	Potrero	P3/P4	Near Existing Features: Unimproved Trails
33-04322	Unknown	Prehistoric: Rock shelter with olla fragment. Olla fragment collected (Drover, C. 1991).	Potrero	P6/P11	Within Proposed Riparian Resources
33-04323	Unknown	Prehistoric: Rock shelter with olla fragment. Olla fragment collected (Drover, C. 1991).	Potrero	P6	Within Proposed Riparian Resources
33-04324	Unknown	Prehistoric: Rock alignment built off existing boulders that creates a shelter or blind. Historic. Can and munition scatter.	Potrero	P6	Within Proposed Riparian Resources
33-04328	Unknown	Prehistoric: Lithic tool, debitage, and fire-affected rock scatter.	Potrero	P2/P3	Within Proposed Riparian Resources

Table 5.4-3
Previously Recorded Cultural Resources within the Potrero Unit

Primary Number	NRHP/CRHR Eligibility Status	Resource Description (1)	Unit	Management Subunit	Potential Impacts
33-04329	Unknown	Prehistoric: Multiple loci of lithic tool and debitage scatters.	Potrero	P2/P3	Near Existing Features: Unimproved Trails Near Future/Potential Features: Parking Lot
33-04467	Unknown	Prehistoric: Bedrock milling stations.	Potrero	P10	Within Proposed Riparian Resources
33-15440	Not eligible	Prehistoric: Isolated hand stone.	Potrero	P2	Near Future/Potential Features: Visitor's Center/Interpretive Area Within Proposed Riparian Resources
33-15886	Unknown	Prehistoric: Bedrock milling station.	Potrero	P10/P11	Near Proposed Features: Trail
33-16122	Unknown	Prehistoric: Bedrock milling station. Historic: Ranch ruins consisting of a water trough, basin, retaining wall, historic road trace, two excavated areas, iron piping, and a glass scatter.	Potrero	P6	Within Proposed Riparian Resources
33-24668	Unknown	Historic: Metropolitan Water District survey marker date stamped to 1931.	Potrero	P10	Near Existing Features: Asphalt Trails Within Proposed Riparian Resources

(1) "Prehistoric" and "Historic" designation refers to the estimated age of the resource, and is not a determination of eligibility as a significant cultural resource.

Any excavation or subsurface ground-disturbing activities could unearth known or unknown subsurface cultural resources, and proposed modifications to existing buildings/structures could affect historic structures. Due to the number of resources identified within the Potrero Unit, there is the potential that implementation of any new or expanded existing LMP activities could directly disturb a historical resource, as defined in CEQA Guidelines Section 15064.5. This would be a **potentially significant impact (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant.

Indirect impacts to historical resources could also occur as a result of implementing LMP activities. Only those indirect impacts associated with new or expanded draft LMP activities

under the jurisdiction of CDFW or their contractors are addressed. Specific indirect impacts would depend on the type of activity; these could include, but are not necessarily limited to, vibration affects to historic buildings during construction, increased public access along and near trails, which could lead to looting or damage or resources, and alterations to the viewshed or setting of historical resources. Specific to potential indirect impacts to cultural resources from future public use, the public would adhere to existing rules and regulations that govern specific activities which include fencing and signage installed to protect any known cultural resources; therefore, indirect impacts associated with an increase in public access would be **less than significant (Class III)**. Potential indirect impacts associated with new or expanded draft LMP activities under the jurisdiction of CDFW that could alter the viewshed or setting of a historical resource or vibration effects to a building that may be considered historically significant would be considered **potentially significant impacts (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant as these measures include treatment of both direct and indirect impacts.

MM-CUL-1a **Known Resources.** Subsurface ground-disturbing activities may result in adverse impacts to known archaeological resources, listed in below:

- Potrero Unit: Resource 33-00239
- Davis/Potrero Unit: Resource CA-RIV-6726

For any subsurface ground-disturbing activities within 100 meters of these known resources, CDFW will require a qualified archeologist that meets the Secretary of the Interior's Professional Qualification Standards with professional experience in Southern California to prepare a site-specific survey to determine the extent of site resources. All work plans for site-specific surveys and the potential requirement for Native American monitoring during any subsurface ground-disturbing activities for new or expanded LMP activities will be provided to the consulting Tribes for their review and comment prior to commencement of fieldwork. It is CDFW's intent that Historic Resources and Unique Archeological Resources will be preserved in place or left in an undisturbed state. If necessary, any applicable California Department of Parks and Recreation DPR forms will be updated. Examples of preservation, in place may include, but are not limited to, any of the following:

- Planning construction to avoid archaeological sites.
- Deeding archaeological sites into permanent conservation easements.
- Capping or covering archaeological sites with a layer of soil before building on the site.

- Planning parks, greenspace, or other open space to incorporate archaeological sites.

(PRC Section 21083.2(b)(1)-(4).)

MM-CUL-1b **Unknown, Unidentified or Undetermined Resources.** Subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas may result in adverse impacts to cultural resources that either (a) were previously unidentified or (b) previously recorded but have not been determined to be a significant Historic or Unique Archaeological Resource (including but not limited to the previously recorded resources listed in Tables 5.4-2 and 5.4-3). Prior to any subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas, CDFW will retain a qualified archeologist that meets the Secretary of the Interior's Professional Qualification Standards, to prepare a site-specific cultural resources survey. All work plans for site-specific surveys and the potential requirement for monitoring during any subsurface ground-disturbing activities for new or expanded LMP activities will be provided to the consulting Tribes for their review and comment prior to commencement of fieldwork. If any resources are unearthed by any of the LMP activities and determined to be eligible as a Historic Resource or a Unique Archeological Resource, CDFW, or the qualified archeologist will temporarily install flags or create an Environmentally Sensitive Area buffer to ensure protection until eligibility is determined. If determined to be eligible it is CDFW's intent these resources will be preserved in place or left in an undisturbed state. If avoidance is not practical see MM-CUL-1c below. California Department of Parks and Recreation DPR forms will be prepared and submitted to CDFW and the appropriate California Historical Resources Information System – Information Center. If it is determined to be an eligible prehistoric or unique archeological resource, the Tribes will be consulted. Examples of preservation may include, but are not limited to, any one or more of the following:

- Planning construction to avoid archaeological sites.
- Deeding archaeological sites into permanent conservation easements.
- Capping or covering archaeological sites with a layer of soil before building on the site.
- Planning parks, greenspace, or other open space to incorporate archaeological sites.

(PRC Section 21083.2(b)(1)-(4).)

MM-CUL-1c **Potentially Unidentified or Unknown Resources.** Through implementation of MM-CUL-1a and 1b, CDFW intends to address all cultural resources prior to subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas. However, there is a potential that unidentified prehistoric or archaeological resources could be uncovered during this disturbance. In the event this occurs, all such activities will stop within 100 feet of the find and temporary flagging installed or an Environmentally Sensitive Area buffer established around this resource to avoid any disturbances from equipment, vehicular traffic, or construction-based activities. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, will be retained by CDFW to evaluate the find and recommend appropriate action. Where avoidance is not practical, consulting Tribes will be notified of the discovery within 48 hours of the find and be permitted to evaluate and assess the discovery and review and comment on the archeologist's significance evaluation and recommended actions prior to any further ground-disturbing activities.

If the qualified archaeologist and/or consulting Tribes determine the discovery to be potentially significant pursuant to CEQA, and CDFW determines avoidance of the resource to not be practical, then additional efforts such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted prior to allow construction to proceed in this area. Any treatment plan will be developed in consultation with the Tribes. Additionally, any archeological work plan or treatment plan will include Native American monitoring, if requested by consulting Tribes during discussions with CDFW about the development or implementation of any treatment plan or work plan. If during work plan or treatment plan coordination efforts the Tribes establish conflicting terms, the Tribes shall have 30 days to present CDFW with a resolution as to those conflicting terms. If the Tribes are unable to reach resolution, then CDFW will proceed with the non-conflicting terms of each Agreement. Regarding any conflicting terms, within 30 days, the Tribes shall inform CDFW that they were unable to reach resolution and shall select which form between the conflicting terms to implement.

MM-CUL-1d **Unidentified or Undetermined Historic Structures.** For any activities under the LMP that may require altering or removing buildings, structures, or features, CDFW will retain a qualified architectural historian to determine if

the buildings are considered eligible for listing on the California Register of Historic Resources. The architectural historian will do the following:

- Prepare an inventory of all buildings and structures that would be 50 years of age or older prior to commencing project activities.
- Before altering or otherwise affecting a building or structure 50 years old or older, the qualified architectural historian will record it on a California Department of Parks and Recreation DPR 523 form or equivalent documentation and assess its significance using the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. For historic buildings, structures or features that do not meet the CEQA criteria for historical resource, no further mitigation is required and the impact is less than significant.
- For a building or structure that qualifies as a historic resource, the architectural historian will consider measures that would enable the project to avoid direct or indirect impacts to the building or structure. These could include preserving a building on the margin of the site, using it "as is," or other measures that would not alter the building. If the LMP activity cannot avoid modifications to a significant building or structure, the following will be required:
    - All renovations or other alterations are required will be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings".
    - If a significant historic building or structure is proposed for major alteration or renovation, or to be demolished, the architectural historian will thoroughly document the building and associated landscaping and setting. Documentation will include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record will be provided to the State Office of Historic Preservation.

Issue CUL-2 Would the project cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5?

Davis Unit

As discussed above under Existing Conditions, there are fifty documented cultural resources within the Davis Unit. These include 29 prehistoric sites, six prehistoric isolates, five multi-component sites with both prehistoric and historic components, five historic-age archaeological sites, and five historic structures. These sites are generally within Subunits D1, D2, D6, D8, D14, and D15. Of the prehistoric sites and prehistoric components or the multi-component sites within the Davis Unit, 24 contain bedrock milling surfaces; six sites contain rock art represented in various forms; six sites contain either midden soils readily visible on the surface or buried midden deposits; and four sites consist of surface artifact scatters. Table 5.4-2 under Issue CUL-1 lists previously recorded resources and the features closest to the resource that haves the potential to impact the resource. The historic-age archaeological sites and historic-age component of the multi-component sites are associated with homestead or farmstead ruins.

Direct and Indirect Impacts

Future construction activities within the Davis Unit may involve disturbance such as grading, trenching, or excavation, for the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads. One of the larger future LMP activities includes a water storage facility project and a new on-site pipeline that would occupy approximately 235 to 275 acres and be excavated to a depth of 9 feet within Davis Subunit D2.

As discussed under Issue CUL-1, one historic-age archaeological resource of undetermined significance is within the SKR resource management area located in the 648 acres proposed for SKR management in Davis Subunits D1, D2, and D3. Proposed activities within this new management area include mowing and shallow disking for habitat management. Resource P-33-11621 consists of remnants of an early twentieth century farmstead that may be impacted by habitat management activities. Implementation of MM-CUL-1d would reduce potential impacts to P-33-11621 to less than significant.

The remaining potential LMP activity locations within the Davis Unit contain no known archaeological resources. There are, however, a number of recorded archaeological resources of undetermined significance near to existing facilities that would experience continued maintenance under the LMP. Refer to Table 5.4-2 for a list of the archaeological resources and

the features closest to the resource in the Davis Unit. Any new maintenance activities expanded into previously undisturbed areas near any of these resources may cause a potentially significant impact on these cultural resources. Additionally, activities in the vicinity of CA-RIV-6726 (Colorado River) have the potential to significantly impact this historical resource. Implementation of MM-CUL-1a through MM-CUL-1d would reduce potential impacts to less than significant.

Any subsurface ground disturbance would have the potential to disturb known or unknown archaeological resource, as defined in CEQA Guidelines Section 15064.5. Due to the number of archaeological resources identified within the Davis Unit there is the potential any new or expanded LMP activities could disturb archaeological resources. This would be a **potentially significant impact (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant.

Indirect impacts to archaeological resources could also occur as a result of implementing LMP activities.. Specific indirect impacts would depend on the type of activity; these could include, but are not necessarily limited to, increased public access along and near trails associated with new LMP activities and expansion of existing activities in previously inaccessible areas, which could lead to looting or damage to resources, and alterations to the viewshed or setting of archaeological resources. Specific to potential indirect impacts to cultural resources from future public use, the public would adhere to existing rules and regulations that govern specific activities which include fencing and signage installed to protect any known cultural resources; therefore, indirect impacts associated with an increase in public access would be **less than significant (Class III)**. Potential indirect impacts associated with new or expanded draft LMP activities under the jurisdiction of CDFW that could alter the viewshed or setting of an archaeological resource would be **potentially significant impacts (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant as these measures include treatment of both direct and indirect impacts.

Potrero Unit

As discussed above under Existing Conditions, 27 documented cultural resources are within the Potrero Unit. Of these documented resources, 26 are of undetermined significance with one resource noted as potentially eligible as a significant resource (P-33-00239). These include 14 prehistoric sites, four prehistoric isolates, five multi-component sites with both prehistoric and historic components, three historic-age archaeological sites, and one historic structure. Table 5.4-3 under Issue CUL-1 lists the previously recorded resources and the features closest to the resource that has the potential to impact the resource. The prehistoric sites, prehistoric isolates, and the prehistoric components of the multi-component sites are generally within Subunits P2, P3, P5, P6, and P7. Of the prehistoric and prehistoric components of the multi-component sites

within the Potrero Unit, seven contain bedrock milling surfaces, four sites contain rock art represented in various forms; rock shelters are represented at three sites; ephemeral midden soil is noted at one site; and five sites consist of surface artifact scatters. The historic-age archaeological sites and historic-age components of the multi-component sites (each within proximity to a road or dirt tract) are scattered throughout the Potrero Unit. The majority of these historic-age archaeological sites are associated with homestead ruins and infrastructure from ranching activity; however, two recorded lime quarry sites are also documented within the Potrero Unit. While recorded as two different sites, these two independent records for the lime quarry sites may actually represent one site. An early twentieth century Metropolitan Water District survey marker is also recorded within the Potrero Unit.

One archaeological site within the Potrero Unit has been previously noted as "most likely eligible." However, significance testing was not conducted to verify eligibility. Multi-component site P-33-00239 is within Subunits P10 and P11 and may be impacted by implementation of the draft LMP.

The draft LMP proposes two new future residences in the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet. A visitors' center/interpretive area is also a proposed feature in Subunit P5.

There are a number of archaeological resources of undetermined significance located in areas of existing features and of planned management tasks. Refer to Table 5.4-3 for a list of the archaeological resources and the features closest to the resource that has the potential to impact the resource. Maintenance of these features may cause a potentially significant impact on these archaeological resources. Implementation of MM-CUL-1a through MM-CUL-1d would reduce potential impacts to less than significant.

Within the proposed Riparian Resources Management Area, there are nine archaeological resources located in areas proposed for new water management structures to create new wetland ponds, including closed zones; flooded fields; or riparian zones. One of these sites, P-33-00239, was determined "most likely eligible" and should be reevaluated before planned operations. The other eight archaeological resources may be impacted by future activities in the Riparian Resources Management Area. Implementation of MM-CUL-1a and MM-CUL-1b would reduce impacts to less than significant.

Within the proposed new trails in Subunit P2, P5, and P10/P11, there are three archaeological resources that may be impacted with the creation of the new trail system. Of these sites only one, P-33-00239, was determined "most likely eligible" and should be reevaluated before planned operations. Implementation of MM-CUL-1a and MM-CUL-1b would reduce potential impacts to less than significant.

Within the proposed SKR habitat expansion in Subunit P5, there are two archaeological resources of undetermined significance, P-33-03073 and P-33-03074, that may be impacted with planned LMP activities. Implementation of MM-CUL-1a and MM-CUL-1b would reduce potential impacts to less than significant.

Within the proposed future/potential parking lot proposed in Subunit P2/P3, there is one archaeological resource of undetermined significance, P-33-04329, that may be impacted by LMP activities. Implementation of MM-CUL-1a and MM-CUL-1b would reduce potential impacts to less than significant.

Within Subunit P2, there is one archaeological resource of undetermined significance, P-33-15439, in the area. This resource is an isolated hand stone and is considered ineligible for the CRHR. No further cultural resource considerations are necessary for this archaeological resource.

Any excavation or subsurface ground-disturbing activities associated with these future LMP projects could unearth known or unknown archaeological resource, as defined in CEQA Guidelines Section 15064.5. Due to the number of resources identified within the Potrero Unit there is the potential LMP project activities could disturb archeological resources resulting in a **potentially significant impact (Class II)**. Compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant.

Indirect impacts to archaeological resources could also occur as a result of implementing new or expanded LMP projectactivities. Specific indirect impacts would depend on the type of project; these could include, but are not necessarily limited to, increased public access along and near trails, which could lead to looting or damage to resources, and alterations to the viewshed or setting of archaeological resources. Specific to potential indirect impacts to cultural resources from future public use, the public would adhere to existing rules and regulations that govern specific activities which include fencing and signage installed to protect any known cultural resources; therefore, indirect impacts associated with an increase in public access would be **less than significant (Class III)**. Potential indirect impacts associated with new or expanded draft LMP activities under the jurisdiction of CDFW that could alter the viewshed or setting of an archaeological resource would be **potentially significant impacts (Class II)**. However, compliance with MM-CUL-1a through MM-CUL-1d would reduce impacts to less than significant as these measures include treatment of both direct and indirect impacts.

MM-CUL-2 Implement MM-CUL-1a through MM-CUL-1d.

Issue CUL-3 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A museum record search was conducted through the Natural History Museum of Los Angeles County in December 2016. The museum record search provides information on any known or documented fossil localities within or near the project area and identifies paleontological resources sensitivity of geologic units within the project area. Much of the elevated bedrock within the Davis and Potrero units are igneous and metamorphic in origin, therefore, these rocks would be void of paleontological resources. Although no vertebrate fossil localities were found to lie directly within the SJWA boundaries, the same sedimentary deposits within the LMP area, found elsewhere, have produced fossils. As shown on Figure 5.4-1, the sensitivity to unearth fossils within SJWA is considered moderate to high in portions of the project area.

Davis Unit

Direct and Indirect Impacts

The closest locality where fossils were found is the gravel pits west of Jack Rabbit Trail located on the western side of Mount Eden outside the eastern parcel of the Davis Unit. A specimen of a fossil horse (LACM 4540), *Equus*, was recovered at this location. Fossils of camel, deer, horse, and rhinoceros were also found in older Quaternary sediments southwest of the project area near Lake Elsinore. In addition, bedrock exposures of the Mount Eden Formation around and east of the Eden Hot Springs area have produced fossils of camel, deer, horse, and rhinoceros (McLeod 2016). No unique geologic features were identified through the literature research conducted for the LMP.

Activities under the LMP within the Davis Unit that involve grading, trenching, or excavation, such as the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems, including a new onsite pipeline; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads would require land disturbances such as grading and site-preparation activities. Any subsurface ground disturbance activities would have the potential to unearth fossils. As shown in Figure 5.4-1, a majority of the Davis Unit is identified as having a high sensitivity for the presence of paleontological resources. In addition, given the number of fossil discoveries made from older Quaternary deposits, the Pliocene San Timoteo Formation, and Miocene Mount Eden Formation, as well as their close proximity to land within the SJWA, this area is considered to be moderate to highly sensitive for paleontological resources and therefore should be approached with caution during any subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas as valuable resources may be unearthed and destroyed. This would be a **potentially significant impact (Class II)**. However, compliance with MM-CUL-3 would reduce the impact to less than significant. Ground

disturbance in areas that contain fill or previously disturbed sediments would not have any potential to impact paleontological resources, as the previous activities would have destroyed the depositional context of any fossils which may have been preserved in them.

Potrero Unit

Direct and Indirect Impacts

Within the north-central portion of the Potrero Unit, fossils have been associated with the Pliocene San Timoteo Formation and include a fossil mastodon, a fossil fish, and fossil plant cones and algae (McLeod 2016). Figure 5.4-1 identifies lands within the western and central portion of the Potrero Unit as having a high sensitivity for paleontological resources to be present. In addition, because the same sedimentary deposits have produced fossils elsewhere there is a moderate to high sensitivity that fossils could be present within the Potrero Unit.

The draft LMP proposes two new future residences in the Potrero Unit along with an office, workshop, and warehouse. A visitors' center/interpretive area is also a proposed feature in Subunit P5 located south of the northeastern entrance gate to the Potrero Unit. Because construction of these new buildings along with grading for new roads and trails, and expansion of riparian habitat may require some subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas that could potentially unearth fossils this is considered a **potentially significant impact (Class II)**. Compliance with MM-CUL-3 would reduce the impact to less than significant.

MM-CUL-3 Prior to the commencement of activities that involve subsurface ground disturbance associated with new or existing activities being expanded into previously undisturbed areas, CDFW will review figure 5.4-1 and determine if the activity will also be occurring in an area of moderate to high paleontological sensitivity. Should this new or expanded activity involve subsurface ground disturbance and be located within an area of moderate to high paleontological sensitivity, CDFW will retain a qualified paleontologist to prepare a Paleontological Mitigation Plan (PMP) that adequately addresses the resources prior to conducting the subsurface ground disturbance. The PMP shall include, but not be limited to, the following:

- General fieldwork and laboratory methods proposed.
- Mitigation measures adequate for the recovery of a sample of significant fossils that may be applied to rock units determined to contain significant paleontological resources, if those rock units cannot be avoided by project activities. Such measures may include, but are not limited to, the following:
    - Recovering a sample of fossiliferous material prior to construction;

- Monitoring construction and halting work to recover important fossils; or
- Preparation, identification, curation, and reporting of fossil specimens collected.

As detailed in the plan, the qualified monitor will have the authority to halt and /or divert construction activities to outside of the area of the discovery, and the area will be flagged as an environmentally sensitive area. The qualified paleontologist will evaluate the resource to determine its significance. If determined to be significant, the paleontologist will recover the fossil(s), and prepare, identify, and curate the recovered specimens. The fossils will then be donated to a suitable repository, such as the Western Science Center, along with a final report of the mitigation monitoring program.

Issue CUL-4 Would the project cause a substantial adverse change in significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

Davis Unit/Potrero Unit

Direct and Indirect Impacts

On March 29, 2016, pursuant to AB 52, CDFW reached out to all groups listed on the NAHC's Local Government Tribal Consultation List in a good-faith effort to provide notification of the SJWA LMP project. In addition, on April 29, 2016, CDFW sent a notification to the Pechanga Band of Luiseño Indians. In response, the Pechanga Band of Luiseño Indians and the San Manuel Band of Mission Indians requested consultation. Two tribes, the San Manuel Band of Mission Indians and the Soboba Band of Luiseño Indians request for consultation was included within the Tribe's response to the tribal information scoping letters initiated during the sacred land files search. All three of the tribes requested formal consultation (Pechanga Band of Luiseño Indians, San Manuel Band of Mission Indians, and the Soboba Band of Luiseño Indians). CDFW met with the Pechanga Band of Luiseño Indians on July 20, 2016 and the San Manuel Band of Mission Indians on May 4, 2017, and based on these meetings with CDFW, the tribes requested to review the draft LMP and indicated they would contact CDFW with any questions or comments.

To further consultation outreach to the tribes who requested consultation, CDFW provided a copy of this section of the PEIR and Appendix 5.4-A to the Aqua Caliente Band of Cahuilla Indians, Pechanga Band of Luiseño Indians, San Manuel Band of Mission Indians, and the Soboba Band of Luiseño Indians on September 5, 2017 for review prior to release of the Draft PEIR. Consultation and coordination between the tribes and CDFW is ongoing; however,

TCRs could be present in areas where future activities may occur within the LMP, including grading, disking, excavation, or other methods of ground disturbance, which could damage TCRs. One or more of the consulting Tribes have identified areas where TCRs may be present. It is the intent of CDFW to avoid any TCRs associated with future new or expanded LMP activities. It is assumed that through ongoing coordination and review of this PEIR, the Tribes will notify CDFW regarding specific locations of known TCRs, and coordinate with CDFW regarding further action, including the possibility of designating these areas as off-limits to the public, if necessary.

Therefore, impacts are considered **potentially significant (Class II)**. Mitigation measure MM-CUL-4 has been included to reduce any impacts to TCRs to a less-than-significant level.

Indirect impacts to TCRs associated with new and expanded LMP activities could include visual changes to the setting associated with new construction, increasing public access in the Potrero Unit that could contribute to an increase in looting and graffiti, the potential to reduce access to Native American tribes that use the resources for ongoing ceremonies or other functions, or changing the character of a location that effects the setting of the resource (e.g., other visual or auditory changes). In general, the entire SJWA will remain as open space with minimal facilities being constructed, and those more substantial facilities (e.g., water storage facility) will require additional review pursuant to CEQA. Maintaining the SJWA primarily as open space value will also preserve the visual and auditory character of the area. The public would adhere to existing rules and regulations that govern specific activities, including but not limited to fencing and signage installed to protect any known cultural resources which would address indirect impacts associated with an increase in public access. CDFW also assumes that the consulting Tribes will identify any TCRs and further coordinate with CDFW regarding their concerns and possible actions regarding avoidance. Indirect impacts associated with new or expanded draft LMP activities could be **potentially significant impacts (Class II)**. However, compliance with MM-CUL-4 would reduce impacts to less than significant as these measures include treatment of both direct and indirect impacts.

MM-CUL-4 **Tribal Cultural Resources.** Ground disturbance for new or existing activities expanded in previously undisturbed areas may result in adverse impacts to tribal cultural resources within the San Jacinto Wildlife Area. Prior to ground-disturbing activities, CDFW will consult with Native American tribe(s), including but not limited to the Pechanga Band of Luiseño Indians, Soboba Band of Luiseño Indians, and San Manuel Band of Mission Indians, to determine the type and extent of potential Tribal Cultural Resources in the project specific area. Once the extent of the Tribal Cultural Resource is determined in consultation with Native American tribe(s), CDFW will prepare a work plan, in coordination with the consulting Tribe(s) to avoid or minimize

the significant adverse impacts prior to fieldwork commencing. Tribal Cultural Resources will be preserved in place or left in an undisturbed state. Examples of preservation in place and treatment of any Tribal Cultural Resources may include, but are not limited to, any of the following:

- Planning construction to avoid the resources and protect the cultural and natural context and incorporate the resources with culturally appropriate protection and management criteria.
- Treat the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protect the cultural character and integrity of the resource
    - Protect the traditional use of the resource
    - Protect the confidentiality of the resource
- Deeding Tribal Cultural Resources into permanent conservation easements, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places
- Protecting the resource.

(Pub. Resources Code, § 21084.3 (b).)

Issue CUL-5 Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Davis Unit

As discussed above under Issues CUL-1 and CUL-2, there have been numerous archaeological resources identified within the Davis Unit. Human remains may be found in association with archaeological sites or may be present on their own.

Direct and Indirect Impacts

The LMP includes a number of activities that would require subsurface ground disturbance associated with construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources (through targeted grading); installation of water distribution, management, and water storage systems including a new onsite pipeline; construction of employee residences (manufactured homes); and expanded trail/interpretive services projects and new roads. All of these activities would require land disturbances such as grading and site-

preparation activities. Any subsurface ground disturbance activities would have the potential to unearth human remains.

Construction activities that involve disturbance are required to comply with Health and Safety Code Section 7050.5, which states no further disturbance or excavation of the site or nearby areas is allowed if remains are discovered until the remains have been examined by the County coroner. Because subsurface ground-disturbing activities have the potential to uncover and potentially impact previously unrecorded human remains, this would be considered a **potentially significant impact (Class II)**. Compliance with MM-CUL-5 would reduce the impact to less than significant.

Potrero Unit

Similar to the discussion above under the Davis Unit, archaeological resources have been identified within the Potrero Unit. Human remains may be found in association with archaeological sites or may be present on their own.

The LMP includes a number of activities that would require disturbance associated with two new future residences in the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers. A visitors' center/interpretive area is also a proposed feature in Subunit P5. Because construction of these new buildings would require some land disturbing activities. Any subsurface ground disturbance for new or existing activities expanded in previously undisturbed areas would have the potential to unearth human remains.

LMP activities that involve disturbance are required to comply with Health and Safety Code Section 7050.5, which states no further disturbance or excavation of the site or nearby areas is allowed if remains are discovered until the remains have been examined by the County coroner. Human remains can include any portion of a human, no matter the number, condition or state of the remains. Because subsurface ground-disturbing construction for new or existing activities expanded in previously undisturbed areas have the potential to uncover and potentially impact previously unrecorded human remains, this would be considered a **potentially significant impact (Class II)**. Compliance with MM-CUL-5 would reduce the impact to less than significant.

MM-CUL-5 All ground surface disturbance for new or existing activities expanded in previously undisturbed areas will cease if any potential or identified human remains are uncovered and a 100-foot buffer will be established, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) will be followed.

5.4.7 Cumulative Impacts and Mitigation

The geographic scope or cumulative context for the evaluation of potential cumulative impacts on cultural resources is the immediate vicinity of the SJWA (i.e., generally within 1 mile of the SJWA, or the Area of Potential Effect), as noted in Chapter 3, Cumulative Impacts and Methodology. While the impact analysis contained in Section 5.4.6 includes separate analyses for historical resources, unique archaeological resources, TCRs, paleontological resources, and human remains, the cumulative analysis combines these resources into a single, non-renewable resource base and considers the additive effect of impacts identified under the LMP to significant regional impacts on cultural resources. As described in Chapter 3, much of the lands surrounding the SJWA are proposed to be developed with residential communities, commercial areas, and industrial facilities. The cities and communities near the SJWA are anticipated to grow in population throughout the planning horizon of the draft LMP, with populations in some areas anticipated to nearly double between 2010 and 2035. Numerous residential, commercial, industrial, and infrastructure projects are currently under development and being proposed in the surrounding cities and communities. Past development in the areas surrounding the SJWA has resulted in the demolition and alteration of significant historical resources, and it is reasonable to assume that present and future development activities would continue to damage or destroy significant cultural resources. The cumulative impact from past, present, and probable future projects, as well as development proposed under the draft LMP, is considered a potentially significant cumulative impact.

Ground disturbance can result in impacts to cultural (including archaeological resources, historic structures, and TCRs) and paleontological resources. Based on the analysis of previously recorded cultural resources within the SJWA, archaeological resources and historic structures have been found in and surrounding the SJWA. Of these known sites, one previously recorded historical resource, the Colorado River Aqueduct (CA-RIV-6726) is within the SJWA. The remainder of the known sites within the SJWA have not been evaluated for significance under CEQA. Additionally, the majority of the LMP area has not been systematically inventoried for cultural resources, so additional resources are likely to be present.

According to CEQA, the importance of cultural resources comes from the research value and the information they contain, the people or events they are associated with, or if they represent important achievements in our history. For archaeological sites and paleontological resources, the research value is based predominantly upon whether the resource has provided, or is likely to provide, information important to history or prehistory. The issue that must be explored in a cumulative analysis of archaeological sites and paleontological resources is the cumulative loss of that information. For resources that may be considered less than significant, the information is preserved through recordation and test excavations. Significant resources that are not preserved yield information through recordation, test excavations, and data recovery (salvage) programs that

would be presented in reports and filed with the lead agency, the Eastern Information Center, and the appropriate curation facility.

Projects implemented under the draft LMP would, over time, be expected to result in some impacts to historical resources, unique archaeological resources, paleontological resources, or TCRs. Numerous laws, regulations, and statutes, on both the federal and state levels, seek to protect cultural resources. However, impacts may be significant if a resource considered significant under CEQA is damaged or destroyed. Implementation of mitigation measures MM-CUL-1 through MM-CUL-5 would minimize the direct and indirect impacts of future projects executed under the LMP on significant resources.

Because all significant cultural resources and human remains are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. As noted above, there are potential future development activities under the draft LMP that could adversely affect significant cultural resources that are unique and non-renewable members of finite classes if discovered. Therefore, the LMP's incremental contribution to the cumulative loss of cultural resources is considered small yet it would still be considered potentially significant.

Implementation of Mitigation Measures MM-CUL-1 through MM-CUL-5, provide specific procedures to follow in the event a resource is identified. The procedures require work to stop in the event a resource or human bones are discovered and an archaeologist or Native American representative contacted to determine the appropriate course of action depending on the resource. Compliance with these measures would ensure that potential impacts to previously unidentified subsurface resources, including TCRs are mitigated to a less-than-significant level and the project's incremental contribution would be reduced to less than significant**.**

5.4.8 Level of Significance After Mitigation

Implementation of mitigation measures MM-CUL-1 through MM-CUL-5 would ensure impacts to cultural and paleontological resources after mitigation are less than significant associated with LMP activities identified in Chapter 2, Project Description.

5.4.9 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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5.5 GEOLOGY AND SOILS

5.5.1 Introduction

This section addresses potential geology and soils impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.5.2 provides a description of the existing conditions for geology and soils in the SJWA study area, and Section 5.5.3 describes the regulatory setting. Section 5.5.4 describes the methodology used for the evaluation of geology and soils. Section 5.5.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts associated with implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.5.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.5.7. The level of significance after mitigation is provided in Section 5.5.8, and Section 5.5.9 lists the references cited in this section.

There were no Notice of Preparation (NOP) comments specific to the California Environmental Quality Act (CEQA) standards of significance for geology and soils. NOP comments related to alkali habitat (and by extension, alkali soils) are addressed in Chapter 5.3, Biological Resources. A copy of the NOP and comments received is included in Appendix A.

5.5.2 Existing Conditions

Physiography

The SJWA is located in the north–central portion of the greater Peninsular Ranges Geomorphic Province (CGS 2002). The Peninsular Ranges Geomorphic Province is characterized by a series of ranges separated by northwest trending valleys and faults. The valleys are alluvium-filled basins bounded by Cenozoic sedimentary and Mesozoic granitic rocks. The topographic trend of the area (i.e., the shape and position of basins and mountain ranges) is controlled by the major fault systems, including, from east to west, the San Andreas Fault Zone, the San Jacinto Fault Zone, and the Elsinore Fault Zone. The SJWA is located within the San Jacinto Valley (Davis Unit) and the northwestern tip of the San Jacinto Mountains in the San Timoteo Badlands (Potrero Unit). The SJWA is bounded to the south, southwest, and northwest by the Lakeview Mountains, Perris Plain, and the Bernasconi Hills, respectively.

Geologic Setting

Review of geologic maps indicate the geology within the Davis Unit is dominated by alluvial and lacustrine deposits from the Quaternary period,[1] with the exception of Davis Subunits D6, D12, and D14, which consist of older outcrops of granitic rock (USGS 2006a). The geology within the Potrero Unit is dominated by sandstone, conglomerate, and shale from the Tertiary

[1] The Quaternary period is the period from 2.6 million years ago to the present.

period,[2] as well as granitic and metamorphic rocks from the Mesozoic and Paleozoic eras[3] (USGS 2006a). The Potrero Unit is largely underlain by bedrock units that form the San Timoteo Badlands, although Potrero Subunit P10 (and portions of P2, P4, and P5) contains younger alluvial deposits that make up the flatter valley terrain. The geologic units underlying the proposed SJWA are shown in Figure 5.5-1. Table 5.5-1 includes a list of mapped geologic units (i.e., distinct rock formations) within the SJWA study area as provided by the U.S. Geological Survey (USGS) (USGS 2001).

Table 5.5-1
Geologic Units and Acreages Within San Jacinto Wildlife Area – Land Management Plan Study Area

Unit	Geologic Unit	Acreage
Davis	Alluvium (mostly Holocene, some Pleistocene) Quaternary non-marine and marine	9,840
	Granitic and metamorphic rocks, undivided, of pre-Cenozoic age	407
	Mesozoic granitic rocks	591
	Plio-Pleistocene non-marine, Pliocene non-marine	158
	Davis Total	*10,996*
Potrero	Alluvium (mostly Holocene, some Pleistocene) Quaternary non-marine and marine	1,305
	Granitic and metamorphic rocks, undivided, of pre-Cenozoic age	1,739
	Mesozoic granitic rocks	645
	Miocene marine	197
	Plio-Pleistocene non-marine, Pliocene non-marine	5,244
	Potrero Total	*9,130*
	Total	**20,126**

Source: USGS 2001

Based on geologic mapping, the hydrologic setting (described in Section 5.7), and limited soil boring data, the Davis Unit is predominantly comprised of fine-grained clayey soils. Well logs for three wells located within the Davis Unit show more than 85% of the upper 100 feet of sediments logged as "clay." Furthermore, a soil characterization study involving 50 cone-penetration test locations and 5 soil boring locations within the Davis Unit, all 30 feet deep, confirmed that a clay layer from several feet to 30 feet thick occurs beneath the wetland and waterfowl hunting sites on the SJWA (EMWD 2011). Based on geologic mapping and soil survey data, it is expected that fine-grained soils transition to coarser material (i.e., sand and gravel) at valley margins and over alluvial fans (USDA 2017, USGS 2006a). These locations include Davis Subunits D15, D8, D5; the west edges of D4 and D1; the east edge of D2; and around the base of D12. There is no site-specific geologic data available for the Potrero Unit, but the majority is underlain by bedrock units that are mantled with relatively shallow soils.

[2] The Tertiary period is the period from 65 million years ago to 2.6 million years ago.

[3] The Mesozoic era is the period from 252 million years ago to 65 million years ago. The Paleozoic era is the period from 541 million years ago to 252 million years ago.

Figure 5.5-1 Geologic Units

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The Davis Unit's location at the terminal point of the Middle and Upper San Jacinto Watershed, and its position within two strands of the San Jacinto Fault Zone has led to the accumulation of an estimated 5,000 feet of valley fill beneath Mystic Lake (DWR 2001, EMWD 2011, USGS 2006a). As discussed in Section 5.7, over a period of 10 years, the Mystic Lake area experienced localized subsidence between elevations 1,409 and 1,415 above mean sea level (RCFCWCD 2015). Over the same period, however, the 1,423-foot contour line (i.e., the lake outlet elevation) has maintained the same general size and shape, which suggests subsidence was concentrated along the center axis of the lake. Over geologic time scales, the area on and around Mystic Lake in between the Casa Loma and Claremont Faults is thought to be down-dropping at a rate of 0.3 to 0.6 centimeter per year due to tectonic forces (USGS 2006a).

Additionally, the withdrawal of groundwater is thought to be the primary cause of subsidence fissures that have been observed in and around the Davis Unit of the SJWA. Most of these are located within the San Jacinto pull-apart basin, which formed between the Casa Loma and Claremont strands of the San Jacinto Fault Zone. These fissures started to develop locally about 1950 and through time have spread over a considerable area (USGS 2006a). Formation of the fissures appears to be related to subsidence resulting from groundwater withdrawal principally in the area where formerly only artesian water was used (USGS 2006a). Since the middle and late twentieth century, groundwater levels have stabilized and are actively being monitored and managed by the Eastern Municipal Water District so as to avoid overdraft conditions that lead to excessive subsidence and fissures.

Soils

Soil types present on the SJWA are mapped and described in the U.S. Department of Agriculture (USDA) Web Soil Survey of the Western Riverside Area (USDA 2017). Table 5.5-2 lists the soil types present (see also draft LMP Figures 2-2 through 2-2a-2l). The Davis Unit is dominated by alkaline and loamy soils but also includes large areas of rockland and water. The Potrero Unit is predominately composed of loamy soils with substantial areas of terrace escarpments, rocky soils, and badlands.

Table 5.5-2
Soil Types Mapped Within the San Jacinto Wildlife Area – Land Management Plan Study Area

General Soil Type	Soil Series Name	Acreage within Davis Unit	Acreage within Potrero Unit	Total Acreage
Alkaline	Chino	354	10	365
	Domino	42		42
	Grangeville	65	22	87
	Traver	1,000		1,000
	Waukena	874		874
	Willows	2,213		2,213
	Alkaline Subtotal	*4,548*	*32*	*4,581*
Badland	Badland	1	1,050	1,052
Clay	Altamont		30	30
	Willows	116		116
	Clay Subtotal	*116*	*30*	*146*
Loam	Cieneba		477	477
	Escondido		8	8
	Exeter	46		46
	Fallbrook		3	3
	Friant		2,607	2,607
	Gorgonio	13	48	62
	Grangeville	498	83	580
	Hanford	873	604	1,477
	Metz	226	45	271
	Monserate	20	86	106
	Pachappa	35		35
	Placentia	14		14
	Ramona	131	118	249
	San Emigdio	1,867	631	2,498
	San Timoteo	8	700	708
	Sobaba		5	5
	Traver	57		57
	Tujunga		94	94
	Visalia		10	10
	Vista	23	56	79
	Loam Subtotal	*3,809*	*5,575*	*9,386*
Other	Dams	54		54
	Terrace escarpments	66	1,647	1,713
	Other Subtotal	*121*	*1,647*	*1,767*
Riverwash	Riverwash	3	96	98

Table 5.5-2
Soil Types Mapped Within the San Jacinto Wildlife Area – Land Management Plan Study Area

General Soil Type	Soil Series Name	Acreage within Davis Unit	Acreage within Potrero Unit	Total Acreage
Rocky	Cieneba	46	569	615
	Rockland	1,244	120	1,364
	Rough broken land		11	11
	Rocky Subtotal	*1,290*	*700*	*1,990*
Silt Loam	Chino	238		238
	Silt Loam Subtotal	*238*		*238*
Water	Water	871		871
	Water Subtotal	*871*		*871*
	Grand Total	**10,996**	**9,130**	**20,126**

Source: USDA 2017.

The San Jacinto River floodplain consists of mostly alkali soils of the following series: Chino, Domino, Grangeville, Traver, Waukena, and Willows. The central portion of the floodplain on the Davis Unit, west of Mystic Lake and along Davis Road, supports Willows soils; the southern portion near Bridge Street contains a mosaic of Chino, Grangeville, Traver, and Waukena soils; the area north of Mystic Lake supports Traver and Willows soils; the area between Bridge Street and Davis Road contains all of these soils types as well as Domino soils. These soils types are all developed in granitic alluvium on alluvial fans and floodplains (USDA 2017). The Mystic Lake bed is mapped as water; the soil type within the lake bed is not identified by the soil survey.

The upland soils on the Davis Unit are dominated by the San Emigdio and Hanford soils with large areas also classified as Rockland. In areas of grasslands and agriculture along Gilman Springs Road and the northern portion of the Davis Unit, soils include Chino, San Emigdio, San Timoteo, and Metz types. All four types are developed in alluvium; Chino soils are developed in granitic alluvium and can have some alkaline characteristics; Metz and San Timoteo soils are developed from weakly calcareous sandstone and shale; and San Emigdio derive from weakly consolidated sedimentary formations. Most soils in this area are sands and loams (USDA 2017).

The hills west of Davis Road consists of Cieneba, Gorgonio, Greenfield, Hanford, Placentia, Ramona, and Vista soils as well as Rockland and Terrace escarpments and are mostly sandy loams. Cieneba soils are derived from coarse-grained igneous rock; Gorgonio, Greenfield, Hanford, Placentia, and Ramona soils are all developed in alluvium from granitic material. Rockland refers to areas of granite boulders and rock outcrops; Terrace escarpments refer to areas of alluvial terraces (USDA 2017).

The hill east of Davis Road and south of the headquarters is mostly classified as Rockland with some Hanford sandy loam soils along the base of the slope (USDA 2017).

The areas west of Lake Perris Dam include Exeter, Gorgonio, Greenfield, Hanford, Monserate, Pachappa, Ramona, soils, and Rockland. Most soils are sandy loams; all are derived from granitic alluvium (USDA 2017).

Upland soils on the Potrero Unit are dominated by the Friant and Cieneba series, with large areas also classified as Terrace escarpments, and Badlands. The Cieneba and Friant soils are well-drained soils developed from igneous rock and mica-schist, respectively. Within the Potrero Unit, the Friant soils range from 8% to 50% and the Cieneba soils range from 5% to 50%. In both soil series, rock outcrops occupy 2% to 10% of the surface. Terrace escarpments consist of variable alluvium on terraces with slopes ranging from 30% to 75%. Although Terrace escarpments support some riparian vegetation, they are predominantly located in upland areas on the Potrero Unit. Badlands consist of acid igneous alluvium that originally was deposited by an inland sea (USDA 2017). Badlands are mapped in the northern portion of the Potrero Unit in areas adjacent to tributaries of Potrero Creek.

Valleys within the Potrero Unit mostly consist of Hanford, San Timoteo, and San Emigdio series. These are well-drained soil developed in alluvium from weakly consolidated sedimentary formations (USDA 2017).

Soils mapped along Potrero Creek are predominantly Riverwash, Metz loamy sand, and Tujunga loamy sand (USDA 2017).

Faulting and Seismicity

The SJWA is located in a seismically active area and therefore would likely be subjected to ground shaking from movement along one or more of the sufficiently active faults or well-defined faults in the region. Major active faults within a 20-mile radius of the SJWA are listed in Table 5.5-3. The San Jacinto Fault has shown significant movement in historic times. In 1923, an earthquake measuring 6.3 on the Richter scale struck the area. A second fault, the Casa Lorna, lies in the center of the San Jacinto Valley and extends as far north as Mystic Lake bed. The two faults run parallel to one another with the Casa Lorna Fault crossing the San Jacinto River channel approximately 3 miles east of Davis Road (CGS 2010). Figure 5.5-2 shows the faults in the vicinity of the SJWA according to the recency of fault rupture. Faults considered “active” are those that have had Holocene or historic displacement.

Figure 5.5-2 Quaternary Faults

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In 2013, the USGS, the California Geological Survey (CGS), and the Southern California Earthquake Center—which collectively make up the Working Group on California Earthquake Probabilities—updated previous forecasts that evaluated the probability of one or more earthquakes of moment magnitude (Mw) 6.7 or higher occurring in the State of California over the next 30 years. Accounting for the wide range of possible earthquake sources (including unknown or unmapped faults), there is an estimated 60% chance that an earthquake of magnitude 6.7 or higher will occur somewhere within the Los Angeles region by 2043 (WGCEP 2015). The study includes the inland empire and western Riverside County, including the SJWA, within the Los Angeles region. The San Jacinto Fault system, which would produce the highest ground shaking in the SJWA, is estimated to have a 5% chance of generating an earthquake of magnitude 6.7 or more by 2043 (WGCEP 2015).

Table 5.5-3
Major Active Faults within a 20-Mile Radius of the San Jacinto Wildlife Area

Fault Name	Distance in Miles	Direction from Site	Estimated Maximum Earthquake Magnitude (Mw)
San Jacinto-San Jacinto Valley	0	—	6.9
San Jacinto-Anza	10	SSE	7.2
San Jacinto-San Bernardino	8	NNW	6.7
Elsinore-Glen Ivy	18	SW	6.8
Elsinore-Temecula	18.5	WSW	6.8
San Andreas-San Bernardino	12	NE	7.3

Mw = Moment Magnitude
Source: USGS 2006b

Seismic Hazards

Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Although future earthquakes could occur anywhere along the length of an active fault, only regional strike-slip earthquakes of magnitude 6.0 or greater are likely to be associated with significant surface fault rupture and offset (CGS 2017a).

As shown in Figure 5.5-2, there are several Alquist–Priolo Earthquake Fault Zones that cross the Davis Unit. Both the Claremont Fault and the Casa Loma Fault, which are both part of the larger San Jacinto Fault Zone, cross portion of the SJWA on either side of Mystic Lake. The Claremont Fault crosses Davis Subunits D2, D3, and D5, and the Casa Loma Fault crosses Davis Subunits D3, D4, D7, D9, D10, and D13. A fault investigation of the Claremont Fault on the eastern side

of Mystic Lake found evidence for seven earthquakes in the upper 1.8 meters of strata that span the past 1,700 years (Onderdonk et al. 2013). Based on evidence in soil trenches, the recurrence interval for earthquakes on this part of the Claremont Fault is estimated to be between 160 and 210 years, with the most recent earthquake occurring approximately 200 years ago (Onderdonk et al. 2013). There are no Alquist–Priolo Earthquake Fault Zones within the Potrero Unit.

Ground Shaking

As discussed above, numerous earthquakes of moderate to strong magnitude have occurred in the SJWA in historic time. The primary tool that seismologists use to evaluate ground-shaking hazard and characterize statewide earthquake risks is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible earthquake sources and estimates their characteristic magnitudes to generate a probability map for ground shaking. The PSHA maps depict values of peak ground acceleration (PGA)[4] that have a 10% probability of being exceeded in 50 years (or a 1 in 475 chance). This probability level allows engineers to design structures for ground motions that have a 90% chance of *not* occurring in the next 50 years, making structures safer than if they were simply designed for the most likely events.

Based on the California Geological Survey's Probabilistic Seismic Hazards Mapping Ground Motion Page, there is a 10% probability (1 in 475 chance) of earthquake ground motion exceeding 0.624 g[5] with the Davis Unit of the SJWA site over a 50-year period (CGS 2017b). Due to greater distance from the San Jacinto Fault, the Potrero Unit would have similar or lesser ground motions. Generally, these ground accelerations correspond to very strong to violent ground-shaking levels that would be widely felt and could destroy or considerably damage masonry and wood frame structures not built according to modern seismic building codes. This level of ground shaking is also sufficient to produce secondary ground failures such as liquefaction and lateral spread (in susceptible soils), landslides (in weak soils on sloped ground), or fissures and ground cracks. As discussed further below, groundwater and soil conditions within the SJWA produce a generally low potential for liquefaction or seismically induced landslides. Substantial damage would be reduced or avoided in buildings designed and constructed according to current engineering standards of care and the California Building Code (described in the regulatory setting below).

Liquefaction and Lateral Spread

Liquefaction is the phenomenon in which loose, saturated, granular soils lose strength due to excess pore water pressure buildup during an earthquake. Liquefaction is usually manifested by

[4] The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph.

[5] PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared.

the formation of boils and mud-spouts at the ground surface, by seepage of water through ground cracks, or in some cases by the development of quicksand-like conditions. Where the latter occurs, structures or equipment may sink substantially into the ground, i.e., dynamic settlement, or tilt excessively; lightweight structures may float upwards; and foundations may displace vertically or laterally, causing structural failures. The phenomenon of liquefaction generally adds to the damages that would otherwise be caused by strong ground motions alone. Lateral spreading typically occurs in association with liquefaction. Lateral spreading occurs when liquefaction of a subsurface layer causes the mass to flow down slope, moving blocks of ground at the surface. During a liquefaction event, the soils tend to spread laterally toward the free face of the slope. In general, liquefaction hazards are limited to loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table).

The CGS has mapped the potential for earthquake-induced liquefaction in and around the urban centers of the state (i.e., the San Francisco Bay Area and the Los Angeles basin). However, the SJWA is located in an area that has not been mapped by the CGS. The potential liquefaction susceptibility in the vicinity ofproject this area, based on the Riverside County General Plan, indicates that the SJWA is located in an area with a liquefaction susceptibility ranging from very low to moderate (Riverside County 2015). Site-specific data on the Davis Unit points to a low likelihood of liquefaction. Based on fall 2015 water level measurements of 16 wells on the Davis Unit, the groundwater level underlying the SJWA averaged 128 feet beneath the ground surface (DWR 2016). Furthermore, a soil characterization study involving 50 cone-penetration test locations and 5 soil boring locations within the Davis Unit, all 30 feet deep, confirmed that a clay layer from several feet to 30 feet thick occurs beneath the wetland and waterfowl hunting sites on the SJWA (EMWD 2011).

Therefore, due to the absence of a shallow groundwater table and the clayey nature of soils underlying the Davis Unit, the area is not highly susceptible to liquefaction and lateral spread in an earthquake. Furthermore, the Potrero Unit is located in bedrock units not generally susceptible to liquefaction. Nevertheless, liquefaction within localized areas in either the Davis or Potrero Units cannot be ruled out, since site-specific data is not available everywhere, and groundwater conditions can change or be influenced by seeps or perched water.

Seismically Induced Landslides

Earthquake motions can induce substantial stresses on slopes and can cause earthquake-induced landslides or ground cracking if the slope fails. Earthquake-induced landslides can occur in areas with steep slopes that are susceptible to strong ground motion during an earthquake. The only mapped landslide unit in the SJWA is in the southern end of Potrero Subunit P7. Otherwise, much of the Potrero Unit, as well as steeper portions of the Davis Unit (D12, D6, and D8), have a moderate to high potential for seismically induced landslides (Riverside County 2015).

5.5.3 Applicable Regulations, Plans, and Policies

Federal

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration's (OSHA's) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations (CFR), Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

The statewide minimum public safety standard for mitigation of earthquake hazards (as established through the California Building Code (CBC), Alquist–Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act) is that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy,[6] but in most cases, is not required to prevent or avoid the ground failure itself. It is not feasible to design all structures to completely avoid damage in worst-case earthquake scenarios. Accordingly, regulatory agencies have generally defined an "acceptable level" of risk as that which provides reasonable protection of the public safety; although it does not necessarily ensure continued structural integrity and functionality of a project (14 CCR 3721(a)). Nothing in these acts, however, precludes lead agencies from enacting more stringent requirements, requiring a higher level of performance, or applying these requirements to developments other than those that meet the acts' definitions of a "project."

Alquist–Priolo Earthquake Fault Zoning Act

The Alquist–Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Earthquake fault zones are designated by the CGS and are delineated along traces of faults where mapping demonstrates surface fault rupture has occurred within the past 11,000 years. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, to account for

[6] A "structure for human occupancy" is any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year (Public Resources Code Sections 2621–2630).

uncertainties in the mapping/identification of active fault traces. Construction within these zones cannot be permitted until a geologic investigation has been conducted to prove that a building planned for human occupancy will not be constructed across an active fault. These types of site evaluations address the precise location and recency of rupture along traces of the faults and are typically based on observations made in trenches excavated across fault traces.

Although there are Alquist–Priolo earthquake fault zones that cross the SJWA, the draft LMP is not subject to this act because it does not involve any new structures for human occupancy (i.e., employee housing units/office) within those zones.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Section 2690–2699.6) directs the California Department of Conservation to protect the public from earthquake-induced liquefaction and landslide hazards (note that these hazards are distinct from fault surface rupture hazard regulated by the Alquist–Priolo Earthquake Fault Zoning Act of 1972). This act requires the State Geologist to delineate various seismic hazard zones, and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones (i.e., zones of required investigation). Before a development permit may be granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Evaluation and mitigation of potential risks from seismic hazards within zones of required investigation must be conducted in accordance with the CGS, Special Publication 117A, adopted March 13, 1997, by the State Mining and Geology Board and updated in 2008 (CGS 2008).

To date, Seismic Hazard Zone Maps have been prepared for portions of Southern California and the San Francisco Bay Area; however, no seismic hazard zones have yet been delineated for the SJWA. As a result, the provisions of the Seismic Hazards Mapping Act would not apply to the draft LMP.

California Building Code

The CBC, which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement,

replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code published by the International Code Council. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803); excavation, grading, and fills (Section 1804); load-bearing of soils (1806); and foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

California Department of Water Resources Dam Safety Regulations

Responsibility for supervision of dams and reservoirs is assigned to the California Department of Water Resources and delegated to the Division of Safety of Dams (DSOD). The DSOD oversees the construction, enlargement, alteration, repair, maintenance, operation, and removal of dams

and reservoirs under the authority of the California Water Code (Division 3, Dams and Reservoirs). Dams under the jurisdiction of the DSOD include those that have a height greater than 6 feet and hold more than 50 acre-feet of water, or those that have a height greater than 25 feet and hold more than 15 acre-feet of water. Davis Subunit D14 includes part of the Perris Dam, which is under DSOD jurisdiction. In addition, the proposed berm for the water storage project would be required to meet the criteria of a dam under DSOD jurisdiction and would hence be subject to DSOD dam safety regulations and require DSOD engagement during the planning and design phases.

The DSOD has several programs that ensure dam safety. DSOD engineers and engineering geologists review and approve plans and specifications for the design of dams and oversee their construction to ensure compliance with the approved plans and specifications. Geologic and seismic reviews include site geology, seismic setting, geologic/geotechnical site investigations, construction material evaluation, and seismic dam stability. In addition, DSOD engineers inspect existing dams on a yearly schedule to ensure they are performing and being maintained in a safe manner. Roughly a third of these inspections include in-depth instrumentation reviews of the dam surveillance network data. Lastly, the DSOD periodically reviews the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California.

In addition, the California Office of Emergency Services Dam Failure Inundation Mapping and Emergency Procedure Program requires the preparation of inundation maps, provides for inundation map waivers, and establishes emergency procedures for the evacuation and control of populated areas below dams under the jurisdiction of the DSOD. Inundation maps are prepared by the dam owner and represent the best estimate of where water would flow if a dam failed completely and suddenly with a full reservoir. Copies of the maps are sent to the city and county emergency service coordinators of affected local jurisdictions. Based on approved inundation maps or information obtained in preparation of a waiver, cities and counties with territory in the mapped inundation areas are required to adopt emergency procedures for the evacuation and control of populated areas below dams where death or personal injury could occur.

California Occupational Safety and Health Administration Regulations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for ensuring worker safety in the workplace.

The OSHA Excavation and Trenching standard (29 CFR 1926.650) covers requirements for excavation and trenching operations, which are among the most hazardous construction

activities. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Cal/OSHA is the implementing agency for both state and federal OSHA standards. All contractors are required to comply with OSHA regulations, which would make the draft LMP consistent with OSHA.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan

The Safety Element of the Riverside County General Plan (Riverside County 2015) includes the following goals and policies relevant to geology, soils and seismicity. These include policies associated with seismic hazards (e.g., fault rupture, liquefaction, landslide), and slope and soil instability hazards (e.g., subsidence and expansive and collapsible soils). These policies focus on avoiding development (i.e., habitable structures) within areas of geologic hazard, or appropriately incorporating mitigation into development to ensure risks to public safety are adequately reduced. The policies require geotechnical investigations for development projects within areas of high geologic hazard, and require appropriate review of grading and development permits.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) includes goals, objectives, and policies related to geology and soils. Objective 6.1 f the Safety Element seeks to minimize the potential for loss of life and protect residents, workers, and visitors to the City from physical injury and property damage due to seismic ground shaking and secondary effects. The City's policies rely on identification of geologic hazard zones, geotechnical investigation requirements, and careful permit reviews to ensure building standards, geotechnical standards, and geologic hazards requirements have been properly complied with and that public risks have been appropriately minimized.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) includes goals, objectives, and policies. The Safety Element takes the same approach to geologic, soils, and seismic hazards as described above for the County of Riverside and the City of Moreno Valley, but also seeks to implement public educational campaigns on seismic awareness and emergency preparedness.

5.5.4 Methodology

The study area with respect to geology and soils is the physical footprint of proposed LMP plans and activities, whereas the study area with respect to faulting and seismicity is regional in nature, since an earthquake on any of the major active faults in the region could cause ground shaking and other seismic hazards within the SJWA.

As indicated in Table 2-5 in Chapter 2, Project Description, the implementation schedule for future plans and tasks under the draft LMP includes the development of various plans and regulatory compliance reviews for a number of draft LMP components, including expanded/new wetlands (e.g., ponds, green feed fields), a joint wetlands/riparian restoration closed zone project, planned expanded trail/interpretive services, reconfiguration of California Department of Fish and Wildlife (CDFW)-managed food plots, the replacement of existing and installation of new (water) guzzlers, and the planned new dog training project. Many of the planned activities that could affect geologic or seismic conditions and features will require assessment of monitoring data, detailed engineering, coordination with regulatory agencies having jurisdiction over the resource, and in some cases, project-level CEQA review. The analysis herein assumes that construction of facilities and structures, and the water storage project would comply with the codes and standards discussed in Section 5.5.3—in particular, the CBC and DSOD regulations.

Of particular relevance to above criteria is that a project's location relative to pre-existing geologic and seismic hazards alone is not what determines the significance level or severity of project impacts. "[T]he purpose of an [environmental impact report] is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project" (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) and *California Building Industry Association v. Bay area Air Quality Management District* (2015)). As explicitly found by the court in the *Ballona* decision, effects on users of the project and structures in the project site due to preexisting environmental hazards "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR" (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) at p. 475).

Therefore, draft LMP actions and activities are evaluated in terms of whether they create or increase geologic risks or seismic hazards. In evaluating a project's impacts with regard to geology, soils and seismicity, the following factors are considered:

- The possible consequences to public safety or the surrounding environment of proposed facility damage or failure stemming from geologic or seismic hazards; and
- The degree to which standard professional practice and code compliance would be effective in addressing geotechnical concerns (i.e., compliance with existing state and local regulations applicable to geotechnical design and construction).

Existing state and local regulations that apply to geotechnical design and construction include the most recent version of the CBC. With regard to habitable facilities and other substantial structures (i.e., the water storage project), CDFW would incorporate into their facility designs the engineering recommendations provided by the various geotechnical studies to be conducted for applicable projects under the draft LMP, in accordance with the CBC and DSOD regulations described in Section 5.5.3.

The analysis below focuses on general activities and their associated impact-causing mechanisms, such as mowing/disking, grading, facility/infrastructure construction, and vegetation manipulation/management. These generalized activity categories are discussed in terms of whether they are one-time events (e.g., temporary/construction impacts) or actions that will occur with regular frequency (permanent/operational impacts), and may occur in multiple locations or across several LMP management designations. These activities are analyzed in the context of the existing environmental setting described above in Section 5.5.2 to determine whether the impacts could exceed the standards of significance in Section 5.5.5. Where impacts are determined to be significant or potentially significant, mitigation measures are outlined which would substantially lessen or eliminate the impact.

Lastly, this PEIRevaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed SWJA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in

this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of draft LMP implementation on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Fish and Game Code Sections 1600 et seq. or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.5.5 Standards of Significance

The State of California has developed guidelines to address the significance of geology and soils impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Geology and soils impacts would be considered significant if a proposed project would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
    b. Strong seismic ground shaking?
    c. Seismic-related ground failure, including liquefaction?
    d. Landslides?
2. Result in substantial soil erosion or the loss of topsoil?
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

5.5.6 Impact Analysis and Mitigation

Issue GEO-1 Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

a. Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

b. Strong seismic ground shaking?

c. Seismic-related ground failure, including liquefaction?

d. Landslides?

Davis Unit

As discussed in Section 5.5.2 (Existing Conditions), there is a relatively high probability that the Davis Unit could be subject to very strong to violent ground-shaking levels at some point in the draft LMP's 30-year planning horizon. The probability of an earthquake on the segment of the San Jacinto Fault Zone that crosses the Davis Unit is much lower, but if it were to occur, it could cause ground rupture along either the Casa Loma Fault or the Claremont Fault. Both of these faults are zoned under the Alquist–Priolo Earthquake Fault Zoning Act, and thus could produce ground ruptures within the Davis Unit. The Claremont Fault crosses Davis Subunits D2, D3, and D5, and the Casa Loma Fault crosses Davis Subunits D3, D4, D7, D9, D10, and D13. Seismically induced ground failures, such as liquefaction, lateral spread, or landslides, are also possible within the Davis Unit within the draft LMP's planning horizon. Liquefaction and lateral spread risks within the Davis Unit are generally low, but could occur if preconditions (such as a shallow groundwater and sandy soils) were locally favorable. Generally, seismically induced landslide risks within the Davis Unit are low, with the exception in Subunits D12, D6, and D8, where the risk for a seismically induced landslide is moderate to high, due to steep slopes.

Draft LMP activities that do not involve substantial structures or increased public exposure to earthquake hazards are considered to have no impact on seismic issues. Therefore, this discussion focuses on elements of the draft LMP that involve habitable structures, water storage, or appreciable increases in public visitation. Certain management designations would include minor structures such as irrigation systems, guzzlers, interpretive signage, lock boxes, gates, visitor-use facilities (e.g., picnic tables and shade structures), and hunter check stations and blinds. Since earthquake-induced damage to these facilities could be inspected and repaired, and

do not constitute as substantial public safety risk, they are not considered to have a significant impact with regard to earthquake and seismic hazards. Exposure of people or structures to seismic hazards is a long-term but momentary impact, occurring only during an earthquake, with impacts lasting until structural damage is inspected and repaired. Furthermore, impacts may be both direct and indirect in nature. Fault rupture is a direct impact of an earthquake, whereas liquefaction and seismically-induced landslides are indirect impacts as they can occur far from the earthquake source in response to ground shaking.

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

Alkali, Riparian, Waterfowl Hunting, Stephens' Kangaroo Rat, and Upland Habitat; Upland Small and Larger Game Hunting; Agriculture; Hunting Dog Training; and SJWA Events. These management designations do not involve significant construction of habitable structures or other facilities which would present a substantial health/safety risk in an earthquake. Construction of wildlife viewing platforms; installation of irrigation systems, guzzlers, and other minor facilities (e.g., signage, gates, hunter check stations and blinds) would occur in scattered locations across the Davis Unit and would incrementally add to or improve upon the facilities currently present. These management designations would remain as open space, with supporting facilities periodically inspected and repaired as needed. Habitat manipulations for these management designations include vegetation management, pesticide and herbicide application, prescribed burning, mowing and shallow disking, grazing (the use of sheep, goats, or cattle in different stages), tilling/plowing for agriculture, and other as-needed repairs. Even though active fault zones would cross Davis Subunits D2, D3, D4, D5, D7, D9, D10, and D13, the zones would not intersect any new habitable structures. Any roads, trails, or ancillary facilities affected by fault rupture would be inspected and repaired/regraded as necessary. These management activities and minor facilities do not affect the occurrence, probability or extent of geologic and seismic hazards currently present within the SJWA, and thus would not have significant impacts with respect to seismic hazards.

It is expected that implementation of the draft LMP would result in an increase in employees and public visitation. The public use element of the draft LMP seeks to improve recreation opportunities, access, and education, for example, through new upland hunting opportunities, new hunting dog training opportunities, and larger waterfowl hunting and hunting dog training events. An additional 14 full-time employees and an additional 6 seasonal temporary positions are expected. Existing SJWA events are expected to grow with an annual increase of approximately 500 more hunters (from an existing 6,000) and approximately 250 more dog trainers (from an existing 1,000). These increases in visitors and employees would occur gradually over the planning horizon of the draft LMP, and are generally minor and incremental

in nature. Although these management designations within the Davis Unit could be subject to a variety of seismic hazards during a large earthquake, the anticipated increase in public use and visitation would be primarily in outdoor spaces where the potential for significant injury or death would be minimal. Furthermore, visitors' exposure to any seismic hazards would be short lived, occurring only while they are present on the Davis Unit. Thus, these management designations would not significantly impact public exposure to seismic hazards on or off site.

Because these management designations do not affect the occurrence, probability, or extent of geologic and seismic hazards currently present within the Davis Unit, and because they do not significantly impact public exposure to seismic hazards on or off site, the impact with respect to seismic hazards is **less than significant (Class III)**.

Facilities and Structures. The analysis of impacts to public safety from seismic hazards is generally the same as described above, with the exception of proposed habitable structures such as employee housing. Habitable structures would consist of replacement of the two current employee double-wide trailers, one approximately 1,200 square feet and the other approximately 1,300 square feet, with three, approximately 1,300-square-foot residences (also double-wide trailers). These employee units would not be located on any of the active fault zones mapped within the Davis Unit. New buildings are anticipated to be similar to existing buildings in terms of location and size.

If applicable, new structures would be designed and constructed in accordance with the CBC, as discussed in Section 5.5.3. However, most provisions of CBC are not applicable to manufactured homes/trailers. Given the draft LMP does not specify the type/model or installation method for the double wide trailers, it is assumed that the typical method of installation would be used. In the United States, trailers are constructed in accordance with construction and safety standards issued by the U.S. Department of Housing and Urban Development. Trailers are most commonly mounted on a system of piers, which are typically metal tripods or concrete blocks that are positioned below the steel chassis, or undercarriage, of the trailer or mobile home. The piers are adjusted and leveled so that the trailer itself rests in a level position on top of the piers. Once this is completed, the trailer is positioned approximately 24 to 36 inches above the ground. Because such piers are not always secured to the ground, strong seismic shaking anticipated on the Davis Unit could cause the piers to give way and the trailer to drop up to 2 to 3 feet before striking the ground. Although the consequences of trailer damage in an earthquake would not be disastrous (i.e., affect the public at large or off-site properties), it could result in personal injury to employees residing in the unit. Given the severity of ground shaking that could occur due to the proximity of the San Jacinto Fault, and that Earthquake Resistant Bracing Systems are not required for manufactured homes under state law, this impact is considered **potentially significant (Class II)**. Implementation of MM-GEO-1a would reduce the potential for personal injury to employees in the event of an earthquake, and thus would reduce the impact to a less-than-significant level.

Wetlands and Waterfowl Habitat; and Water Storage Project. Expansion of wetlands and waterfowl habitat, and the proposed water storage project, would involve construction of enclosed berms to hold water and an onsite pipeline. Failure of such berms stemming from a major regional earthquake could result in the release of large volume of water, and potentially result in a flooding downstream. The water storage project is not located on any of the mapped earthquake fault zones in the Davis Unit and is thus unlikely to be subject to fault rupture. However, some of the proposed or future potential waterfowl ponds (e.g., in Davis Subunit D3 and D4) are located on or adjacent to strands of the Casa Loma and Claremont fault that could experience ground rupture in a major earthquake.

As described in Section 5.7, Hydrology and Water Quality, Mystic Lake represents the terminal point of the Middle and Upper San Jacinto Watershed under most circumstances (i.e., when the lake has water-holding capacity). This means that should berms or levees associated with proposed water features (where located up gradient of the lake) fail in an earthquake, the water would flow to the bed of Mystic Lake. Mystic Lake has an estimated storage capacity of 14,668 acre-feet and under prevailing conditions is dry or shallowly ponded. The largest option for the proposed water storage project would involve 2,500 acre-feet of water in an area of 275 acres, enclosed by a berm between 6 and 9 feet tall. In a major earthquake scenario, failure of the water storage project berm through liquefaction, lateral spread, slope failure, or other earthquake-related means could result in a release of up to 2,500 acre-feet of water to the bed of Mystic Lake. Under most circumstances, the lake would have the available holding capacity without threatening downstream and off-site properties to flooding. However, because the impact would depend on the holding capacity of Mystic Lake (which could be highly variable depending on future hydrologic conditions), and because the consequences of levee/berm failure could include flooding of off-site property, the impact is considered **potentially significant (Class II)**. Implementation of MM-GEO-1b would substantially reduce the potential for on-site and off-site flooding in the event of berm failure during a major earthquake, and thus would reduce the impact to a less-than-significant level.

Potrero Unit

Except for activities associated with hunting dog training, agriculture, and waterfowl ponds (which will not occur on the Potrero Unit), the analysis provided above for the Davis Unit would be equally applicable to activities on the Potrero Unit. The Potrero Unit does not have risks with regard to fault rupture, since it is not crossed by any active faults, but likely has greater risks with regard to slope failure and seismically induced landslide risks. Due to steep slopes, the risk of seismically induced landslide is moderate to high in the Potrero Unit. Nevertheless, the analysis is similar to the Davis Unit, since implementation of the draft LMP on the Potrero Unit would not affect the occurrence, probability, or extent of geologic and seismic hazards currently present within the Potrero Unit; and because it would not

significantly impact public exposure to seismic hazards on or off site, with the exception of the proposed administrative facilities (office, workshop, and warehouse) and employee housing (two trailers). The impact would be **potentially significant (Class II)**. However, with implementation of MM-GEO-1a, the impacts of the draft LMP activities within the Potrero on seismic hazards would be less than significant. MM-GEO-1b does not apply to the Potrero Unit because it would not involve a water storage project or any waterfowl ponds.

MM-GEO-1a Seismic Considerations for Trailers. The California Department of Fish and Wildlife (CDFW) will require double-wide trailers and offices proposed in the San Jacinto Wildlife Area (SJWA) to be selected, designed and installed to resist the lateral loads that would be imposed under the maximum considered earthquake on the San Jacinto Fault zone. Trailers will be installed with Earthquake Resistant Bracing Systems that simultaneously resist lateral loading and prevent the trailer from dropping more than 2 inches if it moves off its supports. Utility hookups and interior appliances will be designed with straps, bracing, or (for all gas appliances and light petroleum gas tanks) flexible connections to avoid personal injury or fire. CDFW will require the contractor selected to install manufactured units to certify the installation meets the above standards prior to occupancy, in addition to U.S. Department of Housing and Urban Development standards.

MM-GEO-1b Seismic and Stability Considerations for Water Storage (Davis Unit only). All proposed CDFW actions that meet the criteria of a dam under Division of Safety of Dams (DSOD) jurisdiction, including but not limited to the Water Storage Project, will be developed in compliance with DSOD dam safety regulations and in coordination with DSOD staff during the planning and design phases. The scope of the studies to support the planning, design, and engineering of a water storage project subject to DSOD jurisdiction will include:

- **Inundation mapping:** A catastrophic failure scenario will be modeled using high-resolution topographic data and Hydrologic Engineering Center's River Analysis System (HEC-RAS) or similar model to evaluate the degree to which private property or sensitive land uses downstream would be inundated. This information will be used to inform the stability/safety design criteria of the water storage project.
- **Liquefaction analysis:** A liquefaction analysis will be conducted to assess whether the foundational soils would be stable in an earthquake scenario and not subject to liquefaction. The analysis will utilize the results of cone-penetration testing (CPT) to assess strength and character of soils and evaluate

groundwater conditions and trends to determine the potential for liquefaction and the need for mitigation.

- **Geotechnical/Stability Analysis:** CPT results and other soils testing data, as necessary, will be collected and evaluated to make dam safety recommendations based on seismic loading and the resulting stability of the berms/levees under earthquake scenarios (i.e., factor of safety analysis). Recommendations shall include but not be limited to ideal levee designs/geometry, earthwork specifications, minimum required freeboard, the location/extent of required armoring or emergency spillway, and long-term operation and maintenance requirements.

Geotechnical and engineering studies for the water storage project (and any other activity involving a jurisdictional dam) will be reviewed and approved by DSOD. The water storage project will not be constructed without final authorization from DSOD.

Issue GEO-2 Would the project result in substantial soil erosion or the loss of topsoil?

Davis Unit

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

Wetlands, Riparian, Alkali, Waterfowl Habitat, Waterfowl Hunting, Stephens' Kangaroo Rat, and Upland Habitat; Upland Small and Larger Game Hunting; Agriculture; Hunting Dog Training; SJWA Events; Facilities and Structures; and Water Storage Project. Within the overall context of the SJWA, implementation of draft LMP management goals and tasks would seek to avoid accelerated (i.e., unnatural) rates of erosion and loss of topsoil. Such effects are incompatible with the goals and objectives of the draft LMP, particularly with regard to Task BE2 (Alkali Communities), BE5 (Upland Communities), and PUE3 (Agriculture). For planned expansion and management of wetland/riparian habitat, waterfowl habitat and other management designations that may involve alterations of existing hydrologic processes, the draft LMP provides that where necessary and beneficial, measures could include installation of appropriate bundled native plant material for stream bank stabilization, installation of geotextile fabric where unstable soil will limit plant reestablishment, installation of energy dissipating features where flow velocities are expected to be erosive, and installation of grade stabilizing structures/vegetation. One of the management emphases in the draft LMP is to consider natural hydrologic processes and prevent adverse alterations to hydrology and floodplain dynamics. To

preserve the habitat values and soil resources, the Davis Unit would be managed in a manner that avoids unnatural rates of erosion and the loss of topsoil; wildlife viewing, hunting activities, and other public use elements of the draft LMP are currently and would continue to be monitored and managed in a way that is minimally impactful to soil resources.

Section 5.7, Hydrology and Water Quality, examines in greater detail potential effects of specific management actions and construction of facilities and structures might have on water quality, which includes concerns about erosion and loss of topsoil. As discussed in greater detail in Section 5.7, construction activities that involve land grading, trenching, or excavation, such as the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources (through targeted grading); installation of water distribution (onsite pipeline), management, and storage systems; construction of employee dwelling units (trailers); and expanded trail/interpretive services activities would require land disturbances such as grading and site-preparation activities. If improperly performed, such activities could result in substantial soil erosion or the loss of topsoil resulting in a **potentially significant impact (Class II).** However, the required implementation of a Stormwater Pollution Prevention Plan under the Construction General Permit for sites involving land disturbance of over 1 acre, and implementation of MM-HYD-1a (Minimum Stormwater Quality Best Management Practices) for sites under 1 acre would substantially reduce the potential for soil erosion. Furthermore, to ensure prescribed fire as a management activity does not result in substantial erosion or loss of topsoil, MM-HYD-1c requires implementation of prescribed fire BMPs including use of erosion control methods, controlled timing of burns, and consistency with California Department of Forestry and Fire Protection (CAL FIRE) requirements and vegetation management plans. Finally, to avoid long-term impacts on soil erosion from impervious surfaces, implementation of MM-HYD-1f would require implementation of site-design BMPs to ensure new facilities involving more than 5,000 square feet of impervious surfaces do not result in increased or erosive runoff.

For the above reasons, the impact of the Davis Unit with regard to substantial soil erosion or the loss of topsoil would be less than significant with implementation of MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f.

Potrero Unit

Except for activities associated with hunting dog training, agriculture, and waterfowl ponds (which would not occur on the Potrero Unit), the analysis provided above for the Davis Unit would be equally applicable to activities on the Potrero Unit. The impact of the Potrero Unit with regard to substantial soil erosion or the loss of topsoil would be **potentially significant (Class II)**, but reduced to less than significant with implementation of MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f.

MM-GEO-2 Implement MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f.

Issue GEO-3 Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Davis Unit and Potrero Unit

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

As discussed in the setting, the only mapped landslide unit in the SJWA is in the southern end of Potrero Subunit P7. Otherwise, much of the Potrero Unit, as well as steeper portions of the Davis Unit (D12, D6, and D8) have a moderate to high potential for seismically induced landslides (Riverside County 2015). In addition, the Mystic Lake area in the Davis Unit has been subsiding enough to increase the lake's capacity by about 200 acre-feet per year. There are no public use or administrative facilities proposed in the area of the Potrero Unit mapped as a landslide. Within the Davis Unit, public use and administrative facilities are located in flat areas that are not subject to landslide hazards. Trails and other public use facilities may be located in an area prone to continuing subsidence around Mystic Lake. However, subsidence progresses slowly, and any structural issues caused by subsidence could be inspected and repaired as they occur, and would not jeopardize public safety or off-site property. Finally, the draft LMP does not propose large-scale hillside grading activities that could lead to increased slope instabilities.

The design and construction of the SJWA facilities and structures (primarily associated with new employee residences on both the Davis and Potrero Units, as well as the office, workshop, and warehouse on the Potrero Unit) are required to comply with CBC requirements, where applicable. CDFW would contract with competent/registered engineers to carry out all of the structural/facility elements of the draft LMP. Implementing the regulatory requirements in the CBC and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of CDFW engineers (or their contractors) and building officials. CDFW's geotechnical engineer, as a registered professional with the State of California, would be required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care for the local area.[7] The California Professional Engineers Act (Building and Professions Code Sections 6700–6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California.

[7] A geotechnical engineer specializes in structural behavior of soil and rocks. Geotechnical engineers conduct soil investigations, determine soil and rock characteristics, provide input to structural engineers, and provide recommendations to address problematic soils.

Because public use and administrative facilities would not be located on mapped landslides or steep slopes, because no large-scale grading is proposed on steep slopes, and because other habitat/species management and maintenance activities would not affect slope stability, the impact of the draft LMP with respect to unstable soils would be **less than significant (Class III)**.

Issue GEO-4 Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Davis Unit and Potrero Unit

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

Chapter 18 of the CBC (see Section 5.5.3) describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

> **1803.5.3 Expansive Soil**. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:
>
> 1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318
> 2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422
> 3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422
> 4. Expansion index greater than 20, determined in accordance with ASTM D 4829

The design and construction of the SJWA facilities and structures (primarily associated with new employee residences on both the Davis and Potrero Units, as well as the office, workshop, and warehouse on the Potrero Unit) are required to comply with CBC requirements, where applicable.

Besides linear extensibility or shrink-swell potential,[8] other potential soils constraints include high corrosivity,[9] high erosivity, poor drainage, and differential settlement, among others. Soil constraints in general are a geotechnical and engineering issue that are determined on a site-specific basis, and addressed through standard practices in the construction industry. Based on USDA soil survey data, soils in the SJWA with a high or very high shrink-swell potential (i.e., a linear extensibility of 5.9% or greater) includes the Altamont Clay, Fallbrook rocky sandy loam, Monserate sandy loam, Willows silt clay, Placentia fine sandy loam, and Chino silt loam. Collectively, these soils comprise 28.7% of the Davis Unit and 1.5% of the Potrero Unit (USDA 2017).

Facilities and structures located on expansive soils or soils with other constraints would represent a maintenance and repair issue rather than substantial risks to life and property. The occupancy and use of the administrative facilities are not so intense that issues associated with shrink-swell would cause personal injury or harm. The consequences of expansive soils (and other soil constraints) on planned LMP facilities are minor and would not substantially affect public safety. Development of facilities, foundations, and construction of utilities requires geotechnical characterization of soils and development of site preparation, earthwork, and foundation specifications. This process addresses soil constraints either through removal of the constraint (i.e., replacement of pre-existing soils with imports of engineered fill), correction of the constraint (certain techniques such as screening, lime treatment or other additives), or in some cases, special design of facilities to accommodate the constraint without issue (e.g., use of foundations that bypass problematic soils, or use flexible/adaptable structures and materials). Any water/irrigation infrastructure would be placed within imported engineered fill not subject to shrink/swell, where necessary.

CDFW would contract with appropriately licensed engineers to carry out all of the structural/facility elements of the draft LMP. Implementing the regulatory requirements in the CBC and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of CDFW engineers (or their contractors) and building officials. CDFW's geotechnical engineer, as a registered professional with the State of California, would be required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care for the local area.[10] The California Professional Engineers

[8] Linear extensibility or shrink-swell potential refers to the change in volume of soil as moisture content is increased or decreased between a moist and dry state. The volume change is reported as a percent change for the whole soil and is reported in laboratory tests as the "expansion index." Soils with expansion indices of more than 20% can be problematic and usually require remediation or removal.

[9] Risk of corrosion pertains to potential soil-induced electrochemical or chemical actions that corrode or weaken concrete or uncoated steel. The rate of concrete corrosion is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. The rate of uncoated-steel corrosion is related to such factors as the moisture, particle-size distribution, acidity, and electrical conductivity of the soil.

[10] A geotechnical engineer specializes in structural behavior of soil and rocks. Geotechnical engineers conduct soil investigations, determine soil and rock characteristics, provide input to structural engineers, and provide recommendations to address problematic soils.

Act (Building and Professions Code Sections 6700–6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California.

Because expansive soils and other soils constraints, if present, do not represent a substantial risk to life or safety, the impact of the draft LMP with regard to this issue is **less than significant (Class III)**.

Issue GEO-5 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

This impact is only applicable to draft LMP elements such as the construction of employee housing and office uses, which would require new systems for the disposal of sanitary wastewater.

Davis Unit

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

Facilities and Structures. Recommended improvements to existing administrative facilities on the Davis Unit include replacement of the two current employee double-wide trailers, one approximately 1,200 square feet and the other approximately 1,300 square feet, with three, approximately 1,300-square-foot residences (also double-wide trailers). The existing domestic water supply system would continue to be used, and no new domestic water supply system is proposed. The existing septic system or portable toilets regularly serviced by an outside contractor would continue to be used and a new septic system installed to service the third new residence. Because there would not be a new wastewater disposal system on the Davis Unit, there would be **no impact** with regard to soil suitability.

All Other Management Designations. This impact criterion is not applicable to any other management designation because none would require wastewater disposal systems.

Potrero Unit

Direct and Indirect Impacts

Temporary/Construction and Permanent/Operational Impacts

In the future, two new residences are recommended for the Potrero Unit along with an office, workshop, and warehouse. As there is no municipal wastewater service on the site, a new septic

system or alternative means of wastewater disposal would be required. Based on anticipated uses, the volume of sanitary wastewater generated would be minor.

The suitability of on-site soils for a properly functioning leach field[11] is determined by conducting percolation tests to determine whether the location has an adequate percolation rate; in addition, the leach field must comply with setback requirements (e.g., from property lines, building, wells, streams, or unstable soils). Based on the USDA soil survey, soils in the Potrero Unit are generally sandy and likely to have adequate percolation rates. However, soil suitability must ultimately be determined based on site-specific data, and certain soils in the area may have expansive characteristics. Since the precise location of proposed facilities has not been determined, the location and method of wastewater disposal is not currently known. However, the contractor selected by CDFW to install administrative facilities would be required to comply with all laws and regulation regarding installation of septic systems, and apply wastewater engineering procedures that are standard and routine in the industry to ensure the septic system selected is appropriate for the site. If soils are unsuitable for a leach field, alternative means sanitary wastewater disposal are available, such as portable toilets, sand filters, incineration/composting toilets, mound systems, filled-land systems, etc.

Since the characteristics and suitability of site soils are not a constraint on proper wastewater disposal, the suitability of site soils for septic systems would be a **less-than-significant impact (Class III)**. CDFW would ensure that proposed facilities on the Potrero Unit have adequate means of wastewater disposal.

5.5.7 Cumulative Impacts and Mitigation

The effects of the draft LMP, when considered with other projects in the region, would not result in a cumulative impact associated with geology and soil resources. In general, geotechnical impacts associated with the draft LMP can be mitigated to less-than-significant levels. Cumulative impacts related to seismically induced ground shaking and associated ground failure, as well as slope failures and other impacts, for present and probable future projects near the SJWA, would be similar to what is described for project-specific impacts. The impacts would be addressed on a project-by-project basis through compliance with existing building codes and any site-specific mitigation measures for individual projects, including site-specific geotechnical investigations and associated reports. All mitigation measures are based on conventional techniques and standards within the industry. All geotechnical hazards can be mitigated to acceptable levels by licensed professionals who would provide guidelines and specifications to mitigate and remediate the specific hazard. Therefore, cumulative impacts relating to geotechnical hazards would be less than significant.

[11] Leach fields are subsurface wastewater disposal facilities used to remove contaminants and impurities from the liquid that emerges after anaerobic digestion in a septic tank.

No mitigation measures to address cumulative impacts are required.

5.5.8 Level of Significance After Mitigation

The only potentially significant impacts on geology and soils relate to seismic hazards and erosion/loss of topsoil. With implementation of MM-GEO-1a, MM-GEO-1b, MM-HYD-1a, MM-HYD-1c, and MM-HYD-1f, the impacts of the draft LMP on geology and soils would be less than significant.

5.5.9 References

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5.6 HAZARDS AND HAZARDOUS MATERIALS

5.6.1 Introduction

This section addresses potential hazards and hazardous materials impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.6.2 provides a description of the existing conditions for hazards and hazardous materials in the SJWA, and Section 5.6.3 describes the regulatory setting. Section 5.6.4 describes the methodology used for the evaluation of hazards and hazardous materials. Section 5.6.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts of implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.6.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.6.7. The level of significance after mitigation is provided in Section 5.6.8, and Section 5.6.9 lists the references cited in this section.

Comments received in response to the Notice of Preparation (NOP) related to hazards include human-caused fire risk due to increased management activities and public access on the SJWA. Wildland fire risk is addressed in Section 5.6.6, Impact Analysis and Mitigation, and Section 5.6.7, Cumulative Impacts and Mitigation. A copy of the NOP and comments received is included in Appendix A.

5.6.2 Existing Conditions

Hazardous Materials Definition

The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any substance, including waste, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). The term "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (California Health and Safety Code, Chapter 6.95, Section 25501(n)(1)). Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or is being stored prior to proper disposal.

Regulatory Database Review

The California Environmental Quality Act (CEQA) requires review of Section 65962.5 of the California Government Code, also known as the "Cortese List," to identify whether a project crosses

or is in close proximity to a site known to have had a hazardous materials release or to represent a threat to human health and the environment. Because this statute was enacted over 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. While Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to Web-based information access since 1992, and this information is now largely available on the Internet sites of the responsible organizations. The following sources, databases, and lists comprise the Cortese List (CalEPA 2017):

- **Hazardous waste and substance sites from the Department of Toxic Substances Control's (DTSC's) "EnviroStor" database.** The EnviroStor database is an online search and geographic information system (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. These records are included in the regulatory database review described below.
- **List of leaking underground storage tank (UST) sites from the State Water Resources Control Board (SWRCB) "GeoTracker" database.** GeoTracker is the SWRCB's online search and GIS tool for sites that impact groundwater or have the potential to impact groundwater. GeoTracker contains sites that require groundwater cleanup (Leaking USTs, Department of Defense, and Site Cleanup Program) and permitted facilities that could impact groundwater (Irrigated Lands, Oil and Gas Production, Operating USTs, and Land Disposal sites). These records are included in the regulatory database review described below.
- **List of solid waste disposal sites identified by SWRCB with waste constituents higher than hazardous waste levels outside the waste management unit.** Review of this list revealed no sites located within or adjacent to the SJWA (CalEPA 2017).
- **List of active cease-and-desist orders and cleanup and abatement orders from SWRCB.** Review of this list revealed no sites within the SJWA (CalEPA 2017).
- **List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the California Health and Safety Code, as identified by DTSC.** This list only includes two sites in California, neither of which is near the SJWA (CalEPA 2017).

Dudek employed a records search company, Environmental Risk Information Services (ERIS), to search the numerous federal, tribal, state, and local regulatory agency records and provide a report of the findings (Appendix 5.6-A). Databases searched are identified in American Society for Testing and Materials Standard 1527-13, which meets the requirements of the EPA's

Standards and Practices for All Appropriate Inquires (40 CFR 312). In addition, the databases searched include the aforementioned databases that comprise the Cortese List statute. The information below is summarized from Appendix 5.6-A for the Davis Unit and Potrero Unit.

Davis Unit

Appendix 5.6-A indicates the Davis Unit is listed in seven regulatory databases. These listings are related to the permitted handling, storage, and disposal of hazardous materials. Such listings are not indicators of contaminated sites, only that such sites are known to handle, store, transport, or dispose of hazardous materials, and are regulated as such. Review of site names, map locations, and cross-reference with other sources indicate that 14 listings that Appendix 5.6-A reports as being on the Davis Unit are actually for the Moreno Compressor station operated by San Diego Gas and Electric (SDGE). The Moreno Compressor station is located just outside of the boundary of the Davis Unit. This compressor station is listed in the Cleanup Sites and Land Disposal Sites databases. The compressor station was built in in 1955 and is used as part of SDGE's natural gas distribution system. There are two brine ponds at the compressor station site. These ponds are lined, and the site is monitored quarterly. Currently, there are no indications of impacts to groundwater beneath the compressor station.

In addition to listings within the Davis Unit, Appendix 5.6-A includes 68 other listings for sites within 1 mile of the Davis Unit boundary. Sixty of these listings are related to the permitted handling, storage, and disposal of hazardous materials. Two of the 68 listings are in the Leaking Underground Storage Tanks (LUST) database, which identifies sites that have been found to be contaminated not just from LUSTs, but also from spills and overfills. Both of the LUST cases were investigated and closed by the lead regulatory agency (i.e., Riverside County Local Oversight Program)—one in 1986 and the other in 1997.

The other six listings are related to three landfill sites that are located in the vicinity of the SJWA. Two listings are for the Lakeview Landfill, located approximately 53 feet south-southwest of the SJWA. Lakeview Landfill is a closed burn dump that was operated by Riverside County from 1951 to 1971. Contaminants of concern at the site include copper, lead, and zinc. The site is currently listed as open-inactive, with Nuevo Development Company in the process of funding and implementing a site Clean Closure Project. Two listings are for the Agriscape Inc., Composting Facility, located approximately 735 feet east southeast of the SJWA. This was an unpermitted greenwaste composting facility. The facility has ceased composting operations and the site was clean-closed as of December 31, 2015. Two listings are for the Southern California Landscape Supply Composting Facility, located approximately 732 feet east of the SJWA. This is a greenwaste and manure composting facility that is currently operating under the oversight of the Regional Board. There is no indication of environmental impacts resulting from operation of the site.

Potrero Unit

Appendix 5.6-A indicates the Potrero Unit is listed in 7 regulatory databases. Five of these listings were related to the permitted handling, storage, and disposal of hazardous materials. Such listings are not indicators of contaminated sites, only that such sites are known to handle, store, transport, or dispose of hazardous materials, and are regulated as such. The other two listings, in the State Response Sites (RESPONSE) and Geotracker Cleanup Sites (CLEANUP SITES) databases, are related to cleanup. In the 1950s, a site located within the Potrero Unit at 17255 Highland Springs Road in Beaumont, California, identified as Beaumont Site #1 in the regulatory records, was purchased by the Grand Central Rocket Company and used as a remote testing facility for space and defense programs. The Lockheed Martin Company purchased Beaumont Site #1 in 1960 and began testing in 1963. Operations, including the processing, testing, and disposal of solid rocket propellant, occurred until 1974. Hazardous substances stored or released at the site during Lockheed's operations include: solvents, degreasers, purgeable organics, trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,1,1-trichloroethane (1,1,1-TCA), and beryllium. Perchlorate and 1,4-dioxane have also been identified as potential chemicals of concern. Sampling has confirmed the presence of several of these substances in soils and groundwater at the site. Figure 5.6-1 shows the historical operational area boundaries of the site. Figures found in Appendix C of the LMP, Maps of Lockheed Martin Corporation Management Areas, MEC Areas, and Remediation Areas, provide additional details of the historical feature locations, munitions and explosives of concern, and proposed remediation areas. Monitoring and cleanup by Lockheed Martin's consultants in these areas is ongoing.

The database search also identified 6 additional sites within 1 mile of the Potrero Unit. Three of the listings are related to the permitted handling, storage, and disposal of hazardous materials. One of the listings is the location of a former illegal drug lab. Two listings are related to releases at a property 0.25 mile southwest of the Potrero Unit. Both of these listings (which relate to the same property) were investigated and closed by the lead regulatory agency on June 21, 2012.

Aerial Photograph Review

Davis Unit

Historical aerial photographs, provided by ERIS, were reviewed to determine if past uses of the Davis Unit may have resulted in potential recognized environmental conditions. Historical aerial photographs from 1938, 1953, 1966, 1979, 1985, 1996, 2002, 2005, 2006, 2009, 2010, 2012, and 2014 were reviewed (Appendix 5.6-A). The Davis Unit appears to have been undeveloped or used for agricultural activities since at least 1938. Figure 5.6-2 shows the areas of current and historical agricultural use identified in the aerial photograph review. Perris Reservoir appears near the western portion of the Davis Unit in 1979. Also in 1979, Mystic Lake, located in the

northwestern portion of the Davis Unit, appears to have water in it for the first time. Water levels in Mystic Lake fluctuate for the rest of the period, with the lake appearing to be completely dry in the 2014 photograph.

Potrero Unit

Historical aerial photographs, provided by ERIS, were reviewed to determine if past uses of the Potrero Unit may have resulted in potential recognized environmental conditions. Historical aerial photographs from 1938, 1953, 1966, 1972, 1979, 1985, 1996, 2002, 2005, 2006, 2009, 2010, 2012, and 2014 were reviewed (Appendix 5.6-A). The Potrero Unit appears largely undeveloped in the 1938 photograph. A few buildings and some more defined roads are visible in the eastern portion of the Potrero Unit in the 1953 photograph. More buildings and roads in the eastern and central portion of the Potrero Unit are visible in the 1966 and 1972 photographs. Most of the buildings are gone from the Potrero Unit in the 1979 photograph. By 1996, vegetation appears to have grown over areas that were previously cleared of vegetation for industrial purposes as seen in previous photographs. The Potrero Unit appears largely unchanged between 1996 and 2014.

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Figure 5.6-1 Lockheed Propulsion Company Historical Operational Area Boundaries

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Figure 5.6-2 Current and Historical Areas of Agriculture

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5.6.3 Applicable Regulations, Plans, and Policies

Federal

Federal Toxic Substances Control Act and Resource Conservation and Recovery Act

The federal Toxic Substances Control Act of 1976 (15 U.S.C. 2601–2697) and the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901–6992) established a program administered by the EPA for regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (PL 98-616), which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. Under the authority of RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste, is found in 40 CFR 260–299. Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 of the United States Code (U.S.C.). State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous materials transportation. Title 49 of the Code of Federal Regulations (CFR) reflects laws passed by Congress as of January 2, 2006.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601–9675), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. There are no superfund (CERCLA) sites on or near SJWA.

International Fire Code

The International Fire Code (IFC; ICC 2012), created by the International Code Council (ICC), is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required to protect life safety in relation to fire. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

Federal Response Plan

The Federal Response Plan of 1999 (FEMA 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act and individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

State

Cortese List/Government Code 65962.5

California Government Code Section 65962.5 requires that information regarding environmental impacts of hazardous substances and wastes be maintained and provided at least annually to the Secretary for Environmental Protection. The list, commonly referred to as the Cortese List, must contain the following information: sites impacted by hazardous wastes; public drinking water wells that contain detectable levels of contamination; underground storage tanks with unauthorized releases; solid waste disposal facilities from which there is migration of hazardous wastes; and all cease and desist and cleanup and abatement orders. This information is maintained by various agencies including the Department of Toxic Substances Control, the State Department of Health Services, the State Water Resources Control Board, and the local (typically, county) Certified Unified Program Agency. As many records are now maintained digitally and each of the agencies has their own databases, the Cortese List is no longer complied as one list.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 330 et seq.). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Hazardous Waste Control Act

The Department of Toxic Substances Control is responsible for the enforcement of the Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and development of standards that are equal to or, in some cases, more stringent than federal requirements. While the Hazardous Waste Control Act is generally more stringent than RCRA, until the EPA approves the California hazardous waste control program (which regulates the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Act lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

According to 22 CCR 66001 et seq., substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels, with toxic levels varying based on the nature of the chemical. Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g.,

gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery) acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which reacts violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed wastes." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 CCR 66261.1 et seq.).

California Accidental Release Prevention Program

Similar to the EPA Risk Management Program, the California Accidental Release Prevention (CalARP) Program (19 CCR 2735.1 et seq.) regulates facilities that use or store regulated substances, such as toxic or flammable chemicals, in quantities that exceed established thresholds. The overall purpose of CalARP is to prevent accidental releases of regulated substances and reduce the severity of releases that may occur. The CalARP Program meets the requirements of the EPA Risk Management Program, which was established pursuant to the Clean Air Act Amendments.

California Health and Safety Code

In California, the handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95, of the California Health and Safety Code (Section 25500 et seq.). Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan. Hazardous materials business plans contain basic information about the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the California Health and Safety Code establishes minimum statewide standards for hazardous materials business plans. Each business shall prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas

- A hazardous compressed gas in any amount (highly toxic with a threshold limit value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities (California Health and Safety Code, Section 25503.5).

In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California code, facilities are also required to prepare an EPA Risk Management Program plan and CalARP Program plan. The EPA Risk Management Program plan and CalARP Program plan provide information about the potential impact zone of a worst-case release and require plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of Title 24 of the CCR and was created by the California Building Standards Commission, based on the IFC created by the ICC. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

California Emergency Services Act

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the California Environmental Protection Agency (CalEPA), California Highway Patrol, Regional Water Quality Control Boards, air quality management districts, and county disaster response offices.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an

"applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan

The Safety Element of the Riverside County General Plan (Riverside County 2015) includes the following goals and policies for guidance:

- **S 6.1**: Enforce the land use policies and siting criteria related to hazardous materials and wastes through continued implementation of the programs identified in the County of Riverside Hazardous Waste Management Plan including the following:
    - Ensure county businesses comply with federal, state and local laws pertaining to the management of hazardous wastes and materials including all Certified Unified Program Agency (CUPA) programs.
    - Ensure active public participation in hazardous waste and hazardous materials management decisions in Riverside County through the County's land use and planning processes.
    - Encourage and promote the programs, practices, and recommendations contained in the Riverside County Hazardous Waste Management Plan, giving the highest waste management priority to the reduction of hazardous waste at its source.
- **S 7.1**: Continually strengthen the Riverside County Office of Emergency Services' Response Plan and Multi-Jurisdictional Local Hazard Mitigation Plan and maintain mutual aid agreements with federal, state, local agencies and the private sector to assist in:
    - Clearance of debris in the event of widespread slope failures, collapsed buildings or structures, or other circumstances that could result in blocking emergency access or regress.
    - Heavy search and rescue.
    - Fire suppression.
    - Hazardous materials response.
    - Temporary shelter.
    - Geologic and engineering needs.
    - Traffic and crowd control.
    - Building inspection.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) includes goals, objectives, and policies related to hazards and hazardous materials. One of the objectives in the safety element (Objective 6.10) is to protect life and property from the potential short-term and long-term deleterious effects of the necessary transportation, use, storage treatment and disposal and hazardous materials and waste within the City of Moreno Valley. In addition, the City seeks to maintain a properly staffed, trained and equipped emergency management program with the capacity and capabilities to respond rapidly to emergency situations.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) includes goals, objectives, and policies relevant to hazards and hazardous materials in its Safety Element. In particular the element includes goals to continue to enhance fire and emergency response services in the community, and to cooperate with ongoing efforts to reduce the health and safety hazards related to the exposure of hazardous materials.

Certified Unified Program Agency (CUPA)

To ensure consistency in the administrative requirements, permits, inspections, and enforcement related to the handling and storage of hazardous wastes and materials, CalEPA oversees the Unified Program and certifies local government agencies as Certified Unified Program Agencies (CUPA) to implement hazardous waste and materials standards. The Riverside County Department of Environmental Health (DEH) is the CUPA for the area that encompasses the SJWA. As the CUPA, the DEH is responsible for programs, permitting, and fees related to hazardous material disclosure, business emergency plans, hazardous waste, underground storage tanks, aboveground petroleum storage tanks, and the California Accidental Release Prevention program.

5.6.4 Methodology

To complete this section, Dudek employed a records search company, ERIS, to search regulatory agency records and provide a report of the findings, including databases identified in ASTM 1527-13 and the Cortese List statute. If additional information was needed for sites included in the ERIS report, Dudek consulted the California Department of Toxic Substances Control (DTSC) EnviroStor database, found at www.envirostor.dtsc.ca.gov, and Regional Water Quality Control Board's GeoTracker database, found at geotracker.waterboards.ca.gov. Dudek also reviewed historical aerial photographs provided by ERIS to determine historical uses of the SJWA.

Of particular relevance to the issues related to existing hazards present on SJWA is that impacts of the environment on a project or plan (as opposed to impacts of a project or plan on the

environment) are beyond the scope of required CEQA review. "[T]he purpose of an [environmental impact report] is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project" (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) and *California Building Industry Association v. Bay area Air Quality Management District* (2015)). As explicitly found by the court in the *Ballona* decision, effects on users of the project and structures in the project site due to preexisting environmental hazards "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR" (*Ballona Wetlands Land Trust v. City of Los Angeles* p. 475). The analysis below provides an evaluation of impacts associated with existing hazardous conditions on the proposed activities included under the draft LMP for informational purposes.

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the draft LMP. The draft LMP consists of the continued management of existing habitats, species, and programs, and the expansion of some of the activities currently occurring on the SJWA to achieve the California Department of Fish and Wildlife's (CDFW's) mission to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity that is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of draft LMP implementation on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Section 1600 or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.6.5 Standards of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of CEQA Guidelines (14 CCR 15000 et seq.). A significant impact related to hazards and hazardous materials would occur if the project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

5.6.6 Impact Analysis and Mitigation

Issue HAZ-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Davis Unit

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Facilities and Structures. Water Storage Project. Construction activities that involve land grading, trenching, or excavation, such as the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of

riparian resources (through targeted grading); installation of water distribution, management, and water storage systems; construction of employee residences (manufactured homes); and expanded trail/interpretive services activities would require land disturbances such as grading and site-preparation activities.

A variety of hazardous materials, including fuels for equipment and vehicles and new and used motor oils, would be utilized during construction and grading activities. Improper handling or use of these materials could represent a threat to the public and the environment. However, all contractors are required to comply with applicable laws and regulations regarding hazardous materials and hazardous waste management and disposal. Examples of hazardous materials management include preventing the disposal or release of hazardous materials onto the ground or into groundwater or surface water during construction and providing completely enclosed containment for all refuse generated in the work area. In addition, all construction waste, including trash, litter, garbage, solid waste, petroleum products, and any other potentially hazardous materials, would be removed and transported to a permitted waste facility for treatment, storage, or disposal. Proper use and disposal of hazardous materials used during construction and grading activities would not pose a significant risk to the public and the environment.

A review of historical aerial photographs indicates that the areas of the Davis Unit adjacent to Perris Reservoir, Mystic Lake, and along the northern boundary of the wildlife area were previously used for agricultural purposes (Figure 5.6-2). As a result, residual pesticides and metals may be present in soils of the Davis Unit. In addition, as shown in Figure 2-13 in Chapter 2, Project Description, and Figure 5.6-2, existing agricultural uses occur on the Davis Unit where pesticides may be present. Construction or grading in these areas could result in **potentially significant impact (Class II)**. Implementation of MM-HAZ-1a, MM-HYD-1a, and MM-HYD-1c would reduce the impacts of construction or grading on the Davis Unit to a less-than-significant level.

The only demolition activity included in the LMP is the removal of two existing double-wide trailers on the Davis Unit, which date back to 1973 and 1980, according to Draft EIR Appendix 5.4-A (Cultural Resources Constraints Analysis). Lead based paint was banned in 1977 and California banned the use of asbestos as early as the 1970s. Therefore, there is a possibility that the trailer(s) could have asbestos ceilings or lead-based paint. Certain electronic wastes, such as lightbulbs, may contain metals such as mercury. CDFW would remove these trailers in accordance with applicable laws and regulations, including waste characterization so that demolition materials are sent to the appropriate disposal facility. Demolition contractors are well aware of the regulations regarding lead-based products, ACM, and E-waste, and carry state licenses to perform such work from the Contractors State Licensing Board (e.g., Classification C-21, C-22, and/or HAZ). Given the minor amount of demolition proposed and the regulations

and licensing requirements governing the handling of commonly found special wastes like ACM, lead and mercury, the potential impact is **less than significant (Class III)**.

Agriculture. Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. Hunting Dog Training. SJWA Events. Aside from irrigation systems, guzzlers, and minor facilities (e.g., signage, gates, hunter check stations, and blinds), these management designations do not involve significant construction of new permanent physical facilities or infrastructure, or the routine use of hazardous materials. Therefore, impacts associated with the routine transport, use, or disposal of hazardous materials would be **less than significant (Class III)**.

Potrero Unit

All Management Designations. As with the Davis Unit, construction and grading activities would involve the use and disposal of a variety of hazardous materials that could represent a potential threat to the public or the environment if improperly handled. As described for the Davis Unit above, compliance with applicable laws and regulations regarding hazardous materials and hazardous waste management and proper disposal of these materials would not pose a significant risk to the public and the environment.

Facilities and Structures. Wetlands. Riparian. A portion of the Potrero Unit, generally encompassed by Subunits P2 through P4 and Subunits P10 and P11, was previously used by Lockheed Martin test facility for the manufacture, testing, and disposal of solid rocket fuel (Figure 5.6-2). Soil and groundwater is contaminated with solvents, degreasers, purgeable organics, trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,1,1-trichloroethane (1,1,1-TCA), perchlorate, 1,4-dioxane, and beryllium.

Public use and administrative facilities and elements of the draft LMP located within the historical operational area boundaries of the Lockheed Martin Beaumont Site (shown on Figure 5.6-1) would not be constructed until the remediation efforts conducted by Lockheed Martin indicate the studied area is free of contamination, per mitigation measure MM-HAZ-1c. Future LMP activities in the Potrero Unit would include new trails, access control facilities and signage, parking and kiosks/interpretive areas, and an administrative/staff operations area that could include two new residences along with an office, workshop, and warehouse.

In addition, CDFW proposes to manage approximately 202 acres of riparian habitat within these areas of the Potrero Unit (Subunits P1 through P11). Wetland management areas are proposed in the Potrero Unit, specifically in Subunit P2 (approximately 1 acre) and Subunit P6 (approximately 6 acres). Earth-moving activities may be required to install water management structures, establish berms, or re-establish natural flow paths within the areas targeted for wetlands and riparian habitat.

Because the aforementioned uses and activities would be located in an area of known historical contamination and current cleanup operations where testing on the site may have left behind munitions and explosives of concern (MEC) ~~unexploded ordinance (UXO),~~ constructing public use and administrative facilities and elements of the draft LMP could result in **potentially significant impacts (Class II)** with regard to hazardous materials. Implementation of MM-HAZ-1c and MM-HAZ-1d would reduce the impacts of construction or grading on the Potrero unit to less than significant.

MM HAZ-1a Due to past uses of portions of the Davis Unit for agricultural purposes, residual metals and pesticides may be present in soils within current or historical agricultural use. For soil-disturbance activities associated with habitable structures (e.g., employee double-wide trailers) or visitor use facilities, the California Department of Fish and Wildlife (CDFW) will require historical land use for the construction area be investigated further. If it is determined that land was previously used for agricultural purposes and pesticides may have been used, as described in the Department of Toxic Substances Control (DTSC) guidance documents, then soils in the vicinity of the construction activity will be sampled and analyzed for residual metals and pesticides prior to permit issuance in accordance with the current version of DTSC's *Guidance for Sampling Agricultural Properties* document. In addition, sampling will be conducted in accordance with the current version DTSC's *Preliminary Endangerment Assessment Guidance Manual*. Soil sampling will confirm the presence or absence of on-site contamination associated with past agricultural uses. Soils identified as hazardous waste will be delineated, removed, and disposed of offsite. Any soil that exceeds human health protective screening levels will be remediated on-site to levels protective of human health or removed and properly disposed of offsite.

MM HAZ-1b Implement MM-HYD-1a and MM-HYD-1b.

MM HAZ-1c A portion of the Potrero Unit was used by Lockheed Martin Company as a test facility, and soils on site are impacted by solvents, degreasers, purgeable organics, trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,1,1-trichloroethane (1,1,1-TCA), perchlorate, 1,4-dioxane, and beryllium. Prior to any construction or grading permit issuance, a determination will be made by the California Department of Fish and Wildlife (CDFW) as to whether soils in the area may have been impacted by former testing operations by consulting Lockheed Martin Company's remedial reports. If the area is in a historical operational area and soil data is available for the site, construction or grading will proceed pursuant to the requirements of the Purchase and Sale Agreement between Lockheed Martin Corporation and CDFW, as well as the

requirements in the Operation and Maintenance Agreement between Lockheed Martin Corporation and California Department of Toxic Substances Control (DTSC) ~~the guidelines established in Lockheed's Remedial Action Plan~~. If construction takes place in a potentially impacted area and no soil data is available, sampling ~~may~~ will need to be conducted to determine if special handling and disposal is necessary. If necessary, soil and soil gas sampling will be conducted in accordance with the current version of California Department of Toxic Substances Control (DTSC) guidance documents. Soil and soil gas sampling will confirm the presence or absence of onsite contamination associated with past uses, including an assessment of vapor intrusion risk where applicable. Soils identified as hazardous waste will be delineated, removed, and disposed of offsite in a facility that accepts contaminated materials. Any soil that exceeds human health protective screening levels will be remediated ~~onsite~~ to levels protective of human health or removed and properly disposed of offsite. Should a vapor intrusion risk be confirmed, the structure shall be equipped with adequate ventilation systems to mitigate the risk.

MM HAZ-1d Since munitions and explosives of concern (MEC) ~~unexploded ordinance (UXO)~~ may be discovered or encountered during grading or construction activities, the California Department of Fish and Wildlife (CDFW) will require all workers be properly trained in ~~UXO~~ MEC identification and reporting. Annual safety training for workers at the Potrero Site is currently provided by Tetra Tech and Lockheed, including discussion of ~~UXO~~ MEC protocols. All workers and construction contractors will be required to attend this training before working at the site. In addition, Lockheed Martin Company's Munitions and Explosives of Concern reports will be reviewed to determine if construction would take place in an area where ~~UXO~~ MEC may be encountered. If ~~UXO~~ MEC ~~is~~ are potentially encountered during construction, a ~~UXO~~ MEC survey will be conducted to determine if any ~~UXO~~ MEC are present prior to grading or construction.

Issue HAZ-2 Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Davis Unit

As described in Issue HAZ-1, soils on portions of the Davis Unit may be contaminated with pesticides or metals due to past uses for agriculture. Construction in these areas could result in

potentially significant impact (Class II). Implementation of MM-HAZ-1a as described above would reduce potential impacts to a less-than-significant level.

Potrero Unit

As described in Issue HAZ-1, investigation and cleanup ~~testing~~ of contaminated soils, surface water, and groundwater by Lockheed Martin Company is ongoing ~~in~~ at the Potrero Unit. ~~UXO~~ MEC may also be present as part of previous operations. As such, the public could be exposed to contamination or ~~UXO~~ MEC in the Potrero Unit. In order to control public access to potentially hazardous areas, CDFW would implement a phased opening of the Potrero Unit over time (e.g. public access initially only on established roadways, followed by passive recreation use in approved areas). The presence of contamination and ~~UXO~~ MEC could result in a **potentially significant impact (Class II).** Implementation of MM-HAZ-1c and MM-HAZ-1d, as described above, would reduce the impact to less than significant. Further, implementation of MM-HAZ-2b and MM-HAZ-2c, which would require fencing, signage, and education materials to control public access, would reduce the potential of a significant hazard to the public to a less-than-significant impact.

MM-HAZ-2a Implement MM-HAZ-1a (Davis Unit only), MM-HAZ-1c, and MM-HAZ-1d (Potrero Unit only).

MM HAZ-2b To protect the public from the ongoing remediation activities within the historical operational area boundaries of ~~on~~ the Lockheed Martin Beaumont Site ~~conservation easement (Subunits P10 and P11), upon LMP approval~~ CDFW will construct ~~a~~ fencing~~e along~~ around areas determined to be a public health and safety concern where signage only may not be adequate to preclude public access. Fencing locations will be determined in coordination with Lockheed Martin Corporation and ~~the boundary of the conservation easement boundary~~ prior to CDFW allowing public access on Potrero. Fencing will be reviewed by CDFW to ensure it does not pose a barrier to wildlife movement and shall be installed to allow for safe passage of all species, including small mammals. In addition and where appropriate, CDFW will include hazard warning signage within 100 feet of the constructed fencing~~e~~ to alert the public of the ongoing remediation activities on the Lockheed Martin property.

MM HAZ-2c Once CDFW, in association with Lockheed Martin Company, determine areas on the Potrero Unit are safe to open to passive recreational use, CDFW will post signage and prepare educational materials with maps placed at all kiosks to direct the public to open areas on the Potrero Unit.

Issue HAZ-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Davis Unit

Avalon Elementary School, located at 1815 E. Rider Street in Perris, is approximately 0.18 mile southwest of the Davis Unit. Construction and restoration activities in the Davis Unit could include the handling of hazardous materials or wastes as described in Issue HAZ-1 above. If these activities take place in the western portion of the Davis Unit, hazardous materials and waste handling may take place within one-quarter mile of Avalon Elementary School. As described above, proper use and disposal of hazardous materials and wastes in compliance with applicable laws and regulations would result in **less-than-significant impact (Class III).**

Potrero Unit

The Potrero Unit is not located within 0.25 mile of any proposed or existing school projects. The impact is **less than significant (Class III)**.

Issue HAZ-4 Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Davis Unit

The Davis Unit is not included on a list of hazardous sites. Therefore, the impact is **less than significant (Class III)**.

Potrero Unit

The Potrero Unit is listed in the State Response Sites (RESPONSE) database as an active cleanup site. The site is the location of the former location of Lockheed Martin Company test site, and was used for processing, testing, and disposal of solid rocket propellant. Contaminants of concern at the site include perchlorate, polychlorinated biphenyls (PCBs), 1,1,1-trichloroethane (TCA), trichloroethylene (TCE), and 1,4-dioxane. Contaminants may have impacted soil, surface water, and groundwater. ~~Unexploded ordinance (UXO)~~ Munitions and explosives of concern (MEC) may also be present on the site. Because the Potrero Unit is located on a hazardous materials site pursuant to Government Code Section 65962.5, this would be a

potentially significant impact (Class II). Implementation of MM-HAZ-1c,MM-HAZ-1d, and MM-HAZ-2b would reduce the impacts to a less-than-significant level.

MM-HAZ-4 (Potrero Unit only) Implement MM-HAZ-1c, MM-HAZ-1d, MM-HAZ-2b and MM-HAZ-2c.

Issue HAZ-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Davis Unit

The Davis Unit is not located within two miles of a public use airport (County of Riverside 2015). Therefore, the impact is **less than significant (Class III)**.

Potrero Unit

The Potrero Unit is not located within two miles of public use airport (County of Riverside 2015). Therefore, the impact is **less than significant (Class III)**.

Issue HAZ-6 For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Davis Unit

The Davis Unit is not located within the vicinity of a private airstrip (County of Riverside 2015). Therefore, the impact is **less than significant (Class III)**.

Potrero Unit

The Potrero Unit is not located within the vicinity of a private airstrip (County of Riverside 2015). Therefore, the impact is **less than significant (Class III)**.

Issue HAZ-7 Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Davis Unit

A review of Riverside County's General Plan Safety Element (County of Riverside 2015), Multi-Jurisdictional Hazard Mitigation Plan (County of Riverside 2012), and Operational Area Emergency Operations Plan (County of Riverside 2006a, 2006b) revealed no specific mapping or delineation of emergency evacuation or access routes within the Davis Unit, only that evacuation may be necessary following a single incident or a combination of events. The Moreno Valley Hazard Mitigation Plan (City of Moreno Valley 2016) does identify and map primary and alternative evacuation routes; however, none of these routes are located within or adjacent to the Davis Unit. Area police, fire, and other response agencies are expected to conduct emergency operations according to their communications protocols and hazard mitigation programs.

Within the Davis Unit, there are approximately 28 miles of road that are currently maintained as firebreaks. Maintenance activities include managing/clearing vegetation along the sides of existing roadways and maintaining road surfaces in a condition suitable for use by fire-response personnel and equipment. Future road and access improvements may include elevating and gravelling the 5-mile auto-tour loop road to facilitate year-round access. Additional future activities that would serve to further enhance on-site access by emergency personnel would include: installation and maintenance of Knox boxes at property entrance points containing important site information, installation and maintenance of signage and access gates designed in coordination with the California Department of Forestry and Fire Protection (CAL FIRE) to aid response personnel, and designation and maintenance of staging areas to be used by fire responders during a fire incident. Therefore, on-site access capabilities for the purposes of emergency response or emergency evacuation would be improved once such activities are completed.

Impacts to public roads along the perimeter of the Davis Unit (Ramona Expressway, Bridge Street, Davis Road, Gilman Springs Road) are not proposed activities; however, it is possible that temporary public road or lane closures may be necessary to facilitate site improvements or maintenance activities. Should construction or maintenance activities require encroachment onto public roadways, it is anticipated that an encroachment permit would be required, triggering coordination with local jurisdictions. It is also anticipated that on-site roads may require temporary closure, constriction (lane closure), or detouring to facilitate improvements (e.g., gravelling) or maintenance. Construction and maintenance activities could therefore result in a **potentially significant impact (Class II).** Implementation of MM-HAZ-7 would reduce the impacts of construction and maintenance activities to less than significant.

Potrero Unit

As with the Davis Unit, a review of Riverside County's General Plan Safety Element (County of Riverside 2015), Multi-Jurisdictional Hazard Mitigation Plan (County of Riverside 2012), and Operational Area Emergency Operations Plan (County of Riverside 2006a, 2006b) revealed no specific mapping or delineation of emergency evacuation or access routes, only that evacuation may be necessary following a single incident or a combination of events. The Safety Element of the City of Beaumont General Plan (City of Beaumont 2007) does identify and map evacuation routes, including Highway 79 and Highland Springs Avenue; however, none of the mapped evacuation routes extend to or within the Potrero Unit. Area police, fire, and other response agencies are expected to conduct emergency operations according to their communications protocols and hazard mitigation programs.

Within the Potrero Unit, there are approximately 22 miles of road that are currently maintained as potential firebreaks, maintained as described for the Davis Unit. No new roads are proposed for the Potrero Unit. Therefore, on-site access capabilities for the purposes of emergency response or emergency evacuation would be the same as the current condition.

Impacts to public roads along the perimeter of the Potrero Unit (Highway 79, Highland Springs Avenue, Gilman Springs Road) are not proposed activities; however, it is possible that temporary public road or lane closures may be necessary to facilitate site improvements or maintenance activities. Should construction or maintenance activities require encroachment onto public roadways, it is anticipated that an encroachment permit would be required, triggering coordination with local jurisdictions. It is also anticipated that on-site roads may require temporary closure, constriction (lane closure), or detouring to facilitate improvements or maintenance. Construction and maintenance activities could therefore result in a **potentially significant impact (Class II).** Implementation of MM-HAZ-7 would reduce the potential impacts to less than significant.

MM-HAZ-7 To avoid impeding emergency response or evacuation traffic during construction and maintenance activities, the California Department of Fish and Wildlife (CDFW) will develop ~~and include in the draft LMP~~ best management practices (BMPs) to be implemented when any public or on-site road is affected. At minimum, the BMPs will include the following:

- Limit the extent and duration of road closures;
- Where feasible, limit closures to lane closures to allow for vehicle passage;
- Provide detours and appropriate signage around closed road/lane segments;
- Where necessary, provide traffic control personnel/flaggers to direct traffic;

- Incorporate alternative techniques (e.g., plating over excavations) where feasible to minimize closures; and
- Coordinate with local emergency response agencies, where applicable.

Issue HAZ-8 Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Davis Unit

As described in the Section 2.3.3 of this PEIR (Chapter 2, Project Description), current fire management measures in the Davis Unit include maintenance of roads as firebreaks and maintenance of fuel reduction zones around existing structures conducted on an annual basis in coordination with CAL FIRE. Future maintenance of existing facilities would be the same as existing conditions.

Future fire management measures would include efforts to facilitate fire agency access to the Davis Unit, reduce or manage fuel loads along roads and around structures, maintain roads as firebreaks, and designate and maintain staging areas to be used by responding fire agencies in the event of a wildfire incident, as described in the Section 2.3.3 of this PEIR (Chapter 2, Project Description. These activities would result in an increase in fire management practices over existing conditions.

Currently, CDFW and CAL FIRE do not conduct prescribed fires within the Davis Unit; however, prescribed burns have been identified as a management tool to alter vegetation compositions for habitat purposes or to manage exotic species. Prescribed burns would be conducted in cooperation with CAL FIRE under their Vegetation Management Program and would be subject to South Coast Air Quality Management District Rule 444, which limits the size of prescribed burns to no more than 175 acres per day. CAL FIRE Policy 7030 (CAL FIRE 2002) outlines requirements and protocols for prescribed burning operations, which includes provisions for pre-operations planning and management, weather assessments, staffing and equipment needs, contingency plans, and fire control, post-fire mop-up, and patrol. As prescribed fires would be conducted under CAL FIRE protocols, which include provisions for monitoring, suppression, and patrol, and include the presence of firefighting personnel and equipment, the effect of implementation would be considered less than significant.

The Davis Unit is located partially within Moderate, High, and Very High Fire Hazard Severity Zones (CAL FIRE 2007, CAL FIRE 2010) and heat or sparks from construction or maintenance equipment or vehicles, as well as the use of flammable hazardous materials, have the potential to

ignite adjacent vegetation and start a fire, especially during weather events that include low humidity and high wind speeds. Maintenance of existing facilities is anticipated to be the same as currently implemented. Construction of proposed facilities, expansion of habitat and food crop areas, expansion of road and trail networks, and increased exotic species removal efforts would increase the amount of personnel and equipment on the Davis Unit relative to existing conditions. Maintenance of new facilities, roads/trails, and habitat/crop areas and would also increase the amount of personnel and equipment on the Davis Unit compared to existing conditions. The following construction and maintenance-related equipment has the potential to generate heat or sparks that could result in wildfire ignition (Table 2-7, Chapter 2, Project Description):

- **Tractors, mowers, dozers, loaders, backhoes, trucks, and vehicles** – heated exhaust in contact with vegetation may result in ignition.
- **Chainsaws and other small gas-powered equipment/tools** – may result in vegetation ignition from overheating, spark, fuel leak, etc.
- **Disking equipment** – may result in vegetation ignition from sparking.

The potential risk of wildfire ignition and spread associated with construction and maintenance activities can be managed and pre-planned so that the potential for vegetation ignition is reduced. In addition, pre-planning and personnel fire awareness and suppression training not only results in lower probability of ignition, but also in higher probability of fire control and extinguishment in its incipient stages. Data indicate that 95% of all wildfire ignitions are controlled during initial attack (Smalley 2008). The proposed pre-fire management activities included in Section 5.3.6 of the draft LMP would increase the capabilities of responding fire agencies to access the Davis Unit and suppress wildfires. However, the draft LMP's identified pre-fire management activities do not minimize the likelihood of wildfire ignitions resulting from construction and maintenance-related equipment use in the Davis Unit. Construction and maintenance activities could therefore result in a **potentially significant impact (Class II).** Implementation of MM-HAZ-8 would reduce the impacts of construction and maintenance activities to less than significant**.**

Potrero Unit

Current fire management measures in the Potrero Unit include maintenance of roads as firebreaks, conducted on an annual basis in coordination with CAL FIRE. Future maintenance of existing facilities would be the same as under existing conditions. As described for the Davis Unit, future fire management measures would include efforts to facilitate fire agency access to the Potrero Unit, reduce or manage fuel loads along roads and around new structures, maintain roads as firebreaks, and designate and maintain staging areas to be used by responding fire agencies in the event of a wildfire incident. These activities would result in an increase in fire management practices over the current condition.

CDFW and CAL FIRE do not currently conduct prescribed fires within the Potrero Unit; however, as described for the Davis Unit, prescribed burns have been proposed as a potential land management tool. Prescribed fires on the Potrero Unit would be conducted as described for the Davis Unit, and the effect of implementation would be considered less than significant.

The Potrero Unit is located partially within Very High Fire Hazard Severity Zones (CAL FIRE 2007, CAL FIRE 2010), with potential ignition risks from construction or maintenance equipment use as described for the Davis Unit. Construction and maintenance activities could therefore result in a **potentially significant impact (Class II)**. Implementation of MM-HAZ-8 would reduce the potential impacts associated with construction and maintenance equipment use to less than significant.

MM HAZ-8 The California Department of Fish and Wildlife (CDFW) will develop ~~and include in the draft LMP~~ best management practices (BMPs) to be implemented when using construction or maintenance-related equipment that has the potential to generate heat or sparks that could result in wildfire ignition. At minimum, the BMPs will include the following:

- Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions;
- Proper use of construction equipment;
- Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days;
- Emergency fire suppression equipment/tools;
- Worker training for fire prevention and initial attack firefighting;
- Fire reporting; and
- Emergency communication, response, and reporting procedures.

5.6.7 Cumulative Impacts and Mitigation

Cumulative impacts related to hazards and hazardous materials would result from projects that combine to increase exposure to hazards and hazardous materials. There are no hazardous materials release sites within the SJWA or within 1 mile that are large enough to combine or increase the severity of impacts that would be caused by one site alone. As described in Section 5.6.6, implementation of the draft LMP would result in less-than-significant impacts with mitigation measures incorporated. The draft LMP would comply with all federal, state, and local regulations pertaining to the use, transport, and release of hazardous materials. The potential

release of hazardous materials during facility installation activities or other ground-disturbing activities would be reduced in compliance with the mitigation measures outlined in Section 5.6.6. Although cumulative projects have the potential to result in significant impacts to hazards and hazardous materials, these projects would also be subject to federal, state, and local regulations that would help reduce potential impacts. Cumulative projects may also require similar mitigation measures to help further reduce potential impacts. The cumulative impact related to hazardous materials would be less than significant. Therefore, the draft LMP combined with buildout of the planning documents identified in Chapter 3, would not result in a cumulative significant impact related to hazards and hazardous materials.

Similarly, with regard to impacts associated with fire hazards and emergency evacuation plans, the cumulative impacts would be more site specific or localized in natures. Therefore, the significance conclusions associated with the draft LMP alone (Section 5.6.6) would be equally applicable to the cumulative scenario. Therefore, the draft LMP combined with buildout of the planning documents identified in Chapter 3, would not result in a cumulative significant impact related to emergency access or fire hazards.

5.6.8 Level of Significance After Mitigation

The potentially significant hazardous impacts relate to the routine use, transport, and disposal of hazardous materials, release of hazardous materials, located in an area included on a list of hazardous materials, potential interference with an emergency response plan, and potential exposure of people to wildland fires. With implementation of MM-HAZ-1a through MM-HAZ-1d, MM-HAZ-2a through MM-HAZ-2c, MM-HAZ-4, MM-HAZ-7, and MM-HAZ-8, the impacts of the draft LMP related to hazards would be reduced to less than significant.

5.6.9 References

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5.7 HYDROLOGY AND WATER QUALITY

5.7.1 Introduction

This section describes the existing hydrology and water quality conditions applicable to the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) (Section 5.7.2), identifies the associated regulatory framework (Section 5.7.3), describes the impact assessment methodology (Section 5.7.4), identifies the significance thresholds (Section 5.7.5), and evaluates potential impacts associated with hydrology and water quality and identifies mitigation measures to reduce the level of impact associated with implementation of the draft LMP (Section 5.7.6).

As described in Chapter 1, Introduction, this Program Environmental Impact Report (PEIR) represents a program-level analysis pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15168. Pursuant to CEQA Guidelines Section 15126.2, the analysis is limited to an examination of changes in the existing physical conditions as they exist at the time the notice of preparation (NOP) was published in 2016.

NOP comments related to hydrology and water quality included requests from the Department of Water Resources (DWR) and the RCFCWCD to assess whether the draft LMP would impact existing facility operations or current and future projects, such as the Perris Dam Remediation Project and the San Jacinto River Levee, Stage 4 and River Corridor Expansion Project. These issues are addressed in Section 5.7.6, Impact Analysis, and Section 5.7.7 (Cumulative). A copy of the NOP and letters received in response to the NOP are included in Appendix A.

The information in this section is largely based on publications and web resources from the U.S. Geological Survey (USGS), the Federal Emergency Management Agency (FEMA), the State Water Resources Control Board (SWRCB), the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB), the Riverside County Flood Control and Water Conservation District (RCFCWCD), and the Eastern Municipal Water District (EMWD).

5.7.2 Existing Conditions

Climate

In the San Jacinto Valley and broader Inland Empire, winters are characterized as mild and sometimes cool; springs can be rainy; and the summer and fall are hot and dry. The San Jacinto area climate is characterized by relatively low rainfall. Annual precipitation averages about 12.5 inches, with over 70% of that falling between December and March. Monthly temperatures range from an average high of 98° Fahrenheit in August to an average low of 36° Fahrenheit in December (U.S. Climate Data 2015).

Surface Water

Watersheds

A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The word watershed is sometimes used interchangeably with drainage basin or catchment. Watersheds are usually bordered and separated from other watersheds by mountain ridges or other naturally elevated areas.

The USGS Watershed Boundary Dataset (WBD) was used to identify the watersheds crossed by the SJWA. The WBD delineates watersheds according to hydrologic units (HUs), which are nested within one another according to the scale of interest. USGS identifies HUs by name and by hydrologic unit code (HUC), which gets longer as the watershed boundaries get more detailed. For example, at a statewide scale, HUs consist of large regions and sub-regions draining to a common outlet. At this scale, the SJWA is within the 11,100-square-mile "Southern California Coastal" sub-region (HUC 1807), which identifies areas that eventually drain to the Pacific Ocean versus those that drain to the interior deserts of California. At a regional scale, HUs consist of basins and sub-basins; and at a local scale, sub-basins are further divided into watersheds and sub watersheds. The SJWA is within the Santa Ana River Basin (HUC 180702), and the San Jacinto River Sub-Basin (HUC 18070202). The majority of the SJWA is within the Middle San Jacinto River Watershed (HUC 1807020202), with the southern and western end of the Davis Unit being within the Lower San Jacinto Watershed (HUC 1807020203).

Figure 5.7-1 shows HUs at the highest level of detail possible for the area (the 10-digit and the 12-digit HUC levels, labeled as "Watershed Boundaries" and "Sub watershed Boundaries," respectively). Table 5.7-1 identifies the management units and Subunits present within each sub watershed.

In addition to the USGS WBD described above, watersheds are also established by the Santa Ana RWQCB for the purpose of water quality planning. These boundaries are similar to but not the same as the USGS WBD boundaries. The Santa Ana RWQCB is the smallest of the state's nine regional boards, and covers an area of approximately 2,800 square miles, extending from the San Gabriel and San Bernardino Mountains to the east to the Pacific Ocean to the west. The Santa Ana RWQCB divides its region into discrete HUs, hydrologic areas (HAs), and hydrologic subareas (HSAs).

Table 5.7-1
Watersheds and Subwatersheds of the SJWA

Watershed (size)	Subwatershed	Size (sq. mi.)	Management Unit	Management Subunits	Primary Hydrologic Features
Middle San Jacinto River (155 sq. mi.)	Potrero Creek	37	Potrero Unit	P1-P11	Potrero Creek
	Laborde Canyon-San Jacinto River	65	Potrero Unit	P1, P2, P3, P4, P7, P8, and P9	Middle San Jacinto River and Laborde Creek
	Mount Rudolph-San Jacinto River	53	Davis Unit	D1–D13, and D15	Waterfowl Ponds, Mystic Lake and Middle San Jacinto River
Lower San Jacinto River (364 sq. mi.)	Perris Valley-San Jacinto River	59	Davis Unit	D6, D7, D14, and D15	Lower San Jacinto River
	Perris Reservoir	50	Davis Unit	D14	Lower San Jacinto River, Perris Reservoir, Perris Valley Storm Drain

Source: USGS 2016.

The SJWA is within the San Jacinto HU (HU No. 802.00), which is approximately equivalent to the San Jacinto River Sub-Basin defined by the USGS (Santa Ana RWQCB 2008; USGS 2016).

The SJWA consists of three noncontiguous land areas: the Davis Unit (two land areas) and the Potrero Unit. The Davis Unit generally consists of approximately 10,996 acres in the San Jacinto River Valley. The larger portion of the Davis Unit is located east of the Perris Reservoir, and the Davis Unit's smaller portion of land is located west of the Perris Reservoir. The Potrero Unit consists of approximately 9,130 acres in the foothills of the San Jacinto Mountains, as depicted on Figure 2-2 in Chapter 2, Project Description. The Davis Unit of the SJWA is crossed by both the Perris HA (HA No. 802.10) and the San Jacinto HA (HA 802.15), whereas the Potrero Unit is totally encompassed by the San Jacinto HA (Santa Ana RWQCB 2008). The HSAs that encompass the SJWA include the following:

- The Potrero Unit and Davis Subunits D1 through D13 are wholly or partially within the Gilman Hot Springs HSA (HSA No. 802.21).
- Davis Subunits D6, D7, D12, D14, D15 are wholly or partially within the Lakeview HSA (HSA No. 802.14);
- Davis Subunit D14 is within the Perris HSA (HSA No. 802.11).

While these HUs are useful in tying the SJWA to beneficial use designations, basin plan objectives, water quality impairments, and other policies established by the Santa Ana RWQCB (discussed in the Water Quality section), the boundaries of HUs and HSAs are less geographically precise than the USGS WBD.

Hydrologic Features

San Jacinto River and Mystic Lake

Regionally, the San Jacinto River is the dominant hydrologic feature of the central western Riverside County (County) area. The river runs along the northern and eastern edge of the City of San Jacinto (City), along the southern edge of the SJWA Davis Unit (Subunits D10, D13, and D7), then southwest through Lakeview, Nuevo, and Hemet before eventually discharging into Canyon Lake (also known as Railroad Canyon Reservoir) and Lake Elsinore (Figure 5.7-1). The San Jacinto River is ephemeral (i.e., it flows only temporarily after significant rainfall), and it has been heavily altered by historic filling and farming activities. Substantial runoff or flooding occur only during years of high rainfall.

Historically, the San Jacinto River drained into a closed depression that formed at the north end of the San Jacinto pull-apart basin (i.e., Mystic Lake), located between the Casa Loma Fault and the San Jacinto Fault (USGS 2001). Sometime prior to 1949, the river was channelized by agricultural interests, and its position relocated south of the natural channel, essentially bypassing Mystic Lake (Figure 5.7-1). The RCFCWCD now has easements covering this portion of the alignment, which abuts the southern edge of Subunit D10 and crosses Subunits D13 and D7, and is responsible for maintenance of the upper half of the bypass channel, with private interests maintaining the lower half (SJRWC 2007). The SJWA area is not within RCFCWCD's "active maintenance zone" for the San Jacinto River, which ends about a half-mile upstream of the Bridge Street crossing. Over time, excessive sedimentation and vegetative growth within the bypass channel has raised the bottom elevation of the channel to such a degree that the San Jacinto River regularly flows into to Mystic Lake, and has caused significant levee damage during high flow events. High flows in 2005 breached a section of the levee about 13,000 feet downstream of the Sanderson Avenue crossing, and there is also a breached section of the levee a short distance downstream of Bridge Street (SJRWC 2007, RCFCWCD 2015).

Except for extreme storm scenarios or exceptionally wet winters, Mystic Lake captures and holds all runoff from both the Middle and Upper San Jacinto River watersheds. The San Jacinto River now flows directly into Mystic Lake, and only continues west across the San Jacinto Valley when the lake fills to capacity, at an elevation of approximately 1,423 feet above mean sea level (amsl) (RCFCWCD 2015). At this level, water in the lake would flow via an outlet from the lake in a westerly direction through an earthen channel and through the riparian zone encompassed by Subunits D4 and D7. This would be the primary flow path and outlet from Mystic Lake when it is filled to capacity. Mystic Lake must be filled to a minimum surface elevation of 1,430 feet amsl—i.e., only during a less than 2% annual chance event—before the San Jacinto River will also flow through the historic bypass channel downstream of the levee breach shown in Figure 5.7-1 (RCFCWCD 2015, FEMA 2014).

Figure 5.7-1 San Jacinto River Watershed

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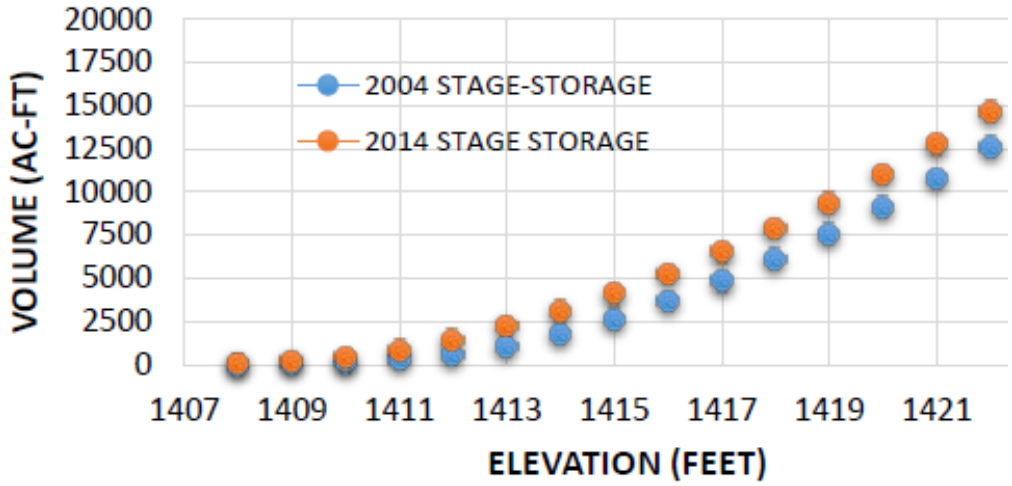
Mystic Lake is ephemeral with water levels that are highly variable. Under normal/typical conditions, Mystic Lake functions as a hydrologic sink for both the middle and upper San Jacinto Watershed, and is normally shallow or completely dry. In dry and moderate hydrologic scenarios, the water in the lake is lost quickly to evaporation, and to a much lesser extent, subsurface infiltration, and thus frequently dries out by the summer/fall. Mystic Lake has overflowed in only 9 of 98 years of record, most recently in 1993, 1995, and 1998, and nearly overflowing in 2005 (Western Riverside County Agriculture Coalition 2015). When full, at capacity, Mystic Lake would cover nearly all of Subunit D3 and portions of Subunits D4, D5, D10, and D11. Based on the historical record, 3-4 year precipitation totals are more predictive of Mystic Lake overflows than single-year precipitation, indicating a succession of wet years is required to fill the lake (Western Riverside County Agriculture Coalition 2015). However, an exceptional rainfall event, such as a 50- or 100-year event, could also quickly fill the lake to capacity (see Flood Hazards section below).

Several studies provide evidence that the bed of Mystic Lake is experiencing localized subsidence. A closed depression is enlarging at a measurable rate due to combination of tectonic subsidence and subsidence due to groundwater withdrawal, apparently doubling in size since the late 1930s (USGS 2006). USGS included a map of historic lake levels and a projection of lake levels through 2023, indicating a substantial and rapid increase in the lateral extent of the lake (USGS 2006). However, RCFCWCD provides a more recent comparison of high-resolution elevation data gathered for the lake in 2004 and again in 2014, which shows that increases in storage are concentrated in the deepest parts of the lake and are not significantly affecting the aerial extent of Mystic Lake when full to capacity. Between 2004 and 2014, the lakebed deepened enough to increase the total storage volume by 2,054 acre-feet, to a total of 14,668 acre-feet (RCFCWCD 2015). Subsidence rates in literature vary between 2.5 and 5 centimeters/year, which corresponds to an increase in storage capacity of about 200 acre-feet per year (WRCAC 2015). Figure 5.7-2 shows that increases in storage observed between 2004 and 2014 are limited to between an elevation of 1,409 and 1,415 amsl, indicating the 1,423-foot contour line (i.e., the lake outlet elevation) has maintained the same general size and shape for 10 years (RCFCWCD 2015). The topographic comparison of Mystic Lake between 2004 and 2014 show that the USGS publication from 2006 overstated the degree to which Mystic Lake will enlarge because it did not account for the localized nature of the subsidence.

Figure 5.7-2
Mystic Lake Stage – Storage Comparison of 2004 and 2014



Source: RCFCWCD 2015

Wetland and Waterfowl Ponds

As described in Chapter 2, Project Description, and shown in Figure 2-9, the California Department of Fish and Wildlife (CDFW) maintains a series of ponds and wetlands to support wildlife and recreational uses. These areas consist primarily of waterfowl ponds in D4 and D9, with small areas in D10 and D13. These ponds are for the most part hydrologically disconnected from the natural water system of the San Jacinto River and Mystic Lake described above. The ponds are created by enclosed berms and primarily replenished by recycled water delivered by EMWD, and to a lesser extent direct precipitation. Clay soils impede appreciable infiltration or recharge.

Potrero Creek

Potrero Creek is the main tributary stream that collects drainage from numerous unnamed ephemeral tributaries within the Potrero Unit. Potrero Creek exits the mountains at Gilman Springs Road, and joins up with the San Jacinto River near its crossing of North Sanderson Road.

Flood Hazards

Storm Flooding

The San Jacinto River has flooded several times since 1900. These floods occurred during 1916, 1927, 1931, 1937, 1938, 1966, 1969, and 1980 (FEMA 2014). The largest flood of record, which occurred on February 16, 1927, had an estimated peak discharge of 45,000 cubic feet per second (cfs) near the City of San Jacinto. Agricultural, railway, and highway properties were extensively

damaged. In 1969, two distinct periods of heavy rain struck Riverside County causing several casualties and an estimated $40 million in damage to public and private property, including failure of the levee along the San Jacinto River near Bridge Street (FEMA 2014). Three distinct periods of flooding combined to affect much of the State of California in January and February of 1980, resulting in several fatalities in the region, substantial damages, and the highest recorded elevation of Lake Elsinore (FEMA 2014). Flash floods from thunderstorms and tropical moisture in the late summer and early fall have also caused localized damage and safety hazards (e.g., mudflows) in the past. For example, a local thunderstorm on September 7, 1981, in the Lakeview Mountains resulted in interior damage to 16 residences due to the flooding on Lakeview Wash (FEMA 2014).

Flood zones identified on FEMA Flood Insurance Rate Maps are identified as a Special Flood Hazard Area (SFHA). A SFHA is defined as the area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1%-annual-chance flood is also referred to as the base flood or 100-year flood. “Floodways” are areas within the SFHA that includes the channel of a river/watercourse and adjacent land areas which in an unobstructed condition can discharge a 100-year flood/base flood without any increase in water surface elevations. The area outside the floodway but still within the 100-year floodplain can be completely obstructed without increasing the water surface elevation of a 100-year flood event more than 1 foot at any point. Moderate flood hazard areas are the areas between the limits of the SFHA and the 0.2%-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2%-annual-chance flood, are unshaded and typically labeled “Zone X” on FEMA maps.

Because of its position within the San Jacinto Valley and within the closed topographic depression that forms Mystic Lake, more than half of the Davis Unit of the SJWA is within a 100-year flood hazard area, as defined by FEMA (FEMA 2014). There are no SFHAs within the Potrero Unit. Between the first effective date of the FEMA flood maps (2008) and the most recent revision (2014), the flood maps for a 14-mile reach of the San Jacinto River between the mouth of Railroad Canyon upstream to Bridge Street were updated. These updates were made to reflect recent, high-resolution topographic data and utilization of the HEC-RAS 4.1 unsteady hydraulic model (FEMA 2014). Two noteworthy assumptions in the modeling of the flood plain crossing the Davis Unit are (1) that Mystic Lake was assumed to be full (thus providing no flood control/storage), and (2) that the entire reach was modeled as one flood plain (i.e., flow was not modeled as split between the main and secondary channels of the San Jacinto River) (FEMA 2014).

Figure 5.7-3 and Table 5.7-2 show the distribution of SFHAs within the Davis Unit. Approximately 55% of the land area within the Davis Unit is within an SFHA, with 45% of the Davis Unit being within the floodway. Table 5.7-3 shows the floodplain characteristics and base

flood elevations for each of the three cross sections shown on Figure 5.7-3. The 100-year base flood elevation within the Davis Unit is 1,432 feet amsl (rounded to the nearest foot). It is estimated that the 100-year peak flow and volume for the San Jacinto River at Bridge Street is 62,068 cubic feet/second (cfs) and 56,160 acre-feet, respectively (FEMA 2014). For the 10-year and 50-year flood flows on the San Jacinto River at Bridge Street, peak flows are expected to be 27,405 cfs and 51,730 cfs, respectively (FEMA 2014).

Mystic Lake serves an important function with respect to flood control which is not accounted for in the floodplain mapping conducted by FEMA (FEMA 2014). With a storage total of 14,668 acre-feet, it has the potential to significantly buffer high to moderate flood flows when the lake is dry or has low water levels. According to recent studies, this flood control function may be increasing by about 200 acre-feet per year as a result of ongoing subsidence in the local area (RCFCWCD 2015, WRCAC 2015). Furthermore, due to the very flat nature of the San Jacinto Valley, the cross-sectional area of the floodplain within the Davis Unit is very wide (i.e., up to 94,067 square feet), and consequently flow velocities are low. As shown in Table 5.7-3, the anticipated velocity of the 100-year flood ranges from 0.3 to 1.3 feet/second.

Dam Failure, Seiche, or Tsunami

The SJWA is susceptible to flooding from earthquake-induced effects, such as dam failure or a seiche. The SJWA is not located near the Pacific Ocean, and, thus, is not subject to tsunami hazards.

The SJWA could be affected in the event of failure of either the Hemet Lake Dam or the Lake Perris Dam. The Hemet Lake Dam is on the south fork of the San Jacinto River, approximately 25 miles southeast of the SJWA. Dam inundation maps for the Hemet Lake Dam indicate that the extent of inundation as a result of a dam failure would be similar to but somewhat larger than the extent of the 100-year flood for the San Jacinto River in the vicinity of the SJWA (Riverside County 2015). Failure of the dam that creates Lake Perris would result in flooding downstream of the SJWA and a part of Subunit D14, which is located immediately adjacent to the earthen dam. In 2005, DWR identified potential seismic safety risks in a section of the foundation of the dam and lowered the lake level to ensure maximum public safety until dam repairs are made. DWR is currently upgrading the seismic safety of Perris Dam by mixing cement with the existing deep soil. Construction to strengthen the foundation began in October 2014 and is expected to be complete in 2018. An emergency release facility is currently under environmental review, and if approved, would follow completion of the dam strengthening project.

If an earthquake were to occur at a time when Mystic Lake has water in it, areas on the periphery could be subject to seiche waves.

Table 5.7-2
FEMA Flood Hazard Areas by Management Subunit

Management Subunit	Special Flood Hazard Areas (SFHAs)				0.2% Annual Chance (500-year flood zone)		Areas of Minimal Flood Hazard	
	Floodway (100-year flood zone)		*1% Annual Chance (100-year flood zone)*					
	Acres	*Pct. of Subunit*	*Acres*	*Pct. of Subunit*	*Acres*	*Pct. of Subunit*	*Acres*	*Pct. of Subunit*
Davis Unit								
D1	0	0%	0	0%	0	0%	816	100%
D2	0	0%	0	0%	0	0%	715	100%
D3	1,361	86%	115	7%	17	1%	89	6%
D4	515	39%	313	24%	60	5%	423	32%
D5	243	31%	209	27%	19	2%	304	39%
D6	0	0%	0	0%	0	0%	609	100%
D7	806	85%	147	15%	0	0%	0	0%
D8	0	0%	13	8%	3	2%	150	90%
D9	511	95%	26	5%	0	0%	0	0%
D10	455	99%	4	1%	0	0%	0	0%
D11	396	91%	37	9%	0	0%	0	0%
D12	3	1%	54	11%	5	1%	428	87%
D13	652	78%	167	20%	1	0%	20	2%
D14	0	0%	0	0%	0	0%	708	100%
D15	1	0%	39	6%	12	2%	553	91%
Subtotal	*4,944*	*45%*	*1,121*	*10%*	*118*	*1%*	*4,814*	*44%*
Potrero Unit								
Subtotal	*0*	*0%*	*0*	*0%*	*0*	*0%*	*9,131*	*100%*
SJWA TOTAL								
TOTAL	**4,944**	**25%**	**1,121**	**6%**	**118**	**1%**	**13,945**	**69%**

Source: FEMA 2014.

Table 5.7-3
Floodplain Characteristics and Base Flood Elevations

Cross Section Locations *(Shown in yellow on Figure 5.7-3)*	Floodway Size/Velocity			Flood Water Surface Elevations (feet amsl NAVD88)			
	Width (ft)	*Section Area (sq. ft.)*	*Mean Velocity (fps)*	*1% Annual Chance*	*1% Annual Chance (within Floodway)*	*2% Annual Chance*	*10% Annual Chance*
Ramona Expressway	2,677	25,621	1.3	1,431.5	1,432.1	1,430.8	1,428.2
Mystic Lake Outlet	13,616	94,067	0.3	1,431.9	1,432.6	1,431.1	1,429.2
Bridge Street	8,837	67,811	0.5	1,431.9	1,432.7	1,431.1	1,429.2

Source: FEMA 2014.

Groundwater Resources

Groundwater Basins and Management Areas

A groundwater basin is defined as a hydrogeologic unit containing one large aquifer as well as several connected and interrelated aquifers. The Davis Unit lies within the San Jacinto Groundwater Basin (DWR Basin No. 8-05), which underlies San Jacinto, Perris, Moreno, and Menifee Valleys in western Riverside County. According to DWR, the basin is bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountain on the south, and unnamed hills on the west (DWR 2006). The San Jacinto Groundwater Basin contains sediments that have filled valleys and underlying canyons incised into crystalline basement rock. The valley fill deposits are generally divided into younger and older alluvium, with maximum depths of valley fill reaching about 900 feet in the western and northern parts of the basin, and exceeding 5,000 feet in the vicinity of the SJWA (DWR 2006). The Potrero Unit lies partially within the San Timoteo Sub-basin of the Upper Santa Ana Valley Groundwater Basin (DWR 2004). Because the Potrero Unit lies east of the San Jacinto Fault Zone in upland areas underlain by older bedrock units, it is not considered to overlie a major groundwater basin.

EMWD is the primary agency that manages groundwater resources in the area. The Davis Unit lies within EMWD's West San Jacinto Groundwater Management Area. The West San Jacinto Groundwater Management Area is located in the western portion of Riverside County within the San Jacinto River Watershed and includes the Cities of Moreno Valley, Menifee, and Perris, as well as the unincorporated areas of Lakeview, Nuevo, and Winchester. The Management Area covers approximately 256 square miles (over 164,200 acres) and has been divided into six (6) groundwater management zones (EMWD 2015). As shown in Figure 5.7-4, the Davis Unit of the SJWA is primarily located within the San Jacinto–Lower Pressure Zone, with the southern and western parts (Subunits D6, D8, D15, D7, D12, and D13) located in the Lakeview/Hemet North zone. Subunit D14 is located in the Perris North Zone. The Potrero Unit is not within a groundwater management zone.

Figure 5.7-3 FEMA Special Flood Hazard Areas

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Figure 5.7-4 Wells and Groundwater Management Zones

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Groundwater Levels and Trends

Historically, the San Jacinto Valley was a major groundwater producing area. Artesian wells were numerous until development pressures forced groundwater levels to drop precipitously. The last artesian wells on the Davis Unit ceased flowing in 1950. In 1973, it was estimated that the annual decline in groundwater levels for both subareas was approximately 1.8 meters, or 6 feet (Keene 1982, as cited in CDFW 2016). A consequence of the groundwater production from the valley's aquifer has been ground surface subsidence which is occurring throughout the valley (CDFG 2000, as cited in CDFW 2016).

EMWD monitors the water levels in numerous wells throughout the Davis Unit of the SJWA (Figure 5.7-4). Based on fall 2015 water level measurements of 16 wells in the Davis Unit, the groundwater level underlying the SJWA averages 128 feet beneath the ground surface (bgs) with a range of 20 to 226 feet bgs (DWR 2016). Many of the wells are abandoned, capped or sealed, or used solely for the purpose of groundwater basin monitoring. Between fall 2012 and fall 2015, groundwater levels within the Davis Unit generally remained the same or increased. The average elevation change for the 3-year period was an increase of 6 feet, a fairly insignificant difference considering the average depth of wells in the area (DWR 2016). The Mystic Lake area is considered to be a convergence point for regional groundwater flow, based on the elevation gradient of groundwater.

One well-known feature of the Davis Unit is the clay-rich and impervious nature of surface soils (EMWD 2011). Well logs for three wells located within the SJWA show more than 85% of the upper 100 feet of sediments logged as “clay.” Furthermore, a soil characterization study involving 50 cone-penetration test locations and 5 soil boring locations within the Davis Unit, all 30 feet deep, confirmed that a clay layer from several feet to 30 feet thick occurs beneath the wetland and waterfowl hunting sites on the SJWA (EMWD 2011). Because clay and clayey soils are considered a barrier to groundwater (i.e., aquitard), the area underlying the Davis Unit is unlikely to be capable of recharging the underlying aquifer. Rather than infiltration, the vast majority of water within Mystic Lake and the managed wetlands within the SJWA is lost to evapotranspiration and evaporation. The regional groundwater is most likely recharged in upland areas and alluvial fans.

Water Quality

The Santa Ana RWQCB sets water quality standards for all ground and surface waters within its region based on the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). Water quality standards are defined under the Clean Water Act (CWA) to include the beneficial uses of specific water bodies, the levels of water quality that must be met and maintained to protect those uses, and the state’s anti-degradation policy. Beneficial uses consist of all the

various ways that water can be used for the benefit of people or wildlife. Ten beneficial uses are recognized within the Santa Ana Watershed (San Jacinto sub watershed) region pertaining to the draft LMP. All of the beneficial uses have been designated for surface water bodies and groundwater in the vicinity of the SWJA, as summarized in Table 5.7-4.

Watershed Impairments

As shown in Table 5.7-4, Canyon Lake and Lake Elsinore are impaired with nutrients and pathogens. This water quality issue is a result of the land uses in the watershed, namely feed crops and dairies, which adversely affect the quality of stormwater runoff. The eutrophic (waters rich in phosphates, nitrates, and organic nutrients that promote a proliferation of plant life) impairment in Canyon Lake and Lake Elsinore are attributable to increased nutrient loading (phosphorus and nitrogen) and the resulting increased growth of biota, phytoplankton, and other aquatic plants. Nutrients washed off from source areas are transported to Canyon Lake by a variety of drainage courses, but primarily the lower San Jacinto River. On December 20, 2004, the Santa Ana RWQCB adopted Resolution R8-2004-0037 amending the Basin Plan to incorporate the Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads (TMDLs). These TMDLs were subsequently approved by the SWRCB on May 19, 2005, by the Office of Administrative Law on July 26, 2005, and by the U.S. Environmental Protection Agency (EPA) on September 30, 2005.

In response to the TMDLs, the RCFCWCD and the stakeholders within its service area developed a Comprehensive Nutrient Reduction Plan (CNRP) for Lake Elsinore and Canyon Lake (RCFCWCD 2013). The plan is designed to achieve compliance with the allowable amounts of nitrogen and phosphorus by 2020. The plan includes the following elements: watershed-based best management practices (BMPs) to reduce nutrient loading in urban runoff during wet weather, the operation of an in-lake aeration system, and monitoring activities to assess compliance with the TMDL. The CNRP would achieve the water quality objectives primarily through the implementation of the aeration system because reducing the amount of pollutants generated in the watershed to meet the compliance standards would be nearly impossible and extremely costly. However, watershed-based BMPs are required to supplement the aeration system, particularly to address increased phosphorus and nitrogen loads associated with existing and future land use.

Notably, the CNRP found that nutrient and phosphorus loading to either Canyon Lake or Lake Elsinore from the middle and upper parts of San Jacinto River Watershed (i.e., draining to Mystic Lake) is very rare (11 of 240 months) and of small magnitude relative to flow in the Upper San Jacinto River (RCFCWCD 2013). Consequently, activities within the SJWA would have little if any effect on the CWA Section 303(d) impairments within Canyon Lake and Lake Elsinore. The CNRP found that the nitrogen and phosphorus loading factor (i.e., the ratio of

Canyon Lake pollutant loading to watershed wash off) applicable to areas draining to Mystic Lake is less than 0.01% (RCFCWCD 2013). Although TMDLs have not been developed for other pollutants such as pathogens or total dissolved solids (TDS), most areas within the SJWA would have similarly negligible loading factors to Canyon Lake, based on the function of Mystic Lake as a hydrologic sink.

Waterfowl Ponds

CDFW does not monitor the water quality within the SJWA ponds. However, the water quality of the SJWA ponds is likely to be similar to the water quality of recycled water delivered by EMWD. Tertiary-treated recycled water is considered of suitable quality for its intended uses; however, it can contain higher concentrations of salinity and nutrients than high-quality raw-water supplies or potable water. Tertiary treated water produced by EMWD is required to meet effluent limitations established by the Santa Ana RWQCB and regularly submits monitoring reports to demonstrate its compliance with water quality standards outlined in EMWDs water discharge requirement permit applicable to EMWD's tertiary treatment plants, as outlined further in Section 5.7.3.

Mystic Lake

As an ephemeral water body, the quality of water within Mystic Lake is likewise not monitored. It is likely to reflect the quality of runoff water from the middle and upper San Jacinto watershed, and due to the arid setting and high rate of evaporation, is likely to contain high salt concentrations.

Groundwater Quality

The primary water quality problems in the basin include high levels of salts, nitrogen, and TDS (DWR 2006). Concentrations of dissolved minerals have built up in many parts of the groundwater basins as a result of long-term, adverse salt balance. More salts are added to the basin through agricultural development and natural conditions than are leaving it. About 35 wells have been drilled in the vicinity of the Davis Unit. Some wells near the Casa Loma Fault have shown high concentrations of both boron and fluoride, which are considered to be natural occurrences associated with the fault. In the most recent monitoring year (2014), TDS concentrations in the San Jacinto–Lower Pressure Management Zone (5 wells) ranged between 290 and 1,100 milligrams per liter (mg/L); nitrate (as N) concentrations varied between undetected and 8.3 mg/L (EMWD 2015). In 2014, TDS concentrations in the Lakeview/Hemet North Management Zone (21 wells) ranged between 280 and 3,300 mg/L; nitrate (as N) concentrations ranged between undetected and 19 mg/L (EMWD 2015). The upper range of these concentrations exceed the basin plan objectives shown in Table 5.7-4, indicating the groundwater basins are not currently meeting Basin Plan objectives, and thus have little if any assimilative capacity with respect to nitrate and TDS.

Table 5.7-4
Beneficial Uses, Select Water Quality Objectives, and Water Quality Impairments for Receiving Waters in Proximity to the SJWA

Receiving Waters	Designated Beneficial Uses	Water Quality Objectives for TDS/Nitrate (mg/L)	CWA Section 303(d) Impairments
Surface Waters			
San Jacinto River, Reach 4	MUN^, AGR*, GWR*, REC1*, REC2*, WARM*, WILD*	Total Dissolved Solids: 500 Total Nitrate (as Nitrogen): 5	None/not assessed
Mystic Lake	MUN*, REC1*, REC2*, WARM*, BIOL, WILD, RARE	Numeric objectives have not been established; narrative objectives apply	None/not assessed
San Jacinto Wildlife Preserve	MUN^, REC1, REC2, WARM, BIOL, WILD, RARE	Numeric objectives have not been established; narrative objectives apply	None/not assessed
Canyon Lake	MUN^, AGR, GWR, REC1, REC2, WARM, WILD	Total Dissolved Solids: 700 Total Nitrate (as Nitrogen): 8	Nutrients, Pathogens
Groundwater Management Zone			
Lakeview – Hemet North	MUN, AGR, IND, PROC	Total Dissolved Solids: 520 Nitrate (as Nitrogen): 1.8	Not applicable
San Jacinto–Lower Pressure Zone	MUN, AGR, IND	Total Dissolved Solids: 520 Nitrate (as Nitrogen): 1.0	Not applicable

Definitions of Beneficial Uses	
MUN	Waters used for community, military, municipal, or individual water supply systems. Uses may also include drinking water supply.
AGR	Waters used for farming, horticulture, or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
IND	Waters used for industrial activities that do not depend primarily on water quality. These uses may include mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
PROC	Waters used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture or food preparation.
GWR	Waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
REC 1	Water contact recreation waters, used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses may include swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
REC 2	Non-contact water recreation waters, used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include picnicking, sunbathing, hiking, beachcombing, camping, boating, sightseeing, and aesthetic enjoyment in conjunction of the above activities.
WARM	Warm freshwater habitat waters support warmwater ecosystems that may include preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
WILD	Wildlife habitat waters support wildlife habitats that may include the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
RARE	Rare, Threatened or Endangered Species (RARE) waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened or endangered.

Sources: Santa Ana RWQCB 2016, SWRCB 2016.
Notes:
* Intermittent beneficial use.
^ Excepted from MUN.

5.7.3 Applicable Regulations, Plans, and Policies

Federal

The Clean Water Act

The CWA (33 U.S.C. 1251 et seq.), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important sections of the act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. California is required to establish TMDLs for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. The water quality impairments relevant to the SJWA are shown in Table 5.7-4.
- Section 401 (Water Quality Certification) requires an applicant for any federal permit that proposes an activity which may result in a discharge to waters of the United States, to obtain certification from the state that the discharge will comply with other provisions of the act.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the SWRCB and the nine RWQCBs, who have several programs that implement individual and general permits related to construction activities, stormwater runoff quality, and various kinds of non-stormwater discharges.
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers and the EPA.

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level this includes the EPA, the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the major federal land management agencies such as the U.S. Forest Service and the Bureau of Land Management. At the state level, with the exception of tribal lands, the California EPA and its sub-agencies, including the SWRCB, have been delegated primary responsibility for administering and enforcing the certain provisions of the CWA in California.

Federal Antidegradation Policy

The federal antidegradation policy (40 CFR Section 131.12) was developed under the CWA and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions: (1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

State

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (codified in the California Water Code, Section 13000 et seq.) is the primary water quality control law for California. Whereas the CWA applies to all waters of the United States, the Porter–Cologne Act applies to waters of the state, which includes isolated wetlands and groundwater in addition to federal waters. It is implemented by the SWRCB and the nine RWQCBs. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state[1] could cause pollution or nuisance, including impacts to public health and the environment.

The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. California Water Code Section 13260 subdivision (a) requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the state, to file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as groundwater and isolated wetlands), Waste Discharge Requirements (WDRs) are required and are issued exclusively under state law. WDRs typically require many of the same BMPs and pollution control technologies as required by NPDES-derived permits.

[1] "Waters of the state" are defined in the Porter–Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Basin Planning

The California legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality, including the Porter–Cologne Act and portions of the CWA, to the SWRCB and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement Basin Plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The Santa Ana RWQCB is responsible for the protection of the beneficial uses of waters within the watershed of the Santa Ana River, including the SJWA.

The Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code Sections 13240–13247). The Santa Ana RWQCB Basin Plan must conform to the policies set forth in the Porter–Cologne Act as established by the SWRCB in its state water policy. The Porter–Cologne Act also provides the RWQCBs with authority to include within their basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The Basin Plan is continually being updated to include amendments related to implementation of TMDLs, revisions of programs and policies within the Santa Ana RWQCB region, and changes to beneficial use designations and associate water quality objectives.

General National Pollutant Discharge Elimination System Permits and Waste Discharge Requirements

The NPDES and WDR programs regulate construction, municipal, and industrial stormwater and non-stormwater discharges under the requirements of the CWA and the Porter–Cologne Act. The construction stormwater program is administered by the SWRCB, while the municipal stormwater program and other WDRs are administered by the Santa Ana RWQCB. Table 5.7-5 lists the water-quality-related permits that would apply to certain actions conducted under the draft LMP, each of which is further described below.

Table 5.7-5
State and Regional Water Quality-Related Permits and Approvals

Program/Activity	Order Number/ NPDES Number	Permit Name	Affected Area/ Applicable Activity
Construction stormwater program	2009-0009-DWQ/ CAS000002, as amended	NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)	Statewide/Construction-related land disturbance of > 1 acre.

Table 5.7-5
State and Regional Water Quality-Related Permits and Approvals

Program/Activity	Order Number/ NPDES Number	Permit Name	Affected Area/ Applicable Activity
Municipal Stormwater Program	Santa Ana RWQCB Order No. R8-2010-0033/CAS618033	Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the Incorporated Cities of Riverside County within the San Ana Region (MS4 [Municipal Separate Storm Sewer System] Permit for Santa Ana Region)	Santa Ana Region within Riverside County/ Creation or replacement of > 5,000 square feet of impervious surface
Non-Potable Uses of Recycled Water from EMWD	Santa Ana RWQCB Order No. R8-2008-0008, amended by R8-2014-0016	Waste Discharge and Producer/User Reclamation Requirements for EMWD Regional Water Reclamation Facilities Discharge to Groundwater Management Zones	Santa Ana Region/EMWD delivery of recycled water to SJWA
Non-Stormwater Discharge to Land	SWRCB Order No. 2003-0003-DWQ	Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (WDR for Discharge to Land)	Statewide/Non-stormwater discharges to land only
Non-Stormwater Discharge to Surface Water	Santa Ana RWQCB Order No. R8-2015-0004 / CAG998001)	General Waste Discharge Requirements for Discharges to Surface Water that Pose an Insignificant (De-Minimus) Threat to Water Quality	Santa Ana Region/Non-stormwater discharges to surface water

Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended). For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify water quality BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the SWRCB.

Riverside County MS4 Permit (Santa Ana RWQCB Order No. R8-2010-0033/CAS618033). Within the purview of the MS4 permit requirements, the municipalities (permittees) of Riverside County have jurisdiction over or maintenance responsibility for stormwater conveyance systems that they own. The 2014 Drainage Area Management Plan was developed by the permittees in response to the requirements of the MS4 permit. It contains model programs and guidance for

complying with the MS4 permit requirements. The permittees, including the City of Riverside, developed a water quality management plan guidance document that defines activities covered under the MS4 permit and describes how developers are to comply with its requirements. General plan policies and ordinance codes (water quality, grading, fats/oils/grease) have been adopted or updated to meet MS4 permit requirements and establish necessary legal authority. This combination of programs, policies, and legal authority is used to ensure that pollutant loads resulting from urbanization are properly controlled and managed. CDFW is not a permittee under this permit program but will implement BMPs that are consistent with the intent and purpose of the MS4 Permit, i.e., to reduce pollutants loads in stormwater runoff entering the regional stormwater drainage system.

Waste Discharge and Producer/User Reclamation Requirements for Eastern Municipal Water District's Regional Water Reclamation Facilities (Santa Ana RWQCB Order No. R8-2014-0016 amending order No. R8-2008-0008)): On September 5, 2008, the Santa Ana RWQCB adopted Order No. R8-2008-0008, prescribing waste discharge and producer/user reclamation requirements for EMWD's regional water reclamation facilities. The order applies to EMWD's production of recycled water from its five regional water reclamation facilities, as well as its storage and distribution system consisting of a series of storage ponds, pump stations, and distribution systems in its service area. The order outlines discharge prohibitions, effluent limitations and discharge specifications, receiving water limitations and specifications, standard provisions, monitoring and reporting requirements, and compliance determination procedures that EMWD must meet to comply with the Basin Plan and other governing regulations. Besides meeting effluent standards for tertiary-treated water, a major focus of the WDR is the implementation of new nitrogen and TDS management strategies applicable to both surface and ground waters. The order recognizes that Basin Plan objectives for TDS and nitrogen may be difficult to achieve and thus allows EMWD to "offset" contributions to the basin through implementation of a Salinity Management Plan, a conjunctive use project in the San Jacinto Upper Pressure Zone. An amendment to the order in 2014 (R8-2014-0016), among other things, removed the recycled water TDS limitation for the San Jacinto–Lower Pressure Zone based on soil characterization studies showing areas within the San Jacinto–Lower Pressure Zone are underlain by natural barriers that preclude the reclaimed water used in the groundwater management zone, and the commensurate TDS, from impacting the groundwater in the water bearing zones at lower depths. It also continues the implementation of EMWD's extensive groundwater monitoring program.

Although CDFW is not the permittee under this WDR, it relates to the proposed program because it shows delivery of recycled water for the purpose of wetlands and waterfowl ponds on the Davis Unit which is authorized by the Santa Ana RWQCB.

General Waste Discharge Requirements for Discharges to Surface Water that Pose an Insignificant (De-Minimus) Threat to Water Quality (Santa Ana RWQCB Order No. R8-

2015-0004/CAG998001). This general order (de-minimus permit) applies to projects that discharge to surface waters where the discharge has an insignificant threat to water quality. These are typically low-volume discharges with minimal pollutant concentrations such as well water discharges, small temporary dewatering projects, and hydrostatic testing discharges of clear water. To receive coverage under this general permit, the discharge must submit a Notice of Intent to the RWQCB and describe the activity with sufficient detail to demonstrate that discharge would comply with the discharge prohibitions, effluent limitations, and receiving water limitations outlined in the order. Draft LMP actions and activities would only require coverage under this order if they involve discharges to surface water that are not already covered under the Construction General Permit (SWPPP) or MS4 permit (WQMP).

The Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (SWRCB Order No. 2003-0003-DWQ): This general order applies to projects that discharge to land where the discharge has a low threat to water quality. These are typically low-volume discharges with minimal pollutant concentrations such as well water discharges, small temporary dewatering projects, and hydrostatic testing discharges of clear water. The primary difference between this permit and the permits under the NPDES program is the destination of the water. This permit regulates discharges to land and the previous sections discuss discharges to storm drains or receiving waters. For instance, if a dewatering discharge will be piped to an infiltration basin during construction, this permit could apply.

Conditional Waiver of Waste Discharge Requirements for Agricultural Discharges (Santa Ana RWQCB Order R8-2016-0003): The intent of this conditional waiver is to regulate discharges from agricultural operations within the San Jacinto River Watershed to ensure that such discharges are not causing or contributing to conditions of pollution or nuisance; exceedance of applicable water quality objectives for surface and ground waters; failing to achieve TMDLs; or, impairing of beneficial uses of receiving waters, including surface and ground waters. This general order applies to owners, owner/operators and operators of agricultural operations on multiple parcels where the cumulative acreage equals or exceeds 20 acres that includes any portion that is irrigated, dry farmed or fallow. For agricultural operations to be covered under the order, the applicant must file a Notice of Intent to comply with the conditions of the waiver. The order prohibits the land application of compostable materials, other than mulch, compost, and manure, and requires applicable dischargers to, among other things:

a. Develop and implement approved nutrient management plans, monitoring plans, and, as appropriate, Pollutant Trading Plans, consistent with the Lake Elsinore and Canyon Lake Nutrient TMDLs;

b. Evaluate and implement management practices to reduce or eliminate adverse impacts to water quality objectives and beneficial uses that result from agricultural waste discharges;

c. Employ adaptive management strategies as necessary to improve water quality management practices; and

d. Submit a proposed water quality monitoring program plan and to implement that plan upon approval by the Executive Officer (this may also be done by an agricultural coalition group, if applicable).

This conditional waiver was adopted by the Santa Ana Regional Water Quality Control Board on July 29, 2016. Because the draft LMP includes greater than 20 acres of agriculture, CDFW is subject to the conditional waiver.

California Sustainable Groundwater Act

The Sustainable Groundwater Management Act (SGMA) is a package of three bills (Assembly Bill 1739, Senate Bills 1168, and 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. The SGMA establishes minimum standards for sustainable groundwater management, local groundwater management agency roles and responsibilities, as well as priorities and timelines to achieve sustainable groundwater management in the next 20 years. Central to the SGMA is the identification of critically over-drafted basins and the prioritization of groundwater basins, the establishment of Groundwater Sustainability Agencies (GSAs), and the preparation and implementation of Groundwater Sustainability Plans (GSPs). GSAs must be formed by June 30, 2017, and GSPs must consider all beneficial uses and users of groundwater in the basin, and include measureable objectives and interim milestones that ensure basin sustainability. A basin may be managed by a single GSP or multiple coordinated GSPs.

At the state level, DWR has the primary role in the implementation, administration, and oversight of the SGMA, with the SWRCB stepping in should a local agency be found to not be managing groundwater in a sustainable manner. DWR is currently in the process of developing regulations and guidelines for the implementation of the SGMA. The San Jacinto Groundwater Basin is not in critical overdraft, but is considered a high priority basin, which means one or more GSPs must be accepted as adequate by DWR by January 31, 2022. A GSA for the groundwater basin has not been formally established. However, EMWD has been managing groundwater resources under an adopted Groundwater Management Plan since 1995 in accordance with AB 3030 enacted in 1992. Groundwater quality samples are taken annually; groundwater levels are measured semi-annually; and groundwater extraction is read monthly (EMWD 2015). EMWD will be required to meet benchmarks and prepare a GSP, which is likely to look similar to its existing program, though updated as needed to meet the requirements under SGMA.

Local

Chapter 1, section 1.4.1 of this PEIR describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan

The Multipurpose Open Space Element of the Riverside County General Plan (Riverside County 2015) includes the following hydrology and water quality related goals:

Water Conservation

- **OS 1.4**: Promote the use of recycled water for landscape irrigation.
- **OS 2.2**: Encourage the installation of water-conserving systems such as dry wells and graywater systems, where feasible, especially in new developments. The installation of cisterns or infiltrators shall also be encouraged to capture rainwater from roofs for irrigation in the dry season and flood control during heavy storms.
- **OS 2.3**: Seek opportunities to coordinate water-efficiency policies and programs with water service providers.
- **OS 2.5**: Encourage continued agricultural water conservation and recommend the following practices where appropriate and feasible: lining canals, recovering tail water at the end of irrigated fields, and appropriate scheduling of water deliveries.

Watershed Management

- **OS 3.3**: Minimize pollutant discharge into storm drainage systems, natural drainages, and aquifers
- **OS3.4**: Review proposed projects to ensure compliance with the National Pollutant Discharge Elimination System (NPDES Permits and require them to prepare the necessary Stormwater Pollution Prevention Program (SWPPP).
- **OS 3.6**: Design the necessary stormwater detention basins, recharge basins, water quality basins, or similar water capture facilities to protect water-quality. Such facilities should capture and/or treat water before it enters a watercourse. In general, these facilities should not be placed in watercourses, unless no other feasible options are available.

Groundwater Recharge

- **OS 4.1**: Support efforts to create additional water storage where needed, in cooperation with federal, state, and local water authorities. Additionally, support and/or engage in water banking in conjunction with these agencies where appropriate, as needed.

Floodplain and Riparian Area Management

- **OS 5.1**: Substantially alter floodways or implement other channelization only as a "last resort," and limit the alteration to:
  - that necessary for the protection of public health and safety only after all other options are exhausted;
  - essential public service projects where no other feasible construction method or alternative project location exists; or
  - projects where the primary function is improvement of fish and wildlife habitat.
- **OS 5.2**: If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors:
  - a. stream scour;
  - erosion protection and sedimentation;
  - wildlife habitat and linkages;
  - cultural resources including human remains;
  - groundwater recharge capability;
  - adjacent property; and
  - design (a natural effect, examples could include soft riparian bottoms and gentle bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with native plants to the maximum extent possible). A site specific hydrologic study may be required.
- OS 5.5: Preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. Prohibit fencing that constricts flow across watercourses and their banks. Incentives shall be utilized to the maximum extent possible.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) includes goals, objectives, and policies related to hydrology and water quality. In particular, the Resource

Conservation Element seeks to promote the maintenance of water quality, water conservation, and development practices that mitigate the potential for flooding.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) includes goals, objectives, and policies. Of particular relevance to CDFW is the Conservation Element, which seeks to maintain surface water quality and the supply and quality of groundwater. In addition, it seeks to maintain, protect, and preserve biologically significant habitats where practical, including the SJWA, riparian areas, habitats of rare and endangered species, and other areas of natural significance.

5.7.4 Methodology

The study area with respect to surface waters is the San Jacinto Watershed, and the study area with respect to groundwater is the San Jacinto–Lower Pressure and the Lakeview/Hemet North management zones (i.e., the underlying groundwater basin).

As indicated in Table 2-5 in Chapter 2, Project Description, the implementation schedule for future plans and tasks under the draft LMP includes the development of various plans and regulatory compliance reviews for a number of LMP components, including expanded/new wetlands (e.g., ponds, green feed fields), a joint wetlands/riparian restoration closed zone project, planned expanded trail/interpretive services, reconfiguration of CDFW-managed food plots, the replacement of existing and installation of new (water) guzzlers (wildlife water containment drinking systems), and the planned new hunting dog training activity. Many of the planned activities that would affect hydrologic conditions and features will require assessment of monitoring data, completion of site-specific hydrologic studies, detailed engineering, coordination with regulatory agencies having jurisdiction over the resource, and in some cases, project-level CEQA review.

Of particular relevance to the issues related to natural hazards and flooding is the concept that impacts of the environment on a project or plan (as opposed to impacts of a plan or project on the environment) are beyond the scope of required CEQA review. “[T]he purpose of an [environmental impact report] is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project” (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, citing *City of Long Beach v. Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 905.) The California Supreme Court recently confirmed this concept, holding that “[i]n light of CEQA's text, statutory structure, and purpose, we conclude that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents.(*California Building Industry Association v. Bay area Air Quality Management District* (2015) 62 Cal.4th 369, 377.)

It is also important to note that because this EIR is a Program EIR the analysis focuses on the draft LMP's general activities and their associated impact-causing mechanisms, such as mowing/disking, grading, facility/infrastructure construction, non-stormwater discharges, water use, and vegetation manipulation/management. These generalized activity categories are discussed in terms of whether they are one-time events (e.g., temporary/construction impacts) or actions that would occur with regular frequency (permanent/operational impacts), and may occur in multiple locations and across several LMP management designations. The analysis of public exposure to flood hazards focuses on whether draft LMP tasks or activities would newly place areas within a flood zone or otherwise result in increased public exposure to flood hazards. These activities are analyzed in the context of the existing environmental setting described above in Section 5.7.2 and in Chapter 4, Environmental Setting to determine whether the impacts could exceed the standards of significance identified in Section 5.7.5. Where impacts are determined to be significant or potentially significant, mitigation measures are outlined which would substantially lessen or eliminate the impact.

Lastly, this PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed SWJA LMP. The SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded draft LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR (but are part of the existing baseline conditions). The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering off of this PEIR pursuant to Section 15152 of the CEQA Guidelines.

This PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Section 1600 or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.7.5 Significance Thresholds

The State of California has developed guidelines to address the significance of hydrology and water quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Hydrology and water quality impacts would be considered significant if a project would:

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
6. Otherwise substantially degrade water quality.
7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
8. Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
9. Expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
10. Result in inundation by seiche, tsunami, or mudflow.

5.7.6 Impact Analysis and Mitigation

Issue HYD-1 Would the project violate any water quality standards or waste discharge requirements?

The analysis of Issue HYD-1 focuses on the potential for construction of draft LMP facilities and implementation of draft LMP tasks to have adverse effects on the quality of stormwater runoff.

The potential water quality concerns associated with use or discharge of recycled water are addressed under Issue HYD-6.

Davis Unit

Direct and Indirect Impacts

Effects of the draft LMP on stormwater quality would be both direct and indirect in nature, depending on the intensity of rainfall and the location of the affected water body. Under normal conditions, any increase in turbidity or contribution of pollutants resulting from LMP activities would be confined to the ponds, wetlands, and riparian areas within the SJWA (i.e., direct effects). This is because the area is very flat, contains numerous closed depressions, and normally drains to Mystic Lake or flat drainage swales which are within the boundaries of the SJWA. Essentially, during wet weather, stormwater is more likely to pond on site or in the immediate vicinity than run off rapidly into the San Jacinto River or further downstream. However, during periods of flooding or prolonged heavy rainfall, runoff from areas within the Davis Unit could eventually reach the main stem of the San Jacinto River (outside the boundaries of the SJWA), or under exceptional circumstances, Canyon Lake. In these scenarios, the effects of draft LMP activities could be indirect in nature. Contribution of pollutants such as sediment to off-site regional waters during peak rains or flooding, however, would be negligible because runoff from the Davis Unit would be mixed with the runoff volume associated with the approximately 400-square-mile watershed of the middle and upper San Jacinto River. For context, the entire Davis Unit comprises approximately 2% of the San Jacinto Watershed, and sediment loads associated with draft LMP-related land disturbances would be a small fraction of the natural sediment loads produced within the Davis Unit.

The discussion below addresses the short-term impacts associated with construction of draft LMP facilities and long-term operation and maintenance activities planned for under the draft LMP.

Temporary/Construction Impacts

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Facilities and Structures. Water Storage Project. Construction activities that involve land grading, trenching, or excavation, such as the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources (through targeted grading); installation of water distribution, management, and water storage systems including an onsite pipeline; construction of employee residences (manufactured homes); and expanded trail/interpretive service activities would require land disturbances such as grading and site-preparation activities. Exposed topsoil could in turn be exposed to rainfall at certain times of the year. Rain falling on exposed soils can become laden with sediment which can degrade the quality of receiving surface water bodies. Furthermore, materials that could contaminate the construction area or spill or leak include fuels, fluids, and oils

associated with construction equipment, as well as construction-related trash and debris. Due to the nature of the construction activities, minor quantities of these materials would be required in any one work area and would only be present/used for the duration of construction activities. The amount used would be the minimum necessary to fuel vehicles, power equipment, and complete construction activities.

Construction activities with the greatest potential for adverse effects on water quality would be those that involve substantial grading/soil disturbance and large areas of temporary disturbance. These include creation of new ponds (e.g., berms), new trails, water management structures (pipelines, weirs, release valves, flap gates, etc.), and the water storage project (including an onsite pipeline). For all land-disturbing construction activities that exceed 1 acre in size, CDFW must obtain coverage under the Construction General Permit from the SWRCB (SWRCB Order No. 2009-0009-DWQ, as amended). A SWPPP must be developed that identifies all pollutant sources and non-stormwater discharges associated with the construction activity, and identifies the water quality BMPs that are appropriate for the construction activities proposed. The type and number of BMPs must also be based on a project-specific risk determination which takes into account both local soil erosivity and receiving water risk. The SWPPP must be developed and implemented by a Qualified SWPPP Developer/Qualified SWPPP Practitioner(s) (i.e., a QSD/QSP), who would evaluate site-specific conditions and the water quality sensitivity of receiving waters to choose the most appropriate BMPs. The SWPPP must include all appropriate compliance monitoring and reporting procedures necessary to demonstrate that relevant water quality standards and performance criteria are being met.

CDFW is required to comply with the Construction General Permit by submitting a Notice of Intent and permit registration documents (including a SWPPP) to the SWRCB, and obtaining a Waste Discharge ID number certifying coverage. The implementation of a SWPPP is required by law for land-disturbing projects greater than 1 acre, and would effectively address the potential for construction-related impacts on stormwater quality for larger construction activities. However, due to the presence of sensitive resources and the proximity of receiving waters, the effects small facility construction activities could have on less than 1 acre could be **potentially significant (Class II)**. Implementation of mitigation measure MM-HYD-1a would reduce potential impacts on the quality of stormwater runoff of small (<1 acre) draft LMP construction and grading activities to less than significant.

Agriculture. Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. Hunting Dog Training. SJWA Events. Aside from irrigation systems, guzzlers, and minor facilities (e.g., signage, gates, hunter check stations and blinds), these management designations do not involve significant construction of new permanent physical facilities or infrastructure. Therefore, short-term construction-related impacts to stormwater quality would be minimal, highly localized, and **less than significant (Class III)**. Habitat

manipulations for these management designations, as well as tilling/plowing for agriculture are addressed below under permanent/operational impacts.

Permanent/Operational Impacts

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. SJWA Events. For the most part, operation and maintenance activities associated with these management designations would not involve adverse impacts with respect to the quantity or quality of stormwater runoff within applicable areas because they would promote natural processes and support native wildlife populations. CDFW does not allow the use of lead shot for hunting activities. Discharge of recycled water to support wetland, riparian, and waterfowl habitat is discussed under Issue HYD-6.

Typical maintenance activities, such as vegetation management, pesticide and herbicide application, and other as-needed repairs could involve activities, materials, and earthwork that could adversely affect water quality. Currently, mowing and shallow disking (to break up consolidated soils where necessary) are the predominant form of habitat management. However, grazing (the use of sheep, goats, or cattle in different stages) is also used as a method for habitat maintenance year round, as well as herbicide application (e.g., fusilade) and prescribed fire.

The draft LMP indicates prescribed burning may be used as a fire vegetation management tool. Currently, habitat management practices within the Davis Unit includes the occasional occurrence of prescribed burning. Additional land within the Davis and Potrero Units that would undergo prescribed burning would also be subject to regulations and restrictions set forth by the California Department of Forestry and Fire Protection and the South Coast Air Quality Management District (SCAQMD), as discussed in Section 5.1, Air Quality. After the SCAQMD approves all the burn planning requirements, including the burn permit and Smoke Management Plan, the CDFW would need to notify the public about the planned timing and specifics of the prescribed burn to be granted final authorization by the SCAQMD.

Fire, especially wildfire, has the potential to expose large areas of soil to rainfall which in turn could contribute to soil erosion leading to temporary impacts to surface water quality. Prescribed fires, by design, tend to be less severe than wildfires, resulting in less impact on soil. Potential pollutant levels produced by prescribed burning would be less and are of a shorter duration than the levels of pollution likely to be created in the event of a wildfire. Soil burn severity from both wild and prescribed fires is rarely uniform across a burned area. Likely negative impacts of severe fire on soils include destruction of the protective vegetation, a significant loss of soil carbon and nitrogen, and reduced infiltration capacity; this, in turn, can lead to erosion by wind and water which in turn may cause increased runoff and sediment input into receiving waters.

It should be noted that the effect of water repellency on soil erosion by runoff is strongly influenced by the amount and duration of rainfall following a fire. The time of year that a prescribed burn occurs also affects the associated impacts to surface water quality. Prescribed burns are often conducted during cooler seasons such as spring or fall when rainfall on the SJWA is possible, but less likely than during the winter. Intense rainfall immediately following a prescribed burn would result in a significant but temporary increase in sediment-laden runoff.

Though these management designations discussed above would not generally result in adverse impacts with respect to the quality of stormwater runoff, certain vegetation management methods, such as use of herbicides and prescribed burning, could result in a **potentially significant impact (Class II)**. Implementation of mitigation measures MM-HYD-1b and MM-HYD-1c would ensure that such activities are performed in a manner that is protective of the quality of stormwater runoff and reduce the potential impact to less than significant .

Agriculture. Agricultural activities would be conducted consistent with how they are currently conducted, even if the coverage of food crops would expand in some areas. Typical pollutants of concern associated with agricultural runoff include elevated levels of nutrients from fertilizers, sedimentation, as well as pesticides and herbicides. Without proper management, the expansion of agricultural operations proposed under the draft LMP could result in a **potentially significant impact (Class II).** CDFW does not apply fertilizers to any of its wildlife crops, and therefore food crop activities are unlikely to contribute to the CWA Section 303(d) impairment for nutrients applicable to the San Jacinto Watershed. If pesticides or herbicides are applied to food crops, such applications would be done in accordance with MM-HYD-1b.

Per mitigation measure MM-HYD-1d, CDFW is required to enroll in the Conditional Waiver of Waste Discharge Requirements for Agricultural Discharges (Santa Ana RWQCB Order R8-2016-0003) which was adopted by the Santa Ana RWQCB on July 29, 2016, as discussed in Section 5.7.3, Applicable Regulations, Plans, and Policies. The intent of this conditional waiver is to regulate discharges from agricultural operations within the San Jacinto River Watershed to ensure that such discharges are not causing or contributing to conditions of pollution or nuisance; exceedance of applicable water quality objectives for surface and ground waters; failing to achieve TMDLs; or, impairing of beneficial uses of receiving waters, including surface and ground waters.

Implementation of mitigation measures MM-HYD-1b and MM-HYD-1d would ensure that agricultural activities are performed in a manner that is protective of the quality of stormwater runoff and would reduce the potential impact to less than significant.

Hunting Dog Training. Hunting dog training would continue in Subunit D13 and be significantly expanded in Subunits D7, D11, and D13. Dog feces is a concern for the quality of stormwater runoff, as it can carry a variety of pathogens and nutrients. Dog feces also has higher phosphorous concentrations than found in cow and swine manure. Phosphorus is a nutrient that negatively impacts water quality and plant species. When carried by stormwater runoff or

deposited directly into local receiving waters, nutrients can promote or contribute to the excessive growth of weeds and algae. Considering the popularity of this activity along with the proximity and overlap of training areas with managed wetlands and ponds, the expansion of dog training areas is considered a **potentially significant impact (Class II)**. Implementation of MM-HYD-1e would ensure the volume of dog waste exposed to stormwater runoff and its hydrologic connection to surrounding waters is minimized, and would reduce the potential impact to less than significant.

Facilities and Structures. Water Storage Project. New or replaced impervious surfaces associated with planned administrative and employee housing facilities, water control and distribution structures; new roads, access, and trail infrastructure; and the water storage project could involve long-term changes in runoff patterns (e.g., rate and volume) such that stormwater quality could be adversely affected. This would be both a direct and indirect **potentially significant impact (Class II)** and would occur during times of heavy rainfall during the operational life of the project. Implementation of MM-HYD-1f would ensure that long-term impacts on stormwater runoff associated with new facilities and structures, including the water storage project, would be less than significant.

Potrero Unit

Except for activities associated with hunting dog training, agriculture, and waterfowl ponds (which would not occur on the Potrero Unit), the analysis and mitigation measures provided above for the Davis Unit would be equally applicable to activities on the Potrero Unit. Activities under the Potrero Unit, the same as the Davis Unit would be considered **potentially significant (Class II)** impacts. With implementation of MM-HYD-1a, MM-HYD-1b, MM-HYD-1c, and MM-HYD-1f, the impacts of the draft LMP activities within the Potrero Unit on the quality of stormwater runoff would be less than significant.

MM-HYD-1a Minimum Stormwater Quality Best Management Practices. For all facility and infrastructure construction activities that are not covered under the Construction General Permit (i.e., less than 1 acre of disturbance), The California Department of Fish and Wildlife (CDFW) will apply the following minimum best management practices (BMPs):

- Ground surface-disturbing activities will be designed to minimize wind and water erosion. Soil-disturbing activities will be avoided during periods of runoff, or when soils are wet and muddy, to minimize damage.
- Sensitive natural areas within the construction areas will be identified and, where possible, left undeveloped/undisturbed. To the extent possible, areas of ground disturbance will be set back from creeks, wetlands, and riparian habitats, and any trees present will be preserved.

- Grading activities will conform to natural land forms, excessive grading and disturbance of vegetation and soils shall be avoided, and the site's natural drainage patterns will be mimicked.
- Silt fences will be installed along limits of the work area and the construction site; soil stockpiles will be protected/contained (e.g., visqueen sheeting, fiber rolls, gravel bags); and temporary slopes will be stabilized using bonded fiber matrix, hydroseed, or other suitable method).
- No vehicle fueling activities will occur on site without protection from spills, and construction-related equipment and materials storage areas will be protected from spills/leaks of fuels or fluids using secondary containment devices (e.g., plastic sheeting, drip pans beneath vehicles, and containment bins for hazardous materials).
- Work areas and construction sites will be kept orderly and free of unanchored debris or packaging material, and will be swept/cleaned at the end of each working day.

Other BMPs, as appropriate and applicable, will be implemented from the California Storm Water Best Management Practices Handbook prepared by the California Stormwater Quality Association. CDFW will insure that construction contractors adhere to these minimum BMPs when performing work within the San Jacinto Wildlife Area (SJWA).

MM-HYD-1b Procedural Requirements for Pesticide and Herbicide Applications. Use of pesticide or herbicides for habitat management activities or agriculture by California Department of Fish and Wildlife (CDFW) will be a measure of last resort after all alternative (non-chemical) management options have been evaluated and determined to be infeasible or ineffective. Where required, pesticide and herbicide application will occur under the direction of a professional pesticide applicator with either a Qualified Applicator License (QAL) or an Agricultural Pest Control Adviser License in the State of California, who will ensure the following:

- Label instructions and all applicable laws and regulations will be strictly followed in the application of the product and in the disposal of excess materials and containers.
- Only those materials registered by the U.S. Environmental Protection Agency (EPA) for the specific purpose planned will be authorized for use.

- The aerial extent, frequency, and volume of pesticide or herbicide used will be limited to that needed to achieve habitat maintenance objectives; such products shall not be broadly/indiscriminately applied and will be limited to spot treatments, if feasible.
- Grass-specific herbicides such as Fusillade will be applied at the lowest manufacturer recommended dose.
- Giant reed and tamarisk control will be accomplished by cutting the trees at the stump and application of appropriate herbicide stump paint.

MM-HYD-1c Prescribed Fire BMPs. Post-fire management shall include erosion control, targeted disking, washing of fire retardant from unburned vegetation, and regrading and revegetation of fire-damaged areas to promote sheet flow. Prescribed burns to predetermined areas shall be conducted by California Department of Forestry and Fire (CAL FIRE) crews in conjunction with vegetation management plans, with preferred timing being in the spring after winter rains have ceased for the year.

MM-HYD-1d Conditional Waiver of Waste Discharge Requirements for Agricultural Discharges. California Department of Fish and Wildlife (CDFW) will coordinate with the Santa Ana RWQCB and the Western Riverside County Agricultural Coalition to ensure its agricultural operations and leases on the Davis Unit are adequately complying with applicable waste discharge requirements, including Santa Ana RWQCB Order R8-2016-0003, and the basin wide nutrient TMDL. CDFW will submit a notice of intent to the Santa Ana RWQCB outlining the nature and extent of its agricultural and food crop operations and leases, and describing the management practices employed that reduce or eliminate potential impacts to water quality objectives and beneficial uses that result from agricultural waste discharges. If determined necessary based on the notice of intent and in coordination with the Santa Ana RWQCB, CDFW will comply with the terms of Santa Ana RWQCB Order R8-2016-0003, including the development and implementation of a nutrient management plan, submittal of a water quality monitoring program, and other management practices as necessary to ensure compliance with the watershed-wide TMDL for nutrients, Basin Plan objectives, and other water quality standards outlined in the order.

MM-HYD-1e Proper Management of Dog Waste (Davis Unit only). California Department of Fish and Wildlife (CDFW) will encourage patrons of the facilities to clean up after their dogs by providing signage, waste baskets, and baggies. To the greatest extent feasible, CDFW will ensure areas reserved for dog hunting activities are

hydrologically isolated from surrounding waters. Dog training areas will be maintained in a manner that avoids or minimizes concentrated or channelized flow of stormwater runoff to off-site areas. CDFW will conduct biannual cleanup of dog waste within the dog training areas, focusing on areas where stormwater runoff could migrate outside of the management area. The schedule/timing of such cleanup activities will be determined by CDFW based on visitation volume/patterns and the arrival time of the wet season.

MM-HYD-1f Site Design Best Management Practices (BMPs) for Impervious Surfaces. Construction of new facilities involving more than 5,000 square feet of impervious surfaces, such as building pads, rooftops, or paved roads or trails, will be required by the California Department of Fish and Wildlife (CDFW) to integrate source control BMPs and low-impact development designs to the maximum extent feasible to reduce the potential for stormwater runoff attributed to construction activities to be accelerated/erosive, or to entrain pollutants. This includes site design BMPs, such as minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas. Where feasible and appropriate, CDFW will incorporate bioretention facilities, infiltration trenches, filter strips, or vegetated buffers to detain and treat runoff before letting it seep away slowly. Where proposed facilities could result in quantifiable increases in the rate or volume of runoff, the type, location, and sizing of treatment control BMPs will be determined based on the design capture volume standards contained in the Riverside County Municipal Separate Storm Sewer System (MS4) Permit (Santa Ana RWQCB Order No. R8-2010-0033, as amended).

Issue HYD-2 Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Davis Unit

Regardless of the location or extent of the impervious surfaces proposed, the draft LMP activities on the Davis Unit would have negligible impacts on groundwater recharge because the existing clayey soils that predominate in the area already preclude significant recharge of the underlying aquifer. A soil characterization study for the SJWA was finalized and

submitted to the Santa Ana RWQCB for their review and approval in May 2011 (EMWD 2011). The results of the study confirmed that the clay layer beneath the wetland and waterfowl hunting sites on the SJWA is present from several feet to 30 feet thick. The Santa Ana RWQCB agreed that the clay layer exists and acts as a sufficient barrier to the underlying groundwater basin (EMWD 2011). Furthermore, impervious surfaces and paving activities (facilities and structures) are limited in size and not directly connected. Therefore, the draft LMP would have a **less-than-significant impact (Class III)** with respect to interference with groundwater recharge.

The discussion below focuses on the wells in use, proposed water systems and their potential to either deplete the aquifer or result in lowering of the local groundwater table level.

Direct and Indirect Impacts

Effects with respect to aquifer volume or a lowering of the local groundwater table level are primarily indirect in nature, because the issue is whether continued or increased pumping of groundwater wells could have adverse or undesirable effects on the groundwater basin as a whole, especially for off-site well owners.

Temporary/Construction Impacts

There are no temporary/construction impacts because no new groundwater well is proposed. Construction activities associated with facilities and structures may require water for purposes such as dust control or soil compaction from construction water trucks/tankers which typically range from 2,000 to 5,000 gallons. The volume and source of this water would depend on the nature and location of the construction activity, but would likely be sourced from either recycled water delivered by EMWD or one of CDFW's groundwater wells. If water is derived from wells, the effect on groundwater resources would be minor and temporary, especially when considered in the context of the typical yearly amount of groundwater extracted from the basin for municipal and agricultural demands. According to the EMWD groundwater monitoring program, groundwater extraction from the West San Jacinto Groundwater Basin amounted to 24,535 acre-feet in 2014 (EMWD 2015). Extraction from the basin from private domestic and agricultural wells is not comprehensively reported as participation is voluntary, and EMWD only monitors wells it defines as significant, i.e., wells that extract more than 25 acre-feet a year (EMWD 2015). Therefore, the actual volume of water pumped from the basin is much higher. The impacts of groundwater use for construction-related purposes would be **less than significant (Class III)** due to its limited and temporary nature.

Permanent/Operational Impacts

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Agriculture. Facilities and Structures. The vast majority of the water demand on the Davis Unit is for the management of riparian/wetland habitat, waterfowl ponds, and agriculture. As discussed further below, of the total water demand on the Davis Unit, a minor fraction (about 1%) is used for the existing facilities including the office/check-station, the employee double-wide trailers, and public restrooms. About 95% of all the water demands within the Davis Unit is supplied by the EMWD recycled water system, which is sourced from tertiary treated wastewater, not groundwater. Approximately 4% comes from the CDFW well at the Walker ponds, and the remaining 1% is from a domestic well that serves the office and two state owned housing units (Sewell, pers. comm. 2016b). Therefore, the effects of the draft LMP on groundwater are limited to two wells, one that serves minor water demands of the office and trailers, the other consisting of the CDFW well at the Walker ponds. These demands on groundwater are not anticipated to change substantially with implementation of the draft LMP, because the expanded wetland, waterfowl and riparian management areas would be supported by recycled water deliveries from EMWD. EMWD has included allocations for recycled water to the SJWA in its most recent UWMP, having delivered 3,507 acre-feet in 2015, and planning for allocation of 4,500 acre-feet per year through its 2040 planning horizon (EMWD 2016). Future activities in excess of the 4,500 acre-feet allocation would require an additional source of water.

Over the last 20 years, the volume of recycled water used to support wetland, waterfowl and riparian management activities on the Davis Unit has varied between a low of 922 acre-feet in 1998 to a high of 3,507 acre-feet in 2015 (EMWD 2016). The amount of recycled water used is dependent on hydrologic conditions, with the least amount needed during wet years and the most needed during multiple-year droughts. During wet years, direct precipitation, stormwater run-on, and lower evapotranspiration rates combine to decrease CDFW's reliance on supplemental water. The increased usage in recent years reflects the recent 4-year drought in California, as well as additional funding acquired for water purchases for rare plant management, changes in crop species supporting tricolored blackbirds, and other wildlife management tactics. The draft LMP commits to implementing water conservation practices such as efficient drainage of ponds and re-use of water, especially during draw down where water within ponds can be used to flood irrigate adjacent fields. In addition, planned upgrades to existing water infrastructure will allow CDFW to improve efficiency in water management.

Given approximately 4% of the water demand on the Davis Unit is served by groundwater, total groundwater use in 2015 is conservatively estimated to have been 185 acre-feet. Given 2015 was a time of severe/exceptional drought, this is likely on the high end of the groundwater demand of the SJWA under current management. Though this volume has likely decreased since then, it is numerous orders of magnitude higher than the groundwater extraction that occurs on the SJWA. There are no reliable estimates of the total groundwater withdrawn in the West San Jacinto

Groundwater Basin, but the EMWD found that groundwater extraction from the West San Jacinto Groundwater Basin amounted to 24,535 acre-feet in 2014 (EMWD 2015). This is a minimum and not reflective of total groundwater extraction in the basin, since participation in EMWD's extraction monitoring program is voluntary, and many well owners do not report their usage. Even so, the estimated groundwater use on the SJWA is less than 1% of the cumulative amount of groundwater extracted by users of the groundwater basin that participated in EMWD's monitoring program in 2014.

In the West San Jacinto area, a cooperative groundwater management plan is already in place to manage the reliability and quality of the water supply. In June 1995, EMWD adopted the West San Jacinto Groundwater Basin Management Plan in accordance with the statutes in the California Water Code Sections 10750 through 10755 resulting from the passage of AB 3030 (EMWD 2016). The plan was adopted after extensive public outreach and meetings with interested individuals and agencies. Implementation of the groundwater management plan began directly after its adoption. Initial efforts to implement the groundwater management plan included establishing an advisory committee; prioritizing the management zones; evaluating groundwater resources including establishing groundwater quality, level, and extraction monitoring programs; and conducting hydro-geophysical investigations.

The West San Jacinto Groundwater Basin Management Plan Annual Report, documenting the implementation of the plan and activities in the groundwater management zones, has been published annually since 1996. EMWD oversees the Monitoring Programs within the West San Jacinto Groundwater Basin including: groundwater quality, groundwater level, groundwater extraction, recycled water use, precipitation, inactive well capping/sealing, and additional activities affecting the entire basin and specific groundwater management zones (EMWD 2015). During the 2014 groundwater quality monitoring program, water quality samples were collected from 104 wells in the Management Area; depth to water was measured in 160 wells (an additional 312 depth to water readings were reported providing a total of 472 wells for analysis); and groundwater extraction was monitored for 52 wells (EMWD 2015).

The CDFW participates in EMWD's groundwater monitoring network, allowing EMWD to take groundwater quality samples annually, to take groundwater levels semiannually, and to read groundwater extraction monthly (EMWD 2015). Two wells on the Davis Unit are monitored by EMWD for extraction volume, and up to 16 other wells are monitored for groundwater table level (Figure 5.7-4). Between fall 2012 and fall 2015, groundwater levels within the Davis Unit of the SJWA generally remained the same or increased. The average elevation change for the 3-year period was an increase of 6 feet, a fairly insignificant difference considering the average depth of wells in the area (DWR 2016). This indicates that despite rising supplemental water demand on SJWA during the ongoing drought, groundwater levels do not appear to have been adversely affected in the local area.

A new domestic water supply system on the Davis Unit is not proposed. Furthermore, EMWD does not operate any municipal supply wells within the SJWA or within the San Jacinto–Lower Pressure Zone (EMWD 2016). The closest private agricultural wells are off site to the south. This means that operation/pumping from the domestic well or the CDFW well at the Walker ponds is unlikely to significantly impact the water levels in off-site nearby wells. There are no immediately adjacent wells owned/operated by private parties or EMWD, groundwater levels in the last few years appear generally stable, and CDFW participates in EMWD's active monitoring and management of the basin. Should worrisome trends be detected with regard to aquifer depletion, regardless of whether such impacts are a result of groundwater used for draft LMP activities, EMWD would take appropriate action in accordance with the groundwater management plan. By 2022, the basin would be managed under a new Groundwater Sustainability Plan, per the Sustainable Groundwater Management Act (see Section 5.7.3).

For these reasons, current and future groundwater use to support management activities on the Davis Unit would have a **less-than-significant impact (Class III)**.

Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. Hunting Dog Training. SJWA Events. Water Storage Project. These management designations would not require a supply of groundwater or involve construction/operation of a groundwater well. Miscellaneous, small volume water requirements for these management designations would be served by recycled water from EMWD, SJWA's existing potable water system, or commercial deliveries of bottled water (i.e., for events). Therefore, there would be **no impact** with respect to this criterion.

Potrero Unit

Direct and Indirect Impacts

Temporary/Construction Impacts

Facilities and Structures. Two new future residences are recommended for the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet (60 feet long and 24 feet wide). To support this, a new domestic water system with a 1,500-gallon storage tank is proposed within Potrero Subunit P5. Based on its remote location, it is assumed the source of water would be from a new well or another source, if available. It should be noted that a new well or another water source within the historical operational area boundaries of the Lockheed Martin Corporation (LMC) Beaumont Site would not be constructed until the remediation efforts conducted by LMC indicate the area is free of contamination. Therefore, the potential future construction of the well or new domestic water system would not be constructed in/near Potrero until remediation activities are complete, or additional coordination between CDFW and LMC

has occurred. Once the property is approved for development by LMC, ~~A~~any new well would be required to adhere to DWR well construction standards, and the drilling contractor would be required to obtain a well permit from the Riverside County Department of Environmental Health and submit a well completion report to DWR or Riverside County. This regulatory process ensures that the well is constructed in a manner that avoids cross-contamination of aquifer zones including an appropriate sanitary seal. Therefore, construction of the well would have a **less-than-significant impact (Class III)** with respect to the groundwater table or aquifer depletion.

All Other Management Designations. All Subunits on the Potrero Unit would be managed according to the natural hydrologic regime and would not require construction of a groundwater well. Therefore, there would be **no impact** with respect to the groundwater table or aquifer deletion.

Permanent/Operation Impacts

Facilities and Structures. A ballpark estimate of the groundwater required to support the two new residences, office, workshop, and warehouse and structure would be about 1 acre-foot per year based on the conservative assumption of 0.5 acre-foot per year per dwelling unit. Existing data indicates that the water demands in EMWD's retail service are per single family residential connection amounts to 0.34 acre-feet per year[2] (EMWD 2016). Given the remote location and the lack of nearby private residences that rely on groundwater, use of the groundwater well would not deplete the aquifer and would have minimal impacts on the groundwater table. If any, impacts would be highly localized and temporary (while the well pump runs to fill the tank). Therefore, the operational impacts of facilities and structures in the Potrero Unit on groundwater resources would be **less than significant (Class III)**.

All Other Management Designations. All Subunits on the Potrero Unit would be managed according to the natural hydrologic regime and would not require supplemental water. Therefore, there would be **no impact** with respect to the groundwater table or aquifer deletion.

Issue HYD-3 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

This impact addresses whether implementation of the draft LMP would involve activities which would alter drainage patterns or the course of a stream or river in an adverse manner (resulting in erosion/sedimentation). The discussion in this criterion is related to drainage/flow patterns under

[2] Based on a total amount of water delivered by EMWD to its single-family residential customers in 2015 (45,735 acre feet), divided by the total number of single-family residential accounts (136,200 acre-feet).

typical or average conditions; the extent to which such improvements could block or impede flood flows (100-year flood event) is addressed under Issue HYD-8.

Davis Unit

Direct and Indirect Impacts

The Davis Unit intersects reservoir and flood control facilities operated by DWR and RCFCWCD, respectively. Several riparian habitat management areas are proposed along the earthen face of the Lake Perris Dam (Subunit D14); which means CDFW must coordinate draft LMP tasks within Subunit D14 with DWR to avoid or minimize any conflict with DWR projects, facilities or operations (including environmental monitoring plans). CDFW will coordinate riparian habitat plans with DWR to ensure such plans are compatible with dam safety, and shall obtain encroachment permits where required (see Table 2-8 in Chapter 2, Project Description). Similarly, a RCFCWCD easement associated with the San Jacinto River abuts Subunit D10, and crosses Subunits D13 and D7. These portions of the easement are along a portion of the San Jacinto River that is not actively maintained and that does not have any certified/engineered flood control facilities (i.e., levees). The draft LMP proposes no facilities or structures within the RCFCWCD easement, however, should future construction or maintenance activities occur within the RCFCWD easement, CDFW shall obtain an encroachment permit to authorize the work (see Table 2-8). For activities within DWR and RCFCWCD easements, CDFW would provide the agencies with proposed procedures, enhancement plans, schedules and type/weight of construction equipment to be used for creating habitat and other details to coordinate proposed work, and would obtain encroachment permits where required to avoid or minimize conflicts with DWR or RCFCWCD project and operation and maintenance activities.

<u>Temporary/Construction Impacts</u>

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Facilities and Structures. Water Storage Project. The analysis with respect to the quality of stormwater runoff presented under Issue HYD-1 is equally applicable to this criterion because it addresses changes in the rate and volume of stormwater runoff, which is inherently linked to how changes in topography or land cover alter drainage patterns. For large construction activities, implementation of a SWPPP would ensure that appropriate stormwater quality BMPs are included in the construction plans. For small construction activities not subject to the SWPPP, the impact is **potentially significant (Class II)**, but would be reduced to a less-than-significant level with and implementation of MM-HYD-1a.

Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. Agriculture. SJWA Events. These management designations would not involve substantial alteration of drainage patterns or construction of significant structures (other than blinds, kiosks,

fencing, and signage). Disking or plowing activities would loosen soils but would not significantly alter drainage patterns. The impact would be **less than significant (Class III)**.

Permanent/Operation Impacts

Wetlands. Riparian. Waterfowl Habitat. Facilities and Structures. Water Storage Project. Wetland, riparian, and waterfowl habitat proposed under the draft LMP would involve the construction of berms, targeted grading, and other activities which would locally affect drainage patterns. New ponds would enclose areas that under existing conditions would have runoff as sheet flow toward Mystic Lake or the nearest drainage swale. Riparian management activities, in some locations, could involve targeted grading to widen the channel and achieve more natural hydrologic processes.

However, such activities would not occur in a manner which would result in substantial erosion or flooding. Because these activities would occur in a flat area, they would not significantly affect overall the size or shape of the watershed, or significantly alter the overall direction of flow in the vicinity of the SJWA. The draft LMP emphasizes the consideration of natural hydrologic processes and prevention of adverse alterations to hydrology and floodplain dynamics. For example, the riparian restoration/mitigation activity planned along the manufactured flood control channel in D7 and D13 would require a hydrologic study to determine the extent to which the channels could be expanded and the plans would need to be approved by Riverside County Flood Control and Water Conservation District. Furthermore, the draft LMP provides that where necessary and beneficial, measures could include installation of appropriate bundled native plant material for stream bank stabilization, installation of geotextile fabric where unstable soil would limit plant reestablishment, installation of energy dissipating features where flow velocities are expected to be erosive, and installation of grade stabilizing structures/vegetation.

With regard to Mystic Lake, DWR has allowed CDFW use of the Mystic Lake properties for "wildlife habitat and wetlands conservation activities;" however, a Memorandum of Understanding between the two parties prohibits (without prior written consent from DWR) construction of any structure, material, or device, or planting any trees, shrubs, or other vegetation that could prevent, abate, or interfere with the flow of naturally occurring floodwaters from the San Jacinto River on or over the property. It also states that CDFW may construct protective berms around any residences on the property including mobile homes, barns, or wells. As discussed under Issue HYD-1, to the extent new facilities and structures would introduce impervious surfaces, MM-HYD-1f requires implementation of source control and treatment control BMPs which would detain/treat the runoff such impervious surfaces would produce. The draft LMP recognizes that creation of new ponds, berms, and grading within riparian zones will require assessment of monitoring data, completion of site-specific hydrologic studies, detailed engineering, coordination with regulatory agencies having jurisdiction over the resource, and in some cases, project-level CEQA review.

Considering the flat nature of the area and the goals of the draft LMP to improve natural hydrologic processes, planned activities would have a less-than-significant impact with respect to alteration of drainage patterns. However, as indicated under Issue HYD-1, installation of structures involving impervious surfaces could locally increase the rate or volume of stormwater runoff, resulting in a **potentially significant impact (Class II)**. This impact would be reduced to less than significant with implementation of MM-HYD-1f.

Waterfowl Hunting. Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. Agriculture. SJWA Events. These management designations would not involve substantial alteration of drainage patterns or construction of significant structures. Structures to be built for these management designations include blinds, kiosks, fencing and signage and would not have a large enough footprint to substantially affect the drainage patterns of the area. Disking or plowing activities would loosen soils but would not significantly alter drainage patterns. The impact would be **less than significant (Class III)**.

Potrero Unit

The analysis and mitigation measures provided above for the Davis Unit would be equally applicable to activities on the Potrero Unit. However, it should be noted that LMP activities on the Potrero Unit would be less extensive and intensive because it does not involve construction/expansion of wildlife ponds and fewer facilities and structures. With implementation of MM-HYD-1a and MM-HDY-1f, the impacts of the draft LMP activities within the Potrero Unit on the drainage patterns would be **less than significant (Class III)**.

MM-HYD-3 (Davis Unit only) Implement MM-HYD-1a and MM-HYD-1f.

Issue HYD-4 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The analysis and conclusions with respect to this issue is the same as Issue HYD-3. This is because it relates to the same impact-causing mechanism (i.e., changes in the rate/volume of surface runoff or general drainage patterns). Therefore, the impact of the draft LMP would be **potentially significant (Class II)**. Implementation of MM HYD-1a and MM-HYD-1f would reduce the impact to less than significant**.**

MM-HYD-4 (Davis Unit only) Implement MM-HYD-1a and MM-HYD1e<u>f</u>.

Issue HYD-5 Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The rate and volume of runoff would be the same or similar to existing conditions, and the draft LMP involves the creation of minimal new impervious surfaces. There is no municipal/engineered stormwater drainage system on the Davis Unit. Instead, flows are carried through drainage swales and riparian zones. As described under Issue HYD-1, where new facilities or infrastructure involve impervious surfaces, there could be a minor and highly localized increase in the rate and volume of stormwater runoff relative to existing conditions. Accordingly, these increases are not likely to be sufficient to appreciably alter the volume of water carried by existing swales and riparian zones. Since the exact location and coverage of impervious surfaces are not currently known and will be developed as part of LMP implementation, implementation of MM-HYD-1f for water quality purposes would be required to further ensure that substantial increases in the rate or volume of runoff, if any, are substantially reduced or avoided. Therefore, direct and indirect impacts on both the Davis and Potrero Units of the SJWA would be **potentially significant (Class II)** with respect to this issue, and reduced to a less-than-significant level through implementation of MM-HYD-1f.

MM-HYD-5 (Davis Unit only) Implement MM-HYD-1f.

Issue HYD-6 Would the project otherwise substantially degrade water quality?

Issue HYD-1 addresses the quality of stormwater runoff, this issue addresses non-stormwater discharges of recycled water to support the existing and planned uses on the SJWA.

Davis Unit

Direct and Indirect Impacts

Temporary/Construction Impacts

There are no temporary/construction-related impacts on water quality that have not already been addressed under Issue HYD-1 (i.e., impacts of the draft LMP on the quality of stormwater runoff).

Permanent/Operational Impacts

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Agriculture. Hunting Dog Training. Water Storage Project. As discussed in the setting, recycled water delivered by EMWD for use in CDFW's managed wetlands may have concentrations of salts, TDS, and

nitrates that are elevated when compared to high-quality raw water. To the extent such water reaches the groundwater table or regional surface waters, such as the San Jacinto River or Canyon Lake, it could result in temporary, indirect, adverse effects on water quality. Release of recycled water to surface water or groundwater could contribute to an existing water quality impairment under Section 303(d) of the CWA, as well as a momentary violation of Basin Plan objectives, if voluminous, unplanned, or uncontrolled. Any measurable increase in salts, TDS, or nitrates within receiving waters would require a substantial release of recycled water from the Davis Unit, and in most cases would result in water quality changes that would be both localized and temporary in nature.

As indicated in Section 5.7-2, the available data indicates the managed ponds on the Davis Unit are hydrologically isolated from both the underlying groundwater and surrounding surface waters. A soil characterization study for the SJWA was finalized and submitted to the Santa Ana RWQCB for their review and approval in May 2011 (EMWD 2011). The results of the study confirmed that the clay layer beneath the wetland and waterfowl hunting sites on the SJWA is present from several feet to 30 feet thick. The Santa Ana RWQCB agreed with the finding results that the clay layer exists and acts as a sufficient barrier to the underlying groundwater basin (EMWD 2011). As indicated in the setting, recycled water from EMWD has been supporting the beneficial uses of the wetland and waterfowl ponds within SJWA for decades. Regionally, EMWD delivers the same recycled water for the purpose of agricultural irrigation, and implements a Salt and Nutrient Management Program that ensures that for every excess pound of salt or nutrient added to the basin, a corresponding pound is removed by desalinization wells or mitigated by replenishment with higher quality water (EMWD 2016).

Under exceptional circumstances, such as a major flood, recycled water could be released to regional waterways, including the San Jacinto River and Canyon Lake. The California Department of Public Health and the Santa Ana RWQCB have reviewed the EMWD's provision of tertiary-treated recycled water to support wetland, riparian, and waterfowl habitat in the SJWA in regards to potential adverse effects on downstream receiving water quality, including Canyon Lake (CDPH 2007). The agencies concurred that the use of tertiary-treated recycled water would have negligible impacts on downstream water quality because the recycled water would normally be contained within the waterfowl ponds and wetlands within the draft LMP area. While flooding could potentially cause recycled water to leave the boundaries SJWA in a 25-year storm event, the recycled water would comprise approximately 0.18% of such a flow (CDPH 2007). The recycled water would be expected to pass through Canyon Lake in about 3.4 days in a 15-year event (CDPH 2007). Consequently, the potential for recycled water to be released to Canyon Lake is low, as is the risk to human health or the environment of using recycled water at SJWA.

Under normal circumstances, the use of recycled water in support of the draft LMP would result in a less-than-significant impact with respect to water quality standards. However, exceptional circumstances in which substantial quantities of recycled water is released from ponds on the Davis Unit, such as a major flood or earthquake-induced failure of a berm or levee, a significant impact could occur due to potential for degradation of receiving waters, namely Canyon Lake, which is owned and managed by Elsinore Valley Municipal Water District. Thus the impact of recycled water use is considered **potentially significant (Class II)**. Implementation of MM-HYD-6 would ensure the appropriate parties are notified in the event of a release of recycled water, so that corrective actions, such as increased water quality sampling, additional treatment of raw water supply, or other actions as needed, can be taken by EMWD, Elsinore Valley Municipal Water District, or CDFW. Implementation of MM-HYD-6 would ensure the impact of using recycled water for management activities under the draft LMP would be less than significant.

Alkali. Stephens' Kangaroo Rat. Upland Habitat. Upland Small and Larger Game Hunting. SJWA Events. The management designations would not require use of supplemental recycled water from EMWD. Therefore, **no impact** related to recycled water quality would occur.

Potrero Unit

The Potrero Unit would be operated under a natural hydrologic regime and would not require supplemental source of recycled water. Therefore, **no impact** related to recycled water quality would occur.

MM HYD-6 (Davis Unit only) California Department of Fish and Wildlife (CDFW) will notify the Santa Ana Regional Water Quality Control Board (RWQCB), Eastern Municipal Water District (EMWD), and the Elsinore Valley Water District in the event of an unplanned or emergency release of recycled water to the San Jacinto River. CDFW will provide the location, extent, and estimated volume of recycled water released, and shall assist the affected stakeholders with required actions as needed. Corrective actions, if required, could include increased water quality sampling, additional treatment of raw water supply, or other means as determined by the affected water agencies.

Issue HYD-7 Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

This criterion is not applicable to the draft LMP because it does not involve the construction of housing within a 100-year flood hazard area. The replacement of the two current employee mobile homes with three, approximately 1,300-square-foot manufactured residences (also likely to be mobile homes) on the Davis Unit would occur in an area that is outside the SFHA mapped

by FEMA (see Figure 5.7-3). There are no SFHAs on the Potrero Unit. Thus, the two new future residences recommended for the Potrero Unit (along with an office, workshop, and warehouse) would not be located in a 100-year flood hazard area mapped by FEMA. Therefore, **no impact** related to placing housing within a 100-year flood hazard area would occur.

Issue HYD-8 Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Davis Unit

Direct and Indirect Impacts

Temporary/Construction Impacts

Wetlands. Riparian. Waterfowl Habitat. Waterfowl Hunting. Facilities and Structures. The placement of structures within a 100-year flood hazard area is only a significant impact if it results in additional public exposure to flood hazards. This can occur if the activity is sufficient in scale to change the boundaries of the SFHA as mapped by FEMA, or if the activity places residents or other permanent public uses within a flood zone. The potential for a 100-year flood to damage habitats, facilities, and structures is outside the scope of CEQA review because it represents a significant impact of the environment on the project as opposed to a project impact on the environment.

Planned expansion of public recreation opportunities within the SFHA, including additional waterfowl ponds, additional blinds, the Mystic Lake trail and non-motorized boating activities could newly expose additional visitors to flood risks. The operators/employees of the SJWA monitor weather conditions and weather warning and advisories and would close public access to at risk areas when flooding conditions are predicted or imminent. Given the transient nature of visitation, the improbable nature of a 100-year flood, and common-sense closures, this impact would be less than significant. Therefore, this analysis relates to draft LMP activities that involve substantial excavation or fill within the flood zone, including new ponds, berms, or water management structures.

As discussed in Section 5.7.2, approximately 55% of the land area within the Davis unit is within a SFHA, with 45% of the Davis Unit being within the floodway. Figure 5.7-3 and Table 5.7-2 show the extent of mapped flood hazards within the Davis Unit. Due to the very flat nature of the San Jacinto Valley, the cross-sectional area of the floodplain within the Davis Unit is very wide (i.e., up to 94,067 square feet), and consequently flow velocities are low. As shown in Table 5.7-3, the average velocity of the 100-year flood would be under 1 foot/second. However, flow velocities could be much higher along existing flow paths. The flood depth in many places may exceed 15 feet, given the base flood elevation of 1,432 feet amsl. With Mystic Lake acting as a

hydrologic sink, and the wide flat nature of the SFHA, the nature of flooding in a 100-year storm is expected to be slow and gradual, with the exception of existing riparian zones.

Construction of berms for new ponds and water management infrastructure would involve localized changes in topography, but would not significantly alter the cross sectional area of the floodplain. Because CDFW or its contractor would aim to balance cuts and fills associated with construction of ponds, berms and levees on site, the overall carrying capacity of the SFHA is not expected to change. Furthermore, the floodplain mapping by FEMA assumed Mystic Lake to be full and thus does not account for its significant flood control function, which is increasing by approximately 200 acre-feet per year due to localized subsidence (see discussion in Section 5.7.2). So long as proposed berms and levees do not involve significant changes to the cross sectional area of the floodplain, and do not protrude above the base flood elevation, they are unlikely to involve appreciable changes in the extent of the SFHA (i.e., shift the existing floodplain to new areas). However, because the details of new ponds, water management structures, or levees are not known, this is considered a **potentially significant impact (Class II)**. Implementation of MM HYD-8 would ensure that construction of berms or levees would not increase public risks or newly impact off-site properties, and would reduce the potential impact to less than significant.

Upland Habitat. Upland Small and Larger Game Hunting Agriculture. Alkali. Hunting Dog Training. SJWA Events. Stephens' Kangaroo Rat. Water Storage Project. These management designations are either located outside the SFHAs identified by FEMA, or do not involve significant modification to topography. Thus, they would have a **less-than-significant impact (Class III)** with respect to impeding or redirecting flood flows.

Permanent/Operation Impacts

Flooding is an infrequent, temporary event; therefore, permanent/operational impacts are not applicable to this issue.

MM-HYD-8 (Davis Unit only) LMP tasks within a Special Flood Hazard Area (SFHA) that meet the following conditions will be subject to a detailed hydrologic study to evaluate potential changes in flood depths or extent:

- Proposed berms or levees that exceed the height of the 2% annual chance flood event (about 1,431 feet amsl).
- Proposed activities that change the cross sectional area of the SFHA by more than 1%.
- Riparian management/restoration project that involves more than 50 cubic yards of earth moving within or immediately adjacent to the ordinary high water mark of a stream, ditch or riparian zone.

The hydrologic study will evaluate whether such activities would increase the depth or extent of the floodplain in a 100-year storm in a manner that adversely affects new areas or places people or property at risk. The hydrologic study will recommend modifications to the planned layout or height, or other mitigation measures that are necessary to avoid either (1) greater than a 1-foot increase in the base flood elevation, or (2) appreciable changes in the extent/boundaries of the SFHA. In addition, for activities meeting the above criteria, CDFW will submit plans to be reviewed by Riverside County Flood Control and Water Conservation District. If determined to be necessary based on completion of studies and coordination with the flood control agency, CDFW will submit a letter of map revision to Federal Emergency Management Agency.

Issue HYD-9 Would the project expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Davis Unit

Direct and Indirect Impacts

Temporary/Construction

Similar to Issue HYD-8, levee or dam failure is only a significant impact if it results in additional public exposure to flood hazards. The nearest dam that could impact the SJWA is the Perris Lake Dam, which abuts Davis Subunit D14. Nothing in the draft LMP related to Subunit D14 would increase the probability, timing, severity or extent the flooding hazard due to dam failure because Subunit D14 would be managed as upland/riparian resources with no structures or public visitation/facilities. Should any activity or disturbance be proposed in the future for Subunit D14, CDFW would be required to coordinate with DWR, and obtain encroachment permits as applicable. The next closest dam is Hemet Lake Dam on the south fork of the San Jacinto River, approximately 25 miles southeast of the SJWA. Dam inundation maps for the Hemet Lake Dam indicate that the extent of inundation as a result of a dam failure would be similar although somewhat larger than the extent of the 100-year flood for the San Jacinto River in the vicinity of the SJWA (Riverside County 2015).

Dam inundation maps are used for worst-case scenario disaster planning and are highly conservative by design. They assume total, immediate collapse when full to capacity, when in reality dams rarely fail in that manner. The actual probability of failure of either the Perris Lake Dam the Hemet Lake Dam is extremely low. The California Division of Safety of Dam conducts annual inspections of dams for evidence of structural defects or safety concerns, and requires dam operators to remedy them to protect life and safety. For example, because of safety concerns on the Perris Lake Dam, DWR lowered water levels to decrease the load on the dam and would

not raise water levels again until the dam remediation project is complete. As indicated above, the actions proposed as part of the draft LMP do not make dam failure more likely, or otherwise substantially increase public exposure to such hazards.

For these reasons, the impact of the draft LMP with respect to public exposer to dam failure hazards is **less than significant (Class III)**.

Permanent/Operational Impacts

Dam failure is a one-time, temporary event, therefore permanent/operational impacts are not applicable to Issue HYD-9.

Issue HYD-10 Would the project result in inundation by seiche, tsunami, or mudflow?

The Davis or Potrero Units within the SJWA would not be subject to tsunami, but could be subject to seiche, depending on the level of Mystic Lake. However, the impact would be **less than significant (Class III)** for the reasons addressed under Issue 8.

5.7.7 Cumulative Impacts and Mitigation

The cumulative effects of past and current projects in the cumulative scenario have resulted in water quality problems in the region's major waterways, which are described in Section 5.7.2 and are reflected in the plans and policies contained in the Santa Ana RWQCB Basin Plan. Cumulatively considerable water quality issues are identified as "water quality limited" segments (or impaired water bodies) under CWA Section 303(d). As described in Section 5.7.2, impairments related to nutrients and pathogens are identified in Canyon Lake. Though CWA Section 303(d) does not apply to groundwater, the Basin Plan recognizes that the San Jacinto Groundwater Basin may not be meeting water quality objectives for TDS and nitrogen. In many ways, the analysis of each impact in Section 5.7.6 is also a cumulative analysis, because the thresholds of significance considers even minor, localized, and temporary contributions of pollutants potentially significant, due to the cumulative effects of multiple projects within the watershed. The analysis of groundwater (Issue HYD-2) considers the cumulative context of the whole basin and describes how EMWD is currently managing the quality and quantity of groundwater within the basin.

The projects in the cumulative scenario that may result in contributions to water quality issues include all development projects that either result in land disturbance, creation of impervious surfaces, or release or discharge of pollutants to regional waters. This includes industrial/warehouse projects, residential projects, infrastructure projects, open space/restoration projects and related land use plans further described in Chapter 3. The open space/restoration

projects described in Chapter 3 of this PEIR would also have beneficial effects to hydrology and water quality by restoring the natural hydrologic function of certain areas.

Certain infrastructure projects may have beneficial impacts with respect to regional water resources, water quality and flooding, including:

- **The San Jacinto Valley Enhanced Recharge and Recovery Program**, located 3.5 miles southeast of the Potrero Unit, would aid in supplementing current and future water supplies by recharging imported water and local supplies (such as stormwater) in the local groundwater basin. This project is undergoing environmental review and if approved, would enable EMWD to store water that could otherwise be lost via runoff (stormwater), or be unused during periods of low demand (imported water).
- **The Recycled Water Ponds Expansion and Optimization Project**, located 4 miles south of Subunit D14, involves expansion of the existing recycled water storage system at the North Trumble Road Recycled Water Storage Ponds Site. This approved project would improve EMWD's ability to manage its recycled water supplies (i.e., provide storage during the off-peak season) and meet its existing and anticipated future commitments.
- **The Perris Dam Remediation Project**, located on and adjacent to Subunit D14, is under construction, and when complete, will rectify a seismic safety risk identified by DWR and allow lake levels to return to their design elevation. In July 2005, the water in Lake Perris was drawn down by about 20 % (or about 24 feet) due to safety concerns with the dam. The project involves mixing cement with the existing deep soil to strengthen the earthen structure. Completion of this project will allow a greater volume of imported water to be stored in the Perris Reservoir, thereby increasing operational flexibility for the municipal water districts that rely on the State Water Project (i.e., imported water) as their main or supplemental source of water supply.
- **The Perris Dam Emergency Release Facility**, located on and adjacent to Subunit D14, would reduce risks to public safety and property, increase operational safety/reliability, and meet DWR emergency drawdown requirements by constructing improvements and modifications to the dam's emergency release structure and conveyance. The existing emergency release structure and conveyance is being designed to maintain an emergency release capacity of 3,800 cubic feet per second without causing inundation impacts to downstream urban areas. This involves the construction of "training" levees within the State Recreation Area portion of the Dam and Subunit D14 to direct emergency releases to North of Ramona Expressway to newly constructed trapezoidal channels with adequate detention capacity.

- **The San Jacinto River Levee, Stage 4 and River Corridor Expansion Project** involves construction of a new levee (approximately 5 miles in length), a floodwall, enhancements to an existing levee, and other improvements that would provide 100-year flood protection for approximately 2,000 acres of existing agriculture, dairy operations, roadways, and development. The western terminus of the levee project is located 0.5 mile upstream from the southeastern edge of the Davis Unit. The existing levees along the San Jacinto River only retain up to approximately 5- and 10-year storm events. With the levee project, agricultural areas currently subject to inundation would no longer contribute to pollutant loads in the San Jacinto River during flood events with a 100-year recurrence interval or less. The project would also convert approximately 374 acres of existing farmland to the 100-year floodplain corridor and eventually establish riverine/riparian habitat. The Environmental Impact Report for the project concluded that sediment exchange between San Jacinto River and Mystic Lake can be expected to continue without alteration following implementation of the project (Pace, 2011). Furthermore, the widening of the levee corridor was designed so that flows leaving the project area would mimic the existing 100-year width, depth, peak flow rate, and velocity. Therefore, the project would not have cumulative hydrological effects on Mystic Lake and the San Jacinto River within the draft LMP area.

~~None of the above~~ Only the DWR Perris Dam project~~s~~ physically overlap with the LMP area, and indirect effects with respect to flooding, water quality and water resources are generally negligible or beneficial. Within Subunit D14, which overlaps DWR's dam remediation projects (which includes the Perris Dam Emergency Release Facility), the LMP does not contemplate any facilities or structures. However, as stated under Issues HYD-3 and HYD-9, should any activity or disturbance be proposed in the future for Subunit D14, CDFW would coordinate with DWR to ensure they do not conflict with the safe operation of Perris Reservoir, dam, and outlet works, including emergency release structures. CDFW would obtain encroachment permits from DWR where applicable.

It should also be noted that the San Jacinto River Watershed Council conducted a feasibility study that evaluated alternatives to convey San Jacinto River flows from the downstream end of the San Jacinto River Levee Stage 4 project to Mystic Lake (SJRWC 2007). The study, referred to as the "Gap Project", looked at the effectiveness and viability of better managing the flood flows in the project reach of the San Jacinto River through improvement of the river reach from Sanderson Avenue to the 2005 breach and construction of a new channel from the 2005 breach to Mystic Lake. None of the alternatives evaluated appears to have been carried forward for detailed design/engineering or environmental review, so it would be speculative to presume the project will be built in the near future. However, if eventually pursued, some alternatives would overlap with the Davis Unit, most likely on the border between Subunits D5 and D11. The preferred alternative identified in the feasibility

study had the channelized portion ending at the eastern edge of the Davis Unit, at Bridge Street (SJRWC 2007).

The NPDES permits relevant to the draft LMP are aimed at maintaining the beneficial uses of the water bodies in the Santa Ana RWQCB Basin Plan and meeting water quality objectives associated with specific pollutants of concern. Because adverse water quality and major hydrologic alterations are linked to the large-scale, cumulative effects of development projects and to commercial or agricultural land uses, the provisions within the NPDES permits, seek to address cumulative conditions. The draft LMP, along with all other projects over 1 acre in size, would be required to obtain coverage under the NPDES Construction General Permit, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. For cumulative projects under the jurisdiction of the surrounding County and municipalities, stormwater control ordinances and grading permit approval processes also require smaller projects (less than 1 acre) to implement a standard/minimum set of water quality BMPs. Furthermore, all development and redevelopment projects that create or replace impervious surfaces must comply with the regional MS4 Permit, and ensure that they meet applicable water quality standards and performance criteria through source control measures, low-impact development BMPs, and other means.

Therefore, without compliance with existing regulations, and where required, implementation of mitigation measures, regional impacts on water quality from all projects in the cumulative scenario are potentially significant. With the project's compliance with the Construction General Permit and implementation of mitigation measures MM-HYD-1a through MM-HYD-1f, the draft LMP's contributions to cumulatively significant water quality impacts are reduced to below a level of significance.

5.7.8 Level of Significance After Mitigation

With respect to water quality, compliance with the Construction General Permit and implementation of MM-HYD-1a through MM-HYD-1f, MM-HYD-6, and MM-HYD-8 would reduce all potential impacts to less-than-significant levels. These measures would significantly reduce the potential for sedimentation or contributions of pollutants (e.g., herbicides, TDS, nutrients and pathogens), but would not totally eliminate them, which means the level of significance after mitigation is less than significant.

5.7.9 References

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5.8 RECREATION

5.8.1 Introduction

This section addresses potential recreation impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.8.2 provides a description of the existing conditions for recreation in the SJWA study area, and Section 5.8.3 describes the regulatory setting. Section 5.8.4 describes the methodology used for the evaluation of recreation. Section 5.8.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts of implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.8.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.8.7. The level of significance after mitigation is provided in Section 5.8.8, and Section 5.8.9 lists the references cited in this section.

Comments received in response to the Notice of Preparation (NOP) related to recreation included a desire that the California Department of Fish and Wildlife (CDFW) ensure the SJWA LMP note that the priority of the SJWA is as a reserve with recreation as secondary priority. Other concerns include a request that the Program Environmental Impact Report (PEIR) address impacts associated with non-permitted recreational activities, compatibility of recreational uses with the protection of plant and wildlife habitat, and how recreational uses would be managed to ensure there are no impacts to sensitive plant species. Section 5.3, Biological Resources, addresses the issue of compatibility of recreational activities with the protection of plant and wildlife habitat. Other issues are addressed in Section 5.8.6, Impact Analysis, and Section 5.8.7 (Cumulative). A copy of the NOP and letters received in response to the NOP are included in Appendix A.

Information reviewed to prepare this section was from various documents provided by CDFW, information from Riverside County, and the Anza Trail Foundation. Section 5.8.9 lists the references cited in this section.

5.8.2 Existing Conditions

The SJWA is one of the largest public land holdings that CDFW owns, staffs and operates in the Inland Desert Region (IDR) in Southern California and is a highly visited recreation area. The main gate to the SJWA is open 7 days a week from 7 a.m. to sunset and the Headquarters Office (located at 17050 Davis Road) is open Monday through Friday from 7 a.m. to 3 p.m. with few exceptions. (CDFW 2016a). A CDFW Land Pass will be required once the draft LMP is approved by the Department and the SJWA for non-hunting/non-fishing recreational purposes, such as birding and hiking, but a Land Pass is not required for any person possessing a valid California sport fishing, hunting, or trapping license (CDFW 2016b).

The SJWA is classified by the CDFW as a Type A Wildlife Area. According to the California Code of Regulations, Title 14. Type A Wildlife Areas represent the largest recreational use on Department Lands which include having restricted hunter access during waterfowl season, and require a hunting pass to be purchased in advance and exchanged for an entry permit at the wildlife area (CDFW 2016c). Furthermore, Type A Wildlife Areas are staffed, experience high public use, and are often defined by the presence of wetland habitats (California Outdoors 2016).

As described in more detail below, recreational opportunities available at the SJWA include waterfowl and upland small game hunting on the Davis Unit (no recreation or hunting currently occurs on the Potrero Unit), hunting dog training, birding, passive trail use (i.e., hiking, walking, running, birding) and active trail use (i.e., non-motorized vehicles cycling, equestrian riding). Active Trail use is appropriate on the designated roads and pathways. The use of off-highway vehicles (OHVs), all-terrain vehicles (ATVs), and motorcycles are prohibited in the SJWA and visitors are prohibited from driving or operating any motor vehicle or trailers in the SJWA except on designated roads (CDFW 2016c).

Hunting

Waterfowl

Waterfowl hunting (mainly duck and geese) only occurs on the Davis Unit. Hunting opportunities are facilitated through the use of natural cover, hog wire, and pit blinds located in permanent, semi-permanent and seasonally flooded wetlands/ponds separated by levees. The CDFW conducts random lottery draws known as "reservations" to provide hunting opportunities at the SJWA. Reservations and passes for hunting waterfowl on State-operated areas are available for many State-operated wildlife areas and are issued by random drawings. ~~You~~ One can apply for waterfowl reservation drawings through the Online License Service, at any CDFW License Agent or CDFW License Sales Office. The fee was~~is~~ $1.34 per hunt choice, (2016/2017 season) but can increase from year to year. ~~.~~ The deadline to apply is currently 17 days prior before each hunt dates selected. Those selected are notified via mail or can check the Departments web site. Those who are not selected still have an opportunity to participate by coming to the Check Station on a hunt day to fill the remaining blind sites after the reservation card holders have been processed. Additionally, there is ~~also~~ a refill list available for those hunters that wish to stay and refill blind sites after other hunters have completed their opportunity. There are traditionally approximately 50~~-54-60~~ blinds within the Davis Unit waterfowl hunting areas. There are potentially more opportunities for more blinds when natural flooding occurs. The current waterfowl hunting areas are shown on Figure 2-9 in Chapter 2, Project Description. There are five areas that are used for waterfowl hunting totaling 1,129 acres (or approximately 11% of the Davis Unit's approximately 10,996 acres); each of these areas is further divided into ponds with either a letter, number, or alphanumeric designation that identifies blind sites for waterfowl hunters (see Figure 4-4, Waterfowl Ponds – Davis Unit).

Hunters visiting the SJWA must hunt from their designated blind site unless otherwise permitted by CDFW staff onsite or they will be removed from the facility (CDFW 2015). Hunters are also subject to bag limits for duck and geese and all waterfowl taken must be checked in at the SJWA Check Station for CDFW personal to verify the bag limit has not been exceeded and to collect data on species harvested (CDFW 2015).

Waterfowl hunting traditionally starts on the third Saturday in October and extends to the last Sunday in January. The dates are set by USFWS, CDFW and the California Fish and Game Commission (Commission) During the open season, hunting is permitted only on Wednesdays and Saturdays. Each hunting day approximately 50 reservations are drawn by a CDFW headquarters program and available slots can hold up to four hunters each. Therefore, there are approximately 200 hunters that visit the SJWA each open day of hunting. During the season the SJWA is open to hunting for approximately 30 total days and is visited by approximately 6,000 hunters on an annual basis. According to one source, the SJWA was visited by approximately 4,300 hunters during the 2015/2016 hunting season (So Cal Hunt 2016). Youth hunting is allowed one additional Saturday following the close of the season. Youth hunters are 17 years old or younger and accompanied by a non-hunting adult 18 years of age or older. Hunting starts approximately 30 minutes before sunrise and concludes at sunset and only shotguns are allowed as legal method of take.

SJWA check station does not sell any license items, permits or passes. Hunters must purchase any needed passes and validations from a CDFW license sales office, a license agent or online. Before going to SJWA to hunt waterfowl, verify that the members of your hunting party have the following required items: California Hunting License, prepaid Wildlife Area Pass (not required for junior hunters), (Type A One-Day, Two Day or Season Pass for Type A Areas), Harvest Information Program (HIP) Validation, California Duck Validation (not required for junior hunters) and a Federal Duck Stamp (required for all hunters age 16 or older).

Davis Subunit D4 includes 669 acres of existing waterfowl ponds within the three areas; northern, central, and southern. A map of management subunits is provided as Figure 2-5 in Chapter 2, Project Description. The northern area of Subunit D4 includes reservoirs for storage and controlled release of reclaimed waters as well as hunting areas in a mosaic of open water, marsh, and riparian habitats. This northern area also includes three parking lots (see Figure 2-15A, Facilities & Structures – Davis Unit in Chapter 2) and handicap-accessible blinds, a viewing platform, and a bathroom.

An additional 459 acres of waterfowl hunting is provided on the private lands in Subunit D9 and extending into Subunits D10 and D13 where conservation easements are in place. These ponds are owned and operated by the private hunting clubs, but managed in accordance with the conservation easement.

Upland Game

Similar to waterfowl hunting, upland game hunting currently only occurs on the Davis Unit in designated areas, according to current Title 14 regulations. There is no existing upland game hunting on the Potrero Unit. Up to 7,240 acres of the Potrero Unit are recommended as proposed areas and future potential areas where upland game hunting could occur. Per the regulations, hunting in the Potrero Unit would be allowed daily only for upland game birds and small game in designated areas ~~unless otherwise restricted by CDFW~~. Where there are known nesting bird occurrences, CDFW ~~is restricting~~ would restrict hunting within the Potrero Unit to occur outside of the approximate nesting bird timeframe of February 15 through September 1. If ~~CDFW~~the Fish and Game Commission decides to extend the hunting season for any reason they would be required to conduct nesting bird surveys in those areas open to hunting. Should ~~CDFW~~the Fish and Game Commission extend the hunting season into the beginning of nesting season, nesting bird surveys would be conducted to ensure that early nesting birds are not occupying these areas. Should ~~CDFW~~the Fish and Game Commission start hunting season early, nesting bird surveys would be conducted to ensure that all active nests had already fledged.

At this time, Subunits P5 and P6 (1,136 acres) are proposed in the near term to be opened to upland game hunting (Figure 2-12B in Chapter 2). There is a potential for other acres to be opened to upland and small game hunting in the long-term. As shown in Table 5.8-1, upland small game hunting areas comprise 6,478 acres of the approximately 10,996-acre Davis Unit (see Figure 2-12A in Chapter 2, Project Description).

Table 5.8-1
Upland Small Game Hunting Areas – Management Subunits

Unit	Subunit	Acreage
Davis	D1	816
	D2	715
	D3	279
	D4	4
	D5	772
	D6	609
	D7	845
	D10	71
	D11	433
	D12	489
	D13	839
	D15	605
	Total	**6,478**

Hunting occurs year round for some species and is seasonally restricted for others. In general, upland game hunting occurs daily during the season and pheasant hunting is only allowed on Mondays during the pheasant hunting season which traditionally begins on the second Saturday in November and extends for six consecutive Mondays (reservations are required for pheasant hunting) (CDFW 2016d) when pheasant hunting is allowed. As with waterfowl hunting, only shotguns are allowed for upland game hunting and non-lead shot is required when taking upland game birds with a shotgun at SJWA. The non-lead ammunition regulation phases-in the requirement to use certified non-lead ammunition depending on where and what you are hunting. The first phase began July 1, 2015, and requires use of non-lead ammunition when hunting on all CDFW properties and for all 2015 bighorn sheep hunts. Effective July 1, 2016, hunters using shotguns will be required to use certified non-lead ammunition to take upland game species (except for dove, quail, snipe, and any species taken on licensed game bird clubs), fur-bearing and nongame species, and any species taken under the authority of a depredation permit. Shotgun ammunition containing pellets composed of materials approved as nontoxic by the U.S. Fish and Wildlife Service, as identified in Title 14 Section 507.1, is considered certified. Effective July 1, 2019, the use of certified non-lead ammunition will be required statewide when taking any wildlife. The new regulation does not modify the existing requirements to use certified non-lead ammunition when taking big game and non-game within the California condor range. Upland game hunting commences 30 minutes before sunrise and ends at sunset. Upland game species hunted on the Davis Unit include the following (seasonal hunting restrictions are detailed in the parenthesis):

- ~~Black-tailed jackrabbit (*Lepus californicus*) and rock pigeon (*Columba livia*) – no restrictions, hunted year round~~
- Cottontail rabbit (*Sylvilagus floridanus*) – July 1 to the last Sunday in January
- Dove, both Mourning Dove (*Zenaida macroura*) and ~~White Wing~~White-winged Dove (*Zenaida asiatica*) – September 1 to September 15 and then reopens for the second season on the second Saturday in November and the following 45 days
- California ~~Q~~quail, (*Callipepla californica*), also known as the California valley quail or valley quail – traditionally from the third ~~second~~ week in October to the last Sunday in January
- Eurasian Collared Dove (*Streptopelia decaocto*) – open all year
- Snipe (*Scolopacidae*) – Traditionally opens the third~~second~~ Saturday in October and extends to the last Sunday in January
- American ~~C~~crow (*Corvus brachyrhynchos*) – first Saturday in December to the second Sunday in April
- Ring-necked ~~p~~Pheasant (*Phasianus colchicus*), (general/statewide) – CDFW currently limits the pheasant season and number of pheasant hunters (1,200 annually) on the SJWA

due to low populations. Pheasant hunting is only allowed on Mondays during the pheasant hunting season which traditionally begins on the second Saturday in November running for six consecutive Mondays (reservations are required for pheasant hunting) (CDFW 2016c). SJWA has suspended the public pheasant hunting on Mondays since the 2008 season due to lack of substantial pheasant population numbers and hopes to reopen public pheasant opportunities on Mondays once the pheasant population recovers to an acceptable size. It is also envisioned that SJWA will potentially revitalize the population with a introduction of relocated pheasants from another area as it was done previously.

Upland game hunting opportunities are facilitated by a network of water guzzlers installed to sustain wildlife during the summer and fall months. Each year approximately 3,000 hunters hunt Upland game on the Davis Unit each year with about 100 hunters on each day

Trail-Based Recreation

The existing SJWA trail and road network on the Davis Unit is illustrated on Figure 2-15A in Chapter 2, Project Description. As shown on the figure, the majority of existing trails are unimproved; however, unimproved and paved trails, and the auto loop tour road, are suitable for passive trail use such as walking, hiking, running. Active trail use, such as biking, and equestrian riding, is allowed on designated trails and roads only. All internal roadways and unimproved trails on the Davis Unit can be used unless otherwise posted for nonuse for hiking, horseback riding, and non-motorized bicycling, and other recreational pursuits including photography, birding and wildlife viewing, however, there are seasonal use restrictions. On the SJWA and in general, all CDFW land, wildlife viewing, hiking, and photography are allowed except where the property or portion of the property is specifically closed (CDFW 2016c). Similarly, the recreational use of horses is allowed on CDFW lands designated as wildlife areas (including the SJWA) except where the area has been specifically closed or is listed in subsection 551 (l) of CDFW's Waterfowl and Upland Game Hunting & Department Lands Public Regulations (CDFW 2016). While the SJWA is not listed in subsection 551 (l), Subunit D3 on the Davis Unit functions as a large "closed zone" when not open for hunting (see Chapter 4, Environmental~~ly~~ Setting). However, the "closed zone" designation is applicable only to hunting, meaning ~~and~~ passive recreation~~, and~~ is permitted on Subunit D3 outside of the hunting seasons. No other closed zones are located on the ~~Davis or~~ Potrero Units. During waterfowl season, bicycles are only permitted in the wetland hunting areas, on roads or levees for transportation between parking lots and hunting areas for the purpose of transporting hunting gear from the assigned parking lot to the participants hunt site. On the Potrero Unit, bicycles will only be allowed on designated roads and trails (CDFW 2016d). According to SJWA staff observations, equestrian riders comprise the majority of trail-based recreationists on the Davis Unit and mountain biking use is relatively limited. With increased development in the surrounding areas the wildlife area biking and hiking may increase substantially and additional rules may be applied to the

area. Currently, the SJWA is patrolled by the CDFW Law Enforcement Division and SJWA staff conduct routine patrols to maintain fences, signage, etc.

While information regarding daily or monthly passive trail use is not collected by CDFW, the Davis Unit is well known to environmental groups and birding enthusiasts including members of the San Bernardino Valley Audubon Society, the Sierra Club, and the Friends of the Northern San Jacinto Valley. Friends of the Northern San Jacinto Valley typically conducts bird or other wildlife viewing focused walks each month at the SJWA (Friends of the Northern San Jacinto Valley 2016a, 2016b). All scheduled group events are required to coordinate with the Wildlife Area Manager. During the four-month waterfowl hunting season (generally late October to late January), the SJWA is closed to hunting on Sundays to provide trail-based recreationists a weekend day of availability. As stated previously, entry permits and fees will be required on the SJWA for wildlife viewing and other non-hunting/non-fishing recreational purposes once the land management plan is adopted.

Within the Potrero Unit there are over 20 miles of existing unimproved and asphalt trails; however, maintenance of these trails is limited to ensuring continued access to the site and not toward facilitating recreation. However, due to the presence of trails and current restrictions barring public access in the Potrero Unit, existing trails in the Potrero Unit are assumed to receive use by trail-based recreationists. Figure 2-15B in Chapter 2, Project Description, shows existing trails within the Potrero Unit. Bicycles will be prohibited except on designated trails (CDFW 2016c). All visitors to the SJWA are responsible for knowing and following CDFW Public Lands Regulations including regulations related to bicycle use (CDFW 2016a).

Hunting Dog Training, Hunt Tests and Field Trials

Hunting dog training and the use of hunt tests and field trial hunting dogs currently occurs in Subunit D13 on the Davis Unit (Figure 2-14, Chapter 2, Project Description) and includes both upland and wetland training (267 acres). American Kennel Club, NAVDA and other various approved groups sponsor hunting dog tests, field trial and other hunting dog training activities. Currently this takes place in Subunit D13 and one to three hunting dog events are currently held each month during a 9-month season. Hunt tests, ~~Field~~ field trials, and dog training are not allowed from March 1 through June 1~~st~~ to avoid impacts to ground-nesting birds. Up to three events are eligible to be held each month during the 9-month season. The events consist of the release, shooting, and retrieval of game species including ~~chucker~~ Chukar (*Alectoris chukar*), ~~bobwhite~~ Northern Bobwhite ~~quail~~ (*Colinus virginianus)*, pigeons, and other approved species by SJWA.

According to the *2016-2017 Waterfowl, Upland Game Hunting and Public Use of Department Lands Regulations* (CDFW 2016), hunting dog training on the Davis Unit does not require written authorization from the area manager, but ~~Hunting~~ hunting dog ~~Hunt~~ hunt tests, field trials, and utility tests do require written authorization from the Area Manager ~~due in part that~~because the organization

hosting the event must supply the area manager with proof of insurance, portable toilets, and be on the calendar so they do not conflict with another organization's event date.

5.8.3 Applicable Regulations, Plans, and Policies

State

An overview of the various state and local agreements and easements applicable to lands within the SJWA is provided in Section 2.3.2, Agreements and Easements, of the draft LMP.

California Code of Regulations

Title 14 of the California Code of Regulation (CCR) establishes the California Fish and Game Commission (Commission) and provides the Commission the authority to adopt regulations pertaining to the take of fish and game. In addition, Title 14 of the CCR contains the regulations adopted by the Commission including daily bag and possession limits (developed on a seasonal basis) for waterfowl, upland game bird, and small game mammal hunting, and licensing or other validation requirements for hunting. The regulations are discussed below in greater detail and in Section 5.8.2. In April 2015, the Commission adopted CDFW's proposed regulations (drafted in response to Assembly Bill 711 that required the use of non-lead ammunition when taking any wildlife with a firearm in California) which will implement the non-lead requirement in the following three phases:

- **Phase 1:** Effective July 1, 2015, non-lead ammunition is required when taking Nelson bighorn sheep and all wildlife on CDFW wildlife areas and ecological reserves;
- **Phase 2:** Effective July 2016, non-lead shot will be required when taking upland game birds with a shotgun, except for dove, quail, snipe, and any game birds taken on licensed game bird clubs. In addition, non-lead shot will be required when using a shotgun to take resident small game mammals, furbearing mammals, nongame mammals, nongame birds, and any wildlife for depredation purposes.
- **Phase 3:** Effective July 1, 2019, non-lead ammunition will be required when taking any wildlife with a firearm anywhere in California (CDFW 2017).

2016-2017 Waterfowl, Upland Game Hunting and Public Use of Department Lands Regulations

The 2016-2017 regulations cover waterfowl hunting, upland game bird, small game mammal, and crow hunting, and other public uses on state and federal lands. Furthermore, the regulations establish applicable hunting seasons and limits, identify reservation systems, entry permits, fees, passes and special use permits for certain state lands. Section 551, Title 14 also contains

regulations specific to individual wildlife areas including the SJWA. Please refer to Section 5.8.2 for hunting and other public use recreation specific to the SJWA.

Local

Chapter 1, section 1.4.1 of this Program EIR describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan

According to the County of Riverside General Plan Multipurpose Open Space Element, open space and recreation areas offer residents and visitors recreational opportunities and provide a valuable buffer between urbanized areas (County of Riverside 2015). The following General Plan policy pertains to parks and recreation :

- **Policy OS 20.4**: Provide for the needs of all people in the system of the County recreation sites and facilities, regardless of their socioeconomic status, ethnicity, physical capabilities or age.

City of Moreno Valley General Plan

A large portion of the Moreno Valley study area (including portions of the SJWA) is comprised of open space managed for the preservation of natural resources. Per the Parks, Recreation, and Open Space Element of the City of Moreno Valley General Plan, the SJWA consists of "gently sloping grasslands, sage scrub, and man-made wetlands" (City of Moreno Valley 2006). Furthermore, according to the General Plan, popular activities in the SJWA include birding and hunting. While the General Plan does not include City-specific policies pertaining to recreation facilities/uses, the State of California (and the City of Moreno Valley) recognizes a minimum level of service parkland standard of 3 acres per 1,000 residents.

City of Beaumont General Plan

In addition to Resource Management Element Policy 17, which states that the City of Beaumont will maintain existing park and recreation facilities in good condition, the City maintains a park dedication and improvement requirement of 5 acres of parkland for every 1,000 persons (City of Beaumont 2006).

5.8.4 Methodology

The potential for impacts to recreational facilities/resources to occur was determined by whether implementation of activities proposed under the draft LMP would result in physical deterioration of existing recreational resources due to increased usage, or whether improvements to existing recreational facilities/resources or the construction of proposed recreational facilities/resources within the Davis and Potrero Units would have an adverse physical effect on the environment. Where available, CDFW data regarding usage of existing recreation facilities/resources within the SJWA are referenced and serve as the baseline for the analysis of potential effects.

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the draft ~~SWJALMP~~SJWA LMP. The draft SJWA LMP consists of the continued management of existing habitats, species, and programs, and the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity that is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and would not be modified would not be evaluated in this PEIR (but are part of the existing baseline conditions). The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Section 1600 or 2080, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.8.5 Standards of Significance

The State of California has developed guidelines to address the significance of recreation impacts based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Recreation impacts would be considered significant if a project would:

1. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
2. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.8.6 Impact Analysis and Mitigation

Issue REC-1 Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Due to proposed improvement and expansion of existing recreational opportunities within the SJWA, implementation of the draft LMP is anticipated to increase visitation to the SJWA. Within the Davis Unit approximately 104 acres of ponds and fields would be created for additional waterfowl hunting, but no additional lands are proposed to be added to the upland small game hunting areas on the Davis Unit. No lands for waterfowl hunting would be created within the Potrero Unit, but up to 7,240 acres of the Potrero Unit are recommended as proposed areas and future potential areas where upland small game hunting could occur**.** More specifically, implementation of the draft LMP would result in an increase in public recreation within the following recreation user group types:

- 500 additional hunters per year/season;
- 500 additional bird/wildlife viewers per year;
- 100 additional school students per year;
- 250 additional dog trainers/field trailers per year/season; and
- 100 additional equestrian users per year.

Anticipated increased visitation to the SJWA for hunting, wildlife viewing, hunting dog training, and trail-based recreation is attributed solely to expanded recreational opportunities that, along with ongoing maintenance of improved or expanded recreational facilities and

amenities, are an overarching goal of the draft LMP. Recreational facilities and amenities on the Davis and Potrero Units would be maintained through an ongoing inspection and support/service process carried out by CDFW and local hunting clubs. Existing operations and maintenance tasks are listed in Table 2-6 (in Chapter 2, Project Description) and include maintenance of bluebird and wood duck boxes, volunteer work days, general structural maintenance of levees, ponds, and marshes (i.e., waterfowl hunting areas), and mowing of pheasant strips. Therefore, with the implementation of improvements, the installation of new recreational opportunities, and continuation of ongoing maintenance processes, the anticipated increased visitation to the SJWA attributed to implementation of the draft LMP would be adequately accommodated by the SJWA. Substantial physical deterioration of existing or expanded recreational facilities would not occur, thus, impacts would be **less than significant (Class III)**.

Issue REC-2 Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Management activities proposed in the draft LMP including the construction of new or expanded recreational facilities, including new hunting areas, and ongoing maintenance of improved or expanded recreational facilities and amenities would result in adverse physical effects on the environment including effects to surface biological resources and water quality.

New trails are proposed within the SJWA in both the Davis Unit and Potrero Unit. Within the Davis Unit, approximately 5 miles of trails are proposed around and near Mystic Lake (see Figure 2-15A) that is for passive use only. The new trails would an include an approximate 0.9-mile long paved trail from a proposed parking lot/trailhead located adjacent to Gilman Springs Road to Mystic Lake a new approximately 4.1-mile unimproved trail east of Mystic Lake (see Figure 2-15A). Within the Potrero Unit, a new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4 (see Figure 2-15A). The construction/installation of new linear trail facilities in the SJWA could result in permanent impacts (i.e., removal) of sensitive vegetation communities and special-status plant species; however, prior to constructing trails, their location and other criteria (e.g., dimensions) would be coordinated with CDFW staff and the United State Fish and Wildlife Service (USFWS) to ensure avoidance of sensitive resources. The Western Riverside County Regional Conservation Authority (RCA) would be consulted on the location of sensitive resources, if necessary. Further, mitigation measure MM-BIO-1e (see Section 5.3, Biological Resources) would be implemented prior to and during construction to reduce potential significant impacts to special-status plant species and sensitive vegetation communities to less-than-significant levels. Compliance with mitigation measure MM-BIO-1e would avoid and minimize potential significant effects to biological resources by siting impacts associated with trail construction/installation in disturbed

areas, such as existing roads and trails, and minimizing vegetation removal and ground disturbance (if feasible).

As stated in Section 5.3, Biological Resources, absent appropriate mitigation measures, implementation of the draft LMP could result in potentially significant impacts to special-status plants and wildlife species, sensitive vegetation communities, potential jurisdictional areas, and wildlife movement. However, mitigation measures would be implemented and all impacts to biological resources would be reduced to a less-than-significant level. For example, temporary and permanent impacts to special-status plants and wildlife species, and habitat for plants and wildlife, would be reduced to less-than-significant through implementation of mitigation measures identified in Section 5.3, Biological Resources (see Sections 5.3.6.2.12.1.1 and 5.3.6.2.12.1.5, respectively). To minimize potential biological resource impacts to potential jurisdictional areas, resulting primarily from the construction of new structures and the expansion of hunting dog training and field trials into Subunits D7 and D11, to a less-than-significant level, mitigation measures including MM-BIO-1d (i.e., pre-activity surveys including a jurisdictional delineation, and avoidance and minimization measures) would be implemented (see Section 5.3, Biological Resources for more information pertaining to impacts to biological resources). Lastly, implementation of the draft LMP could result in temporary direct impacts associated with the movement of wildlife species. Mitigation measures MM-BIO-1a, MM-BIO-1c, and MM-BIO-1g would be implemented and would reduce adverse direct or indirect impacts to wildlife movement during construction to a less-than-significant level. Please refer to Section 5.3, Biological Resources, for detailed analysis of the management activities proposed by the draft LMP and potential impacts to biological resources.

The construction of new structures on the SJWA and generation of fugitive dust could result in potential temporary impacts to air quality resulting in a **potentially significant impact (Class II)**. However, mitigation measure MM-AIR-1b (Fugitive Dust Control; see Section 5.1, Air Quality) would be implemented and construction activities would adhere to South Coast Air Quality Management District Rule 403, which includes a variety of measures intended to reduce fugitive dust emissions.

As discussed in Section 5.7, Hydrology and Water Quality, management activities that would require grading, trenching, or excavation (e.g., the construction of waterfowl hunting areas and the water storage project would require these activities) could temporarily impact sensitive resources and nearby receiving waters through sedimentation and the introduction of hazardous materials. Implementation of stormwater quality best management practices (MM-HYD-1a) would be required to reduce impacts to a less-than-significant level. Nearby receiving waters may be affected by stormwater runoff carrying herbicides used on recreational areas, debris and sediment from prescribed burns occurring on recreational areas, dog feces (which is capable of carrying a variety of pathogens and nutrients) from dog training areas on the Davis Unit, and

changes in runoff patterns associated with the construction of facilities and structures and the water storage project. In addition to pesticide requirements (MM-HYD-1b) and prescribed fire BMPs (MM-HYD-1c), mitigation measures MM-HYD-1d (Conditional Waiver of Waste Discharge Requirements for Agricultural Discharges) and MM-HYD-1f (Proper Management of Dog Waste) would be implemented and would reduce impacts to a less-than-significant level. Several management activities requiring ground-disturbing construction processes could potentially result in adverse effects to existing drainage patterns and increased on- or off-site erosion or siltation and increased on- or off-site flooding. Therefore, mitigation measures MM-HYD-1a and MM-HYD-1f would be implemented and would reduce impacts to a less-than-significant level. Lastly, mitigation measures MM-HYD-6 (Notification of an unplanned or emergency release of recycled water to the San Jacinto River) and MM-HYD-8 (Construction of berms/levees) would be implemented to address anticipated water quality impacts to receiving waters and impacts associated with expansion of public recreation opportunities within flood hazard areas on the Davis Unit to a less-than-significant level. Please refer to Section 5.7, Hydrology and Water Quality, for detailed analysis of the management activities proposed by the draft LMP and potential impacts.

As detailed above, management activities proposed in the draft LMP including the construction of new or expanded recreational facilities and ongoing maintenance of improved or expanded recreational facilities and amenities within both the Davis and Potrero Units would result in adverse physical effects on the environment. To address potentially significant affects, mitigation measures have been developed and would be implemented to reduce potential adverse effects to the environment to a less-than-significant level.

MM-REC-2 Implement MM-BIO-1e, MM-BIO-1d, MM-BIO-1a, MM-BIO-1c, MM-BIO-1g, MM-AIR-1b, MM-HYD-1a through MM-HYD-1f, MM-HYD-6, MM-HYD-8.

5.8.7 Cumulative Impacts and Mitigation

The cumulative impact analysis for the SJWA LMP and recreation relies on future buildout of Riverside County including the cities of Moreno Valley, Beaumont, Perris , ~~and~~ San Jacinto, and the unincorporated areas of Riverside County including Nuevo and Lakeview.~~.~~

The provision of parks and open space necessary to accommodate population and projected growth within a given jurisdiction is addressed by cities and counties through several processes. These processes include the adoption of General Plan policies and Park Master Plans and payment of impact fees. General Plans adopted by cities and counties typically include policies establishing park and open space acreage goals per a specific ratio (generally 1,000 residents) of the population. General Plans also identify existing parks and open space areas and designate areas for future recreational use. Some jurisdictions elect to adopt a Park Master Plan (or similar)

that analyzes current and future needs of residents for park and recreational facilities. In these types of plans, and the future recreation needs of a community are typically assessed according to current population and growth projections consistent with General Plan Land Use designations. In the area surrounding the SJWA, the City of San Jacinto has an adopted Parks Master Plan, the and the City of Moreno Valley has an adopted Parks, Recreation, and Open Space Comprehensive Master Plan. In addition, within the State of California, the Quimby Act (State of California Planning Law Section 66477) allows the legislative body of a city or county to require by ordinance the dedication of land, the payment of in-lieu fees, or a combination of both for parks and recreational purposes as a condition of approval for a project. For example, the City of Beaumont has parkland requirements that are implemented in conjunction with new residential development built in the city. The provision of park and recreational facilities for local populations at the ratios prescribed in General Plans, Park Master Plans (or similar), and funding structures consistent with the Quimby Act are precisely in place to mitigate for potential cumulative impacts to park and recreational facilities as communities grow and new residential units are constructed.

All new residential construction within the cumulative study area described in Chapter 3 including development in the County of Riverside and cities of Moreno Valley, Beaumont, Perris and San Jacinto would be subject to General Plan policies concerning the provision of adequate parklands and, where applicable, the payment of park and recreation fees. However, as noted above for the City of Moreno Valley, existing and planned future park acquisitions are forecast as inadequate and even with these future parks, the City would fail to achieve the minimum level of service parkland standard (City of Moreno Valley 2006). In addition, according to Table 6.0.1 in the City of Moreno Valley Parks, Recreation, and Open Space Comprehensive Master Plan (City of Moreno Valley), Moreno Valley and nearby cities of Perris and Riverside are experiencing a shortage of parklands as it relates to existing populations and the typical parkland standard of 3 acres per 1,000 residents. While factors including residential development that took place before parkland dedication requirements and the payments of in-lieu fees may make it difficult for existing communities to provide adequate parklands for residents and may result in a cumulative impact parkland shortages and deteriorated conditions of recreational facilities due to increased use, the draft LMP would not increase the use of area parks or off-site recreational facilities.

The draft LMP includes new and expanded recreational opportunities on the SJWA and offers specific recreational opportunities (i.e., hunting and dog training) that are not offered at neighborhood and regional parks in the surrounding area. Further, use of the SJWA is subject to the payment of day use fees to CDFW for facility maintenance purposes and hunting is restricted seasonally and restricted by a limited available slot system. Also, increased recreation opportunities at the SJWA is unlikely to generate new population growth or relocation in the area such that additional parkland in surrounding jurisdictional

would need to be acquired. In addition and as discussed above, with the implementation of proposed improvements and continuation of ongoing maintenance processes, the anticipated increased visitation to the SJWA attributed to implementation of the draft LMP would be adequately accommodated by the SJWA. Therefore, the draft LMP would not result in a cumulatively considerable contribution associated with the substantial physical deterioration of a recreational facility (Impact REC-1). Impacts would be **less-than-significant (Class III)**.

In conjunction with the draft LMP, projects in the cumulative scenario that propose or require the expansion or construction of recreational facilities could result in a cumulative adverse physical effect on the environment. Projects that propose or require the construction of recreational facilities would be limited to mixed-use/residential projects with programmed park facilities, such as specific plans and other large scale development. Similar to the draft LMP, the development of mixed-use/residential projects would be required to implement mitigation measures to reduce potential adverse effects to the environmental resulting from construction and operations. Because the environmental effects of the draft LMP would be mitigated to a less-than-significant level and cumulative projects considered in this analysis would be subject to similar impact reducing measures, the draft LMP would not result in a cumulatively considerable contribution to a significant impact. Adverse effects on the environment associated with the expansion or construction of recreational facilities (Impact REC-2) would be less-than-significant with mitigation.

5.8.8 Level of Significance After Mitigation

While implementation of the draft LMP is anticipated to increase recreational visitation to the SJWA, expanded recreational opportunities and ongoing maintenance of improved or expanded recreational facilities and amenities**,** is an overarching goal of the draft LMP. In addition, recreational facilities and amenities on the Davis and Potrero Units would be maintained through ongoing inspections and support/service processes carried out by CDFW and local hunting clubs. As such, substantial physical deterioration of existing or expanded recreational facilities is not anticipated, impacts would be less than significant (Class III), and no mitigation would be required.

With implementation of MM-REC-2 which consists of mitigation measures identified in Section 5.3, Biological Resources, Section 5.1, Air Quality, and Section 5.7, Hydrology and Water Quality, impacts associated with potentially adverse physical effects on the environmental associated with the expansion of recreational facilities as proposed in the SJWA LMP would be less than significant.

5.8.9 References

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5.9 TRAFFIC AND CIRCULATION

5.9.1 Introduction

This section addresses potential traffic and circulation impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.9.2 provides a description of the existing conditions for traffic and circulation in the SJWA study area, and Section 5.9.3 describes the regulatory setting. Section 5.9.4 describes the methodology used for the evaluation of traffic and circulation. Section 5.9.5 provides the thresholds and significance criteria used for the impact analysis. An analysis of impacts associated with implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.9.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.9.7. The level of significance after mitigation is provided in Section 5.9.8, and Section 5.9.9 lists the references cited in this section.

To date, one of the comment letters received on the Notice of Preparation (NOP) contained comments specific to traffic and circulation. The comment letter from the Southern California Association of Governments (SCAG) recommended that the draft LMP be consistent with SCAG's adopted Regional Transportation Plan (RTP)/Sustainable Communities Strategies. This request is addressed in Section 5.9-6. A copy of the NOP and comment letters received is included in Appendix A.

The information in this section is largely based on resources from the County of Riverside, the Cities of Moreno Valley and Beaumont, the California Department of Transportation (Caltrans), and the Riverside Transit Agency (RTA). In addition, environmental documents prepared for development projects in the area including the traffic impact analysis for the World Logistic Center (Parsons Brinkerhoff, Inc. 2013) and the traffic technical report for the Mid County Parkway Traffic Technical Report (VRPA Technologies 2012). Lastly, the County of Riverside General Plan Public Review Draft Environmental Impact Report (March 2014) was reviewed for baseline Level of Service (LOS) data for area freeways and state routes (County of Riverside 2014).

Key Terms

Operating conditions on roadways are often described using a concept referred to as "Level of Service" or LOS. According to the 2010 edition of the Highway Capacity Manual, LOS is "a quantitative stratification *of a* performance measure or measures that represent quality of service, measured on an A–F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst." The definitions of LOS for arterial traffic flow is furthered discussed in Section 5.9.3, Applicable Regulations, Plans, and Policies.

5.9.2 Existing Conditions

Existing Circulation Network

Davis Unit

Davis Road provides the primary local public access to the Davis Unit of the SJWA with vehicle traffic allowed from the south. Davis Road is a maintained dirt road, with paved portions, that runs from Ramona Expressway south of the SJWA boundary north to Theodore Street where a gate limits/controls vehicular access (Figure 5.9-1). On July 9, 2002, the City of Moreno Valley vacated the right-of-way for a portion of Davis Road that travels from the end of Theodore Street to the north end of the Double Bar S Horse ranch. When the City vacated the right-of-way, the public easement ceased and the title reverted to the California Department of Fish and Wildlife (CDFW), the owner of the parcels adjoining the vacated street easement. The County of Riverside maintains Davis Road south of this point to the southern end of the Davis Unit at Marvin Road, a portion on which the county holds a 60-foot right-of-way (ROW).

One additional unimproved road, South Contour Road, runs east from Davis Road and provides access to the eastern portion of the Davis Unit (Figure 5.9-1). South Contour Road also provides access to the Ramona Hunt Club, the Mystic Lake Duck Club, and the Ramona Duck Club. The road was largely built by private land owners. The first 1,500 feet of this road, as it leaves Davis Road, is on the property of the Ramona Hunt Club; the state and private landowners share in ownership along the current eastern boundary of the SJWA. The SJWA staff and private land owners cooperate in periodic maintenance activities performed on this access road. Currently, the road is used to provide alternative access to waterfowl hunters when the internal SJWA road system is not passable due to heavy rainfall.

There are six service roads intersecting Davis Road, each with a locked gate. One additional gated access is located off the Ramona Expressway, 0.5 miles west of the San Jacinto River. The only SJWA roads open to general public vehicle use are Davis Road, Contour Road, and the self-guided auto tour loop which provides vehicle access from the office check station to the northern wetland areas. All the internal roadways on the Davis Unit can be used for hiking, horseback riding, and non-motorized bicycling. Some of the internal roads also function as wildfire fuel breaks and movement corridors for Stephens' kangaroo rat, as appropriate.

Outside of the SJWA, regional access to the Davis Unit is provided by Interstate 215 (I-215) and Ramona Expressway from the west, and State Route 60 (SR-60), Theodore Street, Alessandro Boulevard, and Gilman Springs Road to the north. From the east, the Davis Unit is accessible via Gilman Springs Road and the Ramona Expressway.

Figure 5.9-1 Ownership and Existing Roads – Davis Unit

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I-215

I-215 is a north-south interstate highway and is an auxiliary route of I-15, running from Murrieta to northern San Bernardino. West of the Davis Unit, I-215 has three travel lanes in each direction, a 25-foot-wide divided median, and two 12-foot-wide paved shoulders in each travel direction.

At Ramona Expressway, the average daily traffic (ADT) on I-215 is approximately 110,000 vehicles (Caltrans 2014). From SR-74/Case Road to Redlands Boulevard, northbound I-215 is operating at LOS D and LOS E conditions during the AM and PM peak hours, respectively (Parsons Brinckerhoff 2013). SR-74 crosses beneath I-215 in Romoland, approximately 0.75-mile north of Case Road. Redlands Avenue spans I-215 approximately 0.70-mile southeast of North Perris Boulevard in Perris. This segment of I-215 is the closest to the SJWA included in the Traffic Impact Analysis (TIA) prepared for the World Logistics Center (see Table 15 of the TIA). Along the same segment, southbound I-215 is operating at LOS E and LOS D conditions, respectively (Parsons Brinckerhoff 2013).

Ramona Expressway

Ramona Expressway runs in a general east-west alignment from I-215 in Perris to Highway 74 in San Jacinto. West of the Davis Unit, Ramona Expressway transitions from three to two lanes in each direction, a raised median and an 8- to 10-foot-wide shoulder. South of the Davis Unit, Ramona Expressway transitions to one travel lane in each direction and then again back to two travel lanes in each direction (two travel lanes in one direction and one travel lane in the other direction also occurs) and features an undivided median. Between I-215 and SR-79, the posted speed limit on Ramona Expressway is 55 mph.

From Lake Perris Drive to North Sanderson Avenue, the ADT on Ramona Expressway ranges from approximately 10,100 vehicles to 11,800 vehicles (VRPA Technologies 2012). According to the County of Riverside, in the vicinity of the SJWA Ramona Expressway is operating at LOS E conditions (County of Riverside 2014).

SR-60

SR-60 run in a general east-west alignment from I-110 in Los Angeles to I-10 in Beaumont. North of the Davis Unit, SR-60 has two travel lanes in each direction, a 20-foot-wide divided median, and 10-foot-wide paved shoulders. The posted speed limit on SR-60 in the area is 65 miles per hour (mph).

Between Theodore Street and Gilman Springs Road, the ADT on SR-60 ranges from approximately 46,000 to 54,000 vehicles (Caltrans 2014). From Theodore Street to Gilman Springs Road, eastbound SR-60 is operating at LOS B conditions in the AM and PM peak hour.

Along the same segment, westbound SR-60 is operating at LOS A conditions in the AM and PM peak hours (Parsons Brinckerhoff 2013).

Theodore Street

Theodore Street runs in north-south direction from SR-60 to Alessandro Boulevard. The two-lane road (currently classified by City of Moreno Valley Circulation Plan Classification as a major arterial) is paved and features an undivided median and generally no shoulders south of the SR-60 eastbound off-ramps. South of Alessandro Boulevard, Theodore Street transitions from a paved to a dirt road and ultimately turns into Davis Road.

The ADT on Theodore Street between the SR-60 EB ramps and Fir (Eucalyptus) Avenue is approximately 2,018 vehicles and further south (i.e., between Fir (Eucalyptus) Avenue and Alessandro Boulevard) and closer to the Davis Unit, the ADT is 396 vehicles (Parsons Brinkerhoff 2013). Theodore Street is operating at LOS A conditions between the SR-60 EB ramps and Alessandro Boulevard (Parsons Brinkerhoff 2013).

Alessandro Boulevard

Alessandro Boulevard runs in an east–west direction generally from SR-91 on the west through urban Riverside and Moreno Valley to Gilman Springs Road on the east. North of the Davis Unit, Alessandro Boulevard is a paved, two-lane undivided roadway with no shoulders in either direction. Alessandro Boulevard is currently classified by City of Moreno Valley Circulation Plan Classification as a major arterial. Between Theodore Street on the west and Gilman Springs Road on the east, the posted speed limit on Alessandro Boulevard is 50 mph.

Between Theodore Street and Gilman Spring Road, the approximate ADT on Alessandro Boulevard is 2,561 vehicles and this segment of the roadway is operating at LOS A conditions (Parsons Brinkerhoff 2013).

Gilman Springs Road

Gilman Springs Road runs in a general northwest–southeast direction from SR-60 to SR-79. Southeast of SR-79, Gilman Springs Road turns into North State Street and the roadway extends to the south into San Jacinto. Along the eastern border of the Davis Unit, Gilman Springs Road is a two-lane arterial road with an undivided median and up to 8-foot-wide shoulders in each travel direction. In the vicinity of the Davis Unit the posted speed limit on the roadway is 55 mph.

Between SR-60 to Bridge Street, the ADT on Gilman Springs Road is approximately 13,134 vehicles, and this segment of the road is operating at LOS E conditions (Parsons Brinkerhoff 2013).

Potrero Unit

Primary public access to the Potrero Unit of the SJWA would be from Highland Springs Avenue (Figure 5.9-2). Highland Springs Avenue is an existing two-lane paved roadway that extends south from I-10 through Beaumont to the Potrero Unit however, a gate is currently installed on Highland Springs Avenue approximately 350 feet south of the northern border of the Potrero Unit and prohibits further access. South of the gate, Highland Springs Avenue becomes a maintained dirt road that runs more or less in a north–south direction through management subunit P5 and P6 along the eastern portion of the Potrero Unit. Approximately half-way between the north and south boundary of the Potrero Unit, a maintained dirt road splits from Highland Springs Avenue to the west and traverses the entire Potrero Unit, eventually connecting with Lamb Canyon Road just outside Potrero's western boundary. There are many smaller dirt roads of varying conditions that connect to this east–west road, some running all the way to the northern boundary of the unit. One additional road of note turns to the south from this east–west road and provides access to the higher elevations found in Potrero's southern portion.

Outside of the Potrero Unit, regional access to the area is provided by I-10, SR-79/Lamb Canyon Road (Beaumont Avenue), and Highland Springs Avenue from the north and Ramona Expressway and Gilman Springs Road from the south.

I-10

I-10 is a major east–west interstate highway and in the State of California, the interstate runs east in Los Angeles from Santa Monica to the Arizona border. North of the Potrero Unit and through the City of Beaumont, I-10 features four travel lanes in each direction, a divided median, and 10-foot-wide shoulders. Through the City of Beaumont the posted speed limit is 70 mph.

From Cherry Valley Boulevard east to Sunset Avenue in Banning, the ADT on I-10 ranges from 93,000 vehicles to 135,000 vehicles (Caltrans 2014). From Beaumont Avenue to Sunset Avenue, eastbound I-10 is operating at LOS B conditions in the AM and PM peak hours. Along the same segment, westbound I-10 is operating at LOS C and LOS B conditions in the AM and PM peak hours, respectively (Parsons Brinckerhoff 2013).

SR-79/Lamb Canyon Road (Beaumont Avenue)

SR-79/Lamb Canyon Road (Beaumont Avenue) is a north–south route that runs north from Ramona Expressway to I-10 in the vicinity of the SJWA. The roadway runs adjacent to the western border of the Potrero Unit. Between Ramona Expressway and I-10, SR-79/Lamb Canyon Road (Beaumont Avenue) features two travel lanes in each direction, a divided median, and approximately 8-foot-wide shoulders. Between Gilman Springs Road and approximately

Lamb Canyon Road, SR-79 is classified by the County of Riverside as an expressway. North of approximately Lamb Canyon Road, SR-79 is classified as a highway.

From Gilman Springs Road north to I-10, the ADT on SR-79/Lamb Canyon Road is approximately 30,294 vehicles (CH2MHill 2014). Between Gilman Springs Road and I-10, SR-79/Lamb Canyon Road is operating at LOS D conditions (CH2MHill 2014).

Highland Springs Avenue

Highland Springs Avenue is a north–south road that traverses the Potrero Unit and extends northwards to Beaumont and I-10. Between I-10 and Crooked Creek Road, Highland Springs Avenue transitions from a six- to four-lane paved arterial and features a divided median through commercial areas and an undivided median through residential areas. South of Crooked Creek Road, Highland Springs Avenue transitions to a two-lane paved road with no markings and no shoulders. On the Potrero Unit, Highland Springs Avenue is a two-lane dirt road.

According to the City of Beaumont General Plan, the ADT on Highland Springs Avenue ranges from 2,200 to 11,800 vehicles (City of Beaumont 2007). Based on the Riverside County Roadway Capacity and Level of Service Thresholds (see Table 5.9-1), the maximum two-way traffic volume for LOS C conditions on a two-lane arterial is 14,400 vehicles (the maximum two-way traffic volume for LOS D conditions is 16,200). Therefore, LOS B or better operating conditions are assumed on Highland Springs Avenue.

The general characteristics of Ramona Expressway and Gilman Springs Road were previously discussed above for the Davis Unit.

Air Transportation

March Air Reserve Base, Perris Valley Airport, and Banning Municipal Airport are located in the vicinity of the SJWA.

In addition to supporting the Air Force Reserve Command's largest air mobility wing, March Air Reserve Base is home to units from the Army Reserve, Navy Reserve, Marine Corps Reserve, and Air National Guard (March Air Reserve Base 2016). The March Air Reserve Base runway is located approximately 2.5 miles west of the westernmost portion of the Davis Unit.

The Perris Valley Airport is privately owned and operated and used daily (approximately 75 aircraft operations/day) for general aviation and parachuting/skydiving activities (Airnav 2016a). The primary occupant of the airport is Perris Valley Skydiving. The Perris Valley Airport runway is located west of I-215 and approximately 5 miles southwest of the westernmost portion of the Davis Unit.

Figure 5.9-2 Ownership and Existing Roads – Potrero Unit

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Banning Airport is owned by the city and is used for general aviation. The single runway airport supports approximately 88 aircraft operations/week (Airnav 2016b) and is located approximately 3.8 miles northwest of the northwestern corner of the Potrero Unit.

Alternative Transportation

Transit Service

The County of Riverside supports fixed-route, scheduled bus services that have convenient access to major population, economic, institutional, recreation, community, and activity centers. Fixed route transit services include urban and suburban rail, and bus systems. These services operate on regular schedules along a designated route, and can be used as additional transportation alternatives within Riverside County.

The Riverside Transit Agency (RTA) provides both local and regional services throughout Riverside County with 35 fixed routes. Bus service is currently provided daily along Gilman Springs Road and SR-79/Lamb Canyon Road (Beaumont Avenue) via Route 31 (RTA 2016). Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs.

Bicycle and Pedestrian Facilities

According to the Reche Canyon/Badlands Area Plan, there are no designated bikeways in the plan area (County of Riverside 2015a). Also, there are no designated bikeways in the San Jacinto Valley Area Plan in the vicinity of the SJWA (County of Riverside 2015b). Lastly, sidewalks are not installed along roadways in the immediate vicinity of the SJWA.

5.9.3 Applicable Regulations, Plans, and Policies

Federal

There are no federal traffic and circulation regulations, plans, and policies that are applicable to the draft LMP.

State

State of California Department of Transportation's Guide for the Preparation of Traffic Impact Studies

Pursuant to Caltrans's Guide for the Preparation of Traffic Impact Studies, "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D" on state highways, such as SR-60 and SR-79 (Caltrans 2002). However, Caltrans acknowledges that this may not always

be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

The Caltrans guide also establishes criterion for determining when a traffic impact study (TIS) is needed. The following criterion is a starting point in determining when a TIS is needed:

1. When a project generates over 100 peak-hour trips assigned to a state highway facility;
2. When a project generates 50 to 100 peak-hour trips assigned to a state highway facility – and, affected state highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. When a project generates 1 to 49 peak-hour trips assigned to a state highway facility – the following are examples that may require a full TIS or some lesser analysis:
    a. Affected state highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F");
    b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.); and
    c. Change in local circulation networks that impact a state highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

State of California Department of Transportation's Route Concept Report for State Route 79

Route Concept Reports (RCRs) are planning documents that describe Caltrans' basic approach to development of a given state route. Also, RCRs define the type of facility and LOS for each route. In the RCR for SR-79, the route concept is LOS E through the year 2020 (Caltrans 1999).

The Potrero Unit of the SJWA is located adjacent to Segment 9 (Gilman Hot Springs to I-10) of SR-79/Lamb Canyon Road which is a conventional lane highway designated as a rural minor arterial from mile posts 33.8 to 39.9 and an urban principal arterial from mile post 39.9 to 40.9 (Caltrans 1999). According to the RCR, the forecasted 2020 ADT for Segment 9 of SR-79 is approximately 60,100 and LOS F without incorporation of identified improvements (i.e., construction of an additional lanes on the highway). With improvement, the forecast LOS in 2020 would be LOS E. For historical context, ADT on Segment 9 in 1998 was 15,700 and operations were at LOS C.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning

documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

The 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides a blueprint for improving quality of life for SCAG area residents by providing more choices for where they will live, work, and play, and how they will move around (SCAG 2012). The RTP identifies infrastructure projects and improvements to reduce traffic and generally make it easier to get around. Within the RTP, the SCS demonstrates the region's ability to attain and exceed the GHG emission-reduction targets set forth by the ARB. The SCS outlines SCAG's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

County of Riverside Congestion Management Program

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California that has an urbanized area with a population over 50,000 (which would include the County of Riverside) to prepare a congestion management program (CMP). The CMP that was prepared by the Riverside County Transportation Commission in 2011 in consultation with the county and cities in Riverside County is an effort to more directly align land use, transportation, and air quality management efforts and to promote reasonable growth management programs that effectively use statewide transportation funds while ensuring that new development pays its fair share of needed transportation improvements (RCTC 2011). Additionally, the passage of Proposition 111 provided additional transportation funding through a $0.09 per gallon increase in the state gas tax.

Although implementation of the CMP was made voluntary by the passage of AB 2419, the CMP requirement has been retained in all five urbanized counties within the SCAG region. In addition to their value as a transportation management tool, CMPs have been retained in these counties because of the federal Congestion Management System requirement that applies to all large, urban areas that are not in attainment of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the regional agency (for the County of Riverside, SCAG).

The focus of the CMP is the development of an Enhanced Traffic Monitoring System in which real-time traffic count data can be accessed by the Riverside County Transportation Commission to evaluate the condition of the Congestion Management System, and meeting other monitoring requirements at the state and federal levels. Per the CMP-adopted level of service (LOS) standard of E, when a Congestion Management System segment falls to LOS F, a deficiency plan is required. Preparation of a deficiency plan would be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency would also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including transportation demand management strategies and transit alternatives, and a schedule of mitigating the deficiency. To ensure that the Congestion Management System is appropriately monitored to reduce the occurrence of CMP deficiencies, it is the responsibility of local agencies, when reviewing and approving development proposals, to consider the traffic impacts on the Congestion Management System.

Transportation Uniform Mitigation Fee (TUMF)

In 2002, the TUMF program was initiated in Western Riverside County. March JPA participates in the TUMF program. Under the TUMF, developers of residential, industrial and commercial property are required to pay a development fee to fund regional transportation projects, which mitigates cumulative impacts to the roadway segments and intersections included in the TUMF program. The TUMF funds both local and regional arterial projects. Through payment of the TUMF, the applicant participates in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions.

The TUMF program is administered by Western Riverside Council of Governments (WRCOG) based upon a regional Nexus Study completed in early 2003 and updated in 2009 to address major changes in right of way acquisition and improvement cost factors. TUMF identifies a network of backbone and local roadways that are needed to accommodate growth through 2035. This regional program was put into place to ensure that development pays its fair share and that funding is in place for construction of facilities needed to maintain the requisite level of service critical to mobility in the region.

Transportation Uniform Mitigation Fee 10-Year Strategic Plan and Transportation Improvement Program Development Guidelines

While primarily tasked with the development of project selection criteria for transportation improvements, the 10-Year Strategic Plan also provides the associated roadway capacities and level of service standards for County of Riverside roadways (WRCG 2007). Table 5.9-1 lists the various roadway classifications in the County and provides the maximum two-way traffic volume (ADT) associated with LOS C, D, and E.

Table 5.9-1
Roadway Capacity and Level of Service Thresholds

Roadway Classification	Number of Lanes	Maximum Two-Way Traffic Volume (ADT)		
		LOS C	*LOS D*	*LOS E*
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial	2	14,400	16,200	18,000
Mountain Arterial	2	12,900	14,500	16,100
Mountain Arterial	4	29,800	33,500	37,200
Urban Arterial	4	28,700	32,300	35,900
Urban Arterial	6	43,100	48,500	53,900
Urban Arterial	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	81,700
Freeway Ramps	1	16,000	18,000	20,000

Source: Riverside County Integrated Project General Plan Circulation Element (County of Riverside 2015c)
Notes:
1. All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.
2. Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County CMP.
3. Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignment are analyzed as arterials.
4. Ramp capacity is given as a one-way traffic volume.

Riverside County Transportation Department Traffic Impact Analysis Preparation Guide

The Riverside County Transportation Department requires that the traffic and circulation impacts of proposed development projects, General Plan Amendments, and Specific Plans be analyzed (Riverside County Transportation Department 2008). However, certain types of projects, because of their size, nature, or location, are exempt from the requirement of preparing a TIA. The Transportation Department, at its discretion, may require that a TIA be prepared for any development, regardless of size, if there are concerns over safety, operational issues, or if located in an area heavily impacted by traffic.

According to Exhibit A of the Traffic Impact Analysis Preparation Guide, any use that can demonstrate, based on the most recent edition of the Trip Generation Report published by the Institute of Transportation Engineers or other approved trip generation data, trip generation of less than 100 vehicle trips during the peak hours is generally exempt from preparing a Traffic Impact Analysis (Riverside County Transportation Department 2008).

Riverside County Airport Land Use Commission

The Riverside County Airport Land Use Commission (ALUC) guides airport development in the county and governs the areas surrounding airports to prevent land use issues related to noise and safety. The ALUC prepares Airport Land Use Compatibility Plans (ALUCP) to ensure that cities within the county have policies and regulations in compliance with provisions of the plans.

March Air Reserve Base ALUCP

March Air Reserve Base is located approximately 2.5 miles northwest of the westernmost portion of the Davis Unit, Subunit D14. The March Air Reserve Base/Inland Port ALUCP provides policies and guidance designed to ensure that future land uses surrounding the Air Reserve Base remain consistent and compatible with the airport facility safety and uses. Subunit D14 falls within Land Use Compatibility Zone E in the ALUCP, which intersects with the southwestern portion of Perris Reservoir. Compatibility Zone E does not limit residential development or other uses, but discourages listed hazards to flight, including physical, visual, and electronic forms of interference with the safety of aircraft operations, and land use development, man-made features, and farm crops and farming practices that may cause an increase in the attraction of birds (Riverside County ALUC 2004).

The draft LMP includes construction of a recycled water storage reservoir within Subunits D1 and D2. This reservoir would serve as a seasonal storage for recycled water and could potentially support waterfowl. This reservoir would not be located within the Airport Influence Area, nor would existing or proposed waterfowl habitat or hunting areas be located within the Airport Influence Area.

Perris Valley ALUCP

The Perris Valley Airport is located approximately 4.6 miles southwest of the boundary of the Davis Unit. The Perris Valley ALUCP is contained within the Riverside County Airport ALUCP Policy Document. The Perris Valley ALUCP includes compatibility criteria and maps for the influence area of the Perris Valley Airport. The SJWA or the Davis Unit does not fall within the Airport Influence Area Boundary of the Perris Valley Airport (Riverside County ALUC 2004). The SJWA is relatively far from the airport and is therefore not expected to create or experience hazards related to the airport.

Banning Municipal ALUCP

The Banning Municipal Airport is located approximately 3.7 miles from the Potrero Unit of the SJWA. The Banning Municipal Airport ALUCP contains compatibility criteria and maps for the influence area for the Banning Municipal Airport. The SJWA does not fall within the Airport

Influence Area Boundary of the Banning Municipal Airport (Riverside County ALUC 2004), and is therefore not expected to create or experience hazards related to the airport.

County of Riverside General Plan

The Circulation Element of the County of Riverside General Plan Circulation Element (County of Riverside 2015c) includes policies related to transportation and traffic.

Policy C 2.1: The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley, and Temescal Canyon Area Plans.

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental impacts and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible mitigation measures, make specific findings to support the decision, and adopt a statement of overriding considerations.

Policy C 2.3: Traffic studies prepared for development entitlements (tracts, plot plans, public use permits, conditional use permits, etc.) shall identify Project related traffic impacts and determine the "significance" of such impacts in compliance with CEQA.

Policy C 2.4: The direct Project related traffic impacts of new development proposals shall be mitigated via conditions of approval requiring the construction of any improvements identified as necessary to meet level of service standards.

Policy C 2.5: The cumulative and indirect traffic impacts of development may be mitigated through the payment of various impact mitigation fees such as County Development Impact Fees, Road and Bridge Benefit District Fees, and

Transportation Uniform Mitigation Fees to the extent that these programs provide funding for the improvement of facilities impacted by development.

Policy C 3.8: Restrict heavy duty truck through-traffic in residential and community center areas and plan land uses so that trucks do not need to traverse these areas.

City of Moreno Valley General Plan

Chapter 9 of the City of Moreno Valley General Plan (City of Moreno Valley 2006) includes circulation element goals, objectives, and policies related to transportation and traffic.

Policy 5.1.1: Plan access and circulation of each development Project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.

Policy 5.1.3: Require adequate off-street parking for all developments.

Policy 5.1.4: Driveway placement shall be designed for safety and to enhance circulation wherever possible.

Policy 5.1.6: Design new developments to provide opportunity for access and circulation to future adjacent developments.

Objective 5.3: Maintain Level of Service (LOS) "C" on roadway links, wherever possible, and LOS "D" in the vicinity of SR-60 and high employment centers. Figure 9-2 [of the City of Moreno Valley General Plan] depicts the LOS standards that are applicable to all segments of the General Plan Circulation Element Map.

Policy 5.3.5: Ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts. For this purpose, require new developments to participate in Transportation Uniform Mitigation Fee Program (TUMF), the Development Impact Fee Program (DIF) and any other applicable transportation fee programs and benefit assessment districts.

Policy 5.5.8: Whenever possible, require private and public land developments to provide on-site and off-site improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development Project shall be undertaken to identify Project impacts to the circulation system. The City may require developers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.

Policy 5.11.2: Driveways shall be designed to avoid conflicts with pedestrian and bicycle travel.

City of Moreno Valley Traffic Impact Analysis Preparation Guide

The daily service volume standards for surface streets in Moreno Valley are listed below in Table 5.9-2.

Table 5.9-2
Level of Service (LOS) Standards for Surface Streets in Moreno Valley

Type of Roadway	Level of Service*				
	LOS A	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Six-Lane Divided Arterial	33,900	39,400	45,000	50,600	56,300
Four Lane Divided Arterial	22,500	26,300	30,000	33,800	37,500
Four Lane Undivided Arterial	15,000	17,500	20,000	22,500	25,000
Two Lane Industrial Collector	7,500	8,800	10,000	11,300	12,500
Two Lane Undivided Residential	N/A	N/A	N/A	N/A	2,500

Note: *maximum average daily traffic
Source: City of Moreno Valley *Traffic Impact Analysis Preparation Guide, 2007* (City of Moreno Valley 2007)

City of Beaumont General Plan

The Circulation Element of the City of Beaumont General Plan (City of Beaumont 2007) includes circulation element goals, objectives, and policies. Of particular relevance is Circulation Element Policy 10 which establishes that "the City will strive to maintain a minimum LOS "D" as a target LOS standard and LOS "E as a threshold standard (City of Beaumont 2007). The remaining policies of the Circulation Element speak to the City of Beaumont's responsibilities in regards to circulation issues in the City.

5.9.4 Methodology

This section presents the methodologies used to perform the traffic analyses for the draft LMP.

LOS Standards

The evaluation criteria used to evaluate traffic impacts is known as LOS. LOS is a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed, delay, travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS conditions vary based on the type of roadway or intersection being evaluated. The definitions of LOS for arterial traffic flow are depicted in Table 5.9-3.

Table 5.9-3
Level of Service Descriptions

LOS	Traffic Flow Conditions
A	Free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.
C	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
D	High-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
E	Operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
F	Level-of-Service F. Forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount, which can traverse the point. Queues form behind such locations. Arrival flow exceeds discharge flow

Source: 2000 Highway Capacity Manual (Transportation Research Board Special Report 209)

Based on recent guidance from Caltrans District 8, the LOS for operating state highway facilities is based on Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing state highway facility is operating at less than this target LOS the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadways segments, and intersections is "D". For undeveloped or not densely developed locations, the goal may be to achieve LOS "C".

The existing County of Riverside Circulation Element recognizes that an LOS of C is optimal. However, it also allows peak hour LOS in the LOS "D" range in certain Area Plan locations, including Reche Canyon/Badlands, Lakeview/Nuevo, and San Jacinto Valley.

The Davis Unit is located primarily within the County of Riverside Reche Canyon/Badlands Plan Area (adjacent area plans include Lakeview/Nuevo to the south and San Jacinto Valley to the east) however, the northernmost portion of the Davis Unit is located in the City of Moreno

Valley. The City of Moreno Valley establishes that LOS C should be maintained on roadway links whenever possible and that LOS D may be maintained in the vicinity of SR-60 and high employment centers.

The Potrero Unit is located almost entirely within the City of Beaumont. According to Circulation Element Policy 10, the City of Beaumont strives to maintain a minimum LOS "D" as a target LOS standard and LOS "E" as a threshold standard (City of Beaumont 2007).

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed SWJA LMP. The draft SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the California Environmental Quality Act (CEQA) Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Section 1600 or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.9.5 Standards of Significance

The State of California has developed guidelines to address the significance of traffic and circulation impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Traffic and circulation impacts would be considered significant if a proposed project would:

1. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant

components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

5.9.6 Impact Analysis and Mitigation

Issue TRA-1 Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Short-Term Construction Conditions

Traffic operations associated with the implementation of management goals and tasks that require construction activities (i.e., invasive species control/vegetation management, creation of new waterfowl ponds and open zones for waterfowl habitat and hunting, development of roads, access, and trail infrastructure, and development of water storage infrastructure) may potentially result in traffic deficiencies and the temporary addition of traffic to the local area roadway network related to construction worker traffic, export and import of construction materials, and use of heavy equipment. According to CDFW, the majority of proposed construction activities would last for approximately 3 months (Sewell, pers. comm. 2016); however, the construction of larger scale water infrastructure such as the water storage project would take longer than 3 months to complete.

Consistent with the construction noise ordinance set forth by the County of Riverside, it is assumed that construction work occurring on County of Riverside lands would occur during the hours of 7:00 AM and 7:00 PM on the weekdays and 8:00 AM and 5:00 PM on Saturdays. On City of Moreno Valley lands, City regulations specify that grading may take place between 7:00 AM and 8:00 PM and that general construction activities may take place between 6:00 AM and 8:00 PM during the week and 7:00 AM and 8:00 PM on weekends and holidays. Lastly, in the City of Beaumont, construction activities are permitted from 6:00 AM to 8:00 PM, Monday through Saturdays.

Worker Trips

Construction worker trips are estimated based on the number of workers anticipated to be on-site during construction activities. While carpooling may occur, for purposes of this analysis each worker is assumed to drive to and from the construction site each day. It has been assumed that workers would arrive up to 30 minutes prior to the workday and would leave up to 30 minutes after the workday ends. For invasive species control/vegetation management, the required construction work force is anticipated to be relatively minor as these activities are similar to ongoing management activities that currently occur in the SJWA. Approximately 25 workers would be required for the installation of new waterfowl hunting blinds on the Davis Unit, and the development of roads, access, and trail infrastructure would require a workforce of approximately 12 contracted workers. Installation of new water infrastructure would be required for the expansion of food crop plantings and the construction of new residences, an office, workshop, and warehouse on the Potrero Unit. These activities would require workforces of 5 CDFW workers and 12 off-site contracted workers, respectively. CDFW currently proposes construction of one 71-acre open zone (pond) in D7 and 33 acres of open zone (fields) in D4 (104 acres total) and a new road and parking area off Gilman Springs Road to Mystic Lake in D5 and D3. Approximately 5 miles of a new trail primarily along the eastern shore of Mystic Lake are also proposed (see Figure 2-15A in Chapter 2, Project Description) and in the Potrero Unit, a new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4.

Given the scale of the proposed water storage project (i.e., approximately 275 acres within Davis Subunit D2) and the construction equipment likely to be utilized (2 large earthmovers, 1 bulldozer, 1 backhoe, 1 water truck, 1 service truck, 1 supply truck, and one tractor), the required construction work force is assumed to be 25 persons. Therefore, up to 50 trips/day could be generated over the approximate 3 to 5 month construction period associated with the proposed water storage project. With the exception of earthmovers and water trucks, the construction of new water pipelines to the new reservoir would utilize a similar fleet of construction equipment and would take approximately 2 to 3 months to construct. A reduced construction workforce (i.e., up to 10 persons and 20 trips/day) is anticipated to be required for pipeline construction activities.

It is anticipated that parking for construction worker vehicles can be accommodated on-site in one of the eight parking lots currently located in the Davis Unit. In addition, once the new parking lot off Gilman Springs Road is constructed, workers constructing the new paved road to Mystic Lake could utilize the parking lot during construction. For construction activities in the Potrero Unit, it is anticipated that parking for construction worker vehicles can be accommodated on-site in the centrally located existing parking lot or just outside the CDFW gate on Highland Springs Avenue along the northern boundary of the Potrero Unit.

Because construction activities on County of Riverside lands are permitted during the hours of 7:00 AM and 7:00 PM, it is anticipated that the majority of construction workers would arrive and depart from the site before and after peak commute traffic periods (i.e., 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM) with a period of overlap. Furthermore, as stated in Section 5.9.2, with the exception of Gilman Springs Road, local roadways in the vicinity of the SJWA that would be utilized by construction vehicles (i.e., Ramona Expressway, Theodore Street, Alessandro Boulevard, SR-79/Lamb Canyon Road (Beaumont Avenue), and Highland Springs Avenue) are anticipated to be operated at LOS A or LOS B conditions. The existing County of Riverside Circulation Element recognizes that an LOS of C is optimal but also allows peak hour levels of service in the LOS "D" range in certain Area Plan locations including Reche Canyon/Badlands, Lakeview/Nuevo, and San Jacinto Valley. In the vicinity of the Davis Unit, Gilman Springs Road is currently operating at LOS E conditions. During construction activities required to implement draft LMP management goals and tasks, additional traffic would be added to Gilman Springs Road; however, given the short-term (i.e., from less than 1 month and up to 5 months for all management activities) duration of construction, the draft LMP's contribution to unacceptable operating conditions on Gilman Springs Road would not be significant. As such, the potential impacts resulting from construction worker vehicle trips are considered **less than significant (Class III)**.

Export and Import of Construction Materials

According to CDFW, all soil resulting from earthwork cuts and grading would remain on-site (import or export of soils is not anticipated) and very limit export and import of construction materials is anticipated (Sewell, pers. comm. 2016). Development of the water storage project in the Davis Unit could require up to 3 feet of cut to achieve the desired reservoir depth that would result in approximately 631,000 cubic yards of soil. This soil would remain on-site and would be used for the construction of adjacent reservoir levees that would be used as water management structures. Excavation and grading would also be required to create new open zone ponds in Davis Subunits D7 and D4; however, the soil generated by these activities would also be retained on site and used to create earthen water management structures. Soils generated on site during grading activities for new parking area, trails, and roads in the eastern portion of the Davis Unit (Subunits D5 and D3) and in the eastern portion of the Potrero Unit (Subunit P5 and potentially Subunits P6, P11, and P10) would also remain on site to be reutilized by CDFW for ongoing road and trail maintenance.

Imported construction materials may consist of raw building materials required for the construction of proposed shade structures, signage, gates, and fences. Raw building materials would also be needed for the construction of the proposed visitors' center/interpretive area in the Subunit 5 of the Potrero Unit. Other materials that could be imported to the SJWA would include asphalt (for the construction of a new paved road in Subunits D5 and D3 of the Davis Unit) and decomposed granite (DG) or gravel to facilitate year-round public access on existing access roads. Exported materials could include miscellaneous trash and debris. Import and export materials would be transported via 15-cubic-yard-capacity haul trucks. Each truck would generate one inbound and one outbound trip, accounting for a total of two truck trips per load of material exported or imported.

Several construction activities, including the installation of new manufactured homes on the Davis Unit, construction of the water storage reservoir on the Davis Unit, and construction of new roads and trails, would require delivery trips. For example, during construction of new manufactured homes, approximately 8 delivery trips would be required, and during construction of the water storage reservoir approximately 500 delivery trips would be required. Approximately 100 delivery trips would be needed during the construction of new roads and trails, and 2 delivery trips would occur during the installation of the blinds on the Davis Unit. Lastly, during the installation of new water infrastructure on the Davis Unit, 12 delivery trips would be required for the delivery of various construction materials to the site.

To minimize the impact of construction truck traffic to the regional interstates, state highways, and local roadway network, trucks should utilize the most direct route between the Davis Unit and the I-215 Freeway via the Ramona Expressway or via SR-60 and Gilman Springs Road or I-10 and SR-79/Lamb Canyon Road. The most direct route between the Potrero Unit and I-215 Freeway is Ramona Expressway; from SR-60 the most direct route is Gilman Springs Road however, as most management goals and tasks that require construction activities would occur in the central and eastern portions of the Potrero Unit and adjacent to Highland Springs Avenue, the most direct route to the area is I-10 and Highland Springs Avenue from the north.

The export and import of construction materials should occur during off-peak hours to have a minimal traffic impact to the surrounding roadway network. A construction traffic control plan should be implemented for the duration of the construction phase. This is considered a **potentially significant impact (Class II)**. As required by MM-TRAF-1, CDFW would be required to prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way, among other construction traffic-related matters. With implementation of MM-TRAF-1, it can be assumed that truck traffic impacts associated with the export and import of construction materials would be less than significant.

Heavy Equipment

Heavy equipment to be utilized on-site during construction include, but is not limited to: earthmovers, bulldozers, backhoes, service trucks, supply trucks, tractors, pavers, rollers, and water trucks. Scrapers and graders may also be required during development of the water storage project in the Davis Unit. Heavy equipment needed to complete construction activities and implement management goals and tasks would be delivered to the site and would remain on site throughout the duration of the construction phase. As most heavy equipment is typically not an authorized vehicle to be driven on a public roadway, the equipment would be delivered and removed from the site via large flatbed trucks. It is anticipated that delivery of heavy equipment would not occur on a daily basis, but rather periodically throughout the construction period based on need.

The delivery and removal of heavy equipment is recommended to occur outside of the morning and evening peak hours to have nominal impacts to traffic and circulation near the vicinity of the SJWA. Consistent with MM-TRAF-1, the CDFW would be required to prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way, among other construction traffic-related matters. With incorporation of MM-TRAF-1, it is anticipated that traffic impacts associated with the delivery and removal of heavy equipment would be less than significant.

As part of the County's discretionary review process, the proposed water storage project would be evaluated under CEQA and required to implement the maximum feasible mitigation measures, as needed. As stated above, construction of the water storage project is not anticipated to generate over 100 peak hour trips which, in accordance with the Riverside County Transportation Department Traffic Impact Analysis Preparation Guide, would require preparation of a project-specific traffic impact analysis. While construction activities are not anticipated to trigger the need for a traffic impact analysis, if significant traffic and circulation impacts are identified in future CEQA documentation associated with the water storage project then identification of feasible mitigation measures to reduce impacts to a less than significant level (if possible) would is required. However, at this time there is ultimately no guarantee on a project-specific level that mitigation measures would reduce impacts to below a level of significance. As such, implementation of the draft LMP may result in significant impacts due to substantially increasing traffic or exceeding a LOS standard**.**

Long-Term Operational Conditions

Implementation of draft LMP management goals and tasks and more specifically, the proposed increase in recreational opportunities on the SJWA, would result in increased public recreation

use of the SJWA. Increased public use would generate additional daily traffic trips that would utilize the regional and local area roadway network to access the SJWA.

According to CDFW (Sewell, pers. comm. 2016) implementation of the draft LMP would result in an increase in public recreation along the recreation user group types:

- 500 additional hunters per year/season;
- 500 additional bird/wildlife viewers per year;
- 100 additional school students per year;
- 250 additional dog trainers/field trailers per year/season; and
- 100 additional equestrian users per year.

The approximate number of additional daily trips generated by the recreation user groups listed above is discussed below.

Hunting

In addition to waterfowl, upland game bird and resident small game (i.e., black-tailed rabbit and cottontail rabbit) hunting is currently permitted on the SJWA. Due to overlapping hunting seasons, the majority of hunting activity on the SJWA is assumed to occur during the four month period from late October to late January (for waterfowl). Outside of this four month period, small game hunting including American crow hunting is permitted from February to April, black-tailed rabbit hunting is permitted all year, and cottontail rabbit hunting is permitted from July to the end of January.

As discussed in Section 5.8, Recreation, approximately 6,000 waterfowl hunters and 3,000 upland game hunters visit the SJWA on an annual basis. Furthermore, within the four month waterfowl hunting season (i.e., late October to late January), the SJWA is open for approximately 30 days and as such, up to 200 waterfowl hunters/day visit the SJWA during the 30 day open season. These users generate approximately 400 trips/day that are currently distributed on the local area roadway network over the 30 day open season. Between late October to late January, hunting is not permitted in the SJWA on Sundays; therefore, it is assumed that the majority of upland game hunting occurs over an approximate 100-day period from late October to late January (4 months x 30 days per month = 120 days – 16 days = 104 days). As such, it is assumed that up to 30 upland game hunters/day visit the SJWA during the approximate 100 day open season. These users generate approximately 60 trips/day which are currently distributed on the local area roadway network.

According to CDFW, implementation of the draft LMP and expansion of existing waterfowl and upland small game hunting opportunities on the SJWA could increase recreational use by up 500 additional hunters per year/season. Given current waterfowl and upland small game use statistics provided by the CDFW, of the 500 additional hunters per year/season, 330 (66%) are anticipated to be waterfowl hunters and 170 (33.4%) are anticipated to be upland game hunters.

Increased waterfowl hunting opportunities on the Davis Unit would increase waterfowl hunting use by approximately 330 additional hunters/persons per year, or approximately 11 persons/day over the 30 day open period. On a per day basis, increased public use of waterfowl hunting areas would generate an additional 22 trips/day during the 30 day open period. These trips would occur on Wednesdays and Saturdays and would be distributed onto the local area roadway network.

Increased and new upland game hunting opportunities on the Potrero Unit would increase upland game hunting use by approximately 170 additional hunters/persons per year, or approximately 2 persons/day over the approximate 100 day open period. On a per day basis, increased public use of upland game hunting areas would generate an additional 4 trips/day during the 100 day open period. These trips would occur Monday through Saturday and would be distributed onto the local area roadway network. This use assumption is conservative and does not consider that upland game bird and resident small game hunting would take place outside of the late October to late January hunting period.

As a worst-case scenario, increased hunting opportunities on the SJWA could generate an additional 26 trips/day on Wednesdays and Saturdays between late October and late January. On Mondays, Tuesdays, Thursdays, and Fridays, increased hunting opportunities could generate an additional 4 trips/day between late October and late January.

Bird/Wildlife Viewing

For purposes of this analysis it is assumed that the majority of existing bird/wildlife viewing on the SJWA during the year occurs outside of the general late October to late January hunting season even though there are various wildlife viewing groups that do visit during that time frame. As such, bird/wildlife viewing on the SJWA is anticipated to occur all year with a more abundant period during an approximate 8-month (or 224-day) period from February to late October. Existing bird/wildlife viewing use statistics on the SJWA were not available from the CDFW; however, for purposes of this analysis, up to 50 persons are assumed to visit the SJWA each week for bird/wildlife viewing purposes. Over an 8-month viewing season, approximately 1,600 persons are assumed to visit the SJWA for bird/wildlife viewing. As such, existing bird/wildlife viewing opportunities on the SJWA generate approximately 14 trips/day and these trips are currently distributed on the local area roadway network.

According to CDFW, implementation of draft LMP management activities would increase existing bird/wildlife viewing use by approximately 500 viewers/year. Over the approximate 8-month (224-day) season between February and October, an increase of approximate 2 wildlife viewers/day is anticipated. As such, implementation of the draft LMP and increased bird/wildlife viewing opportunities would generate an additional four trips/day between February and October and these trips would be distributed on the local area roadway network.

School Students

On an annual basis the SJWA is currently visited by approximately 200 educational visitors (primarily students from local elementary and high schools but also some college students). For purposes of this analysis it is assumed that the local school visits to the SJWA occur outside of the late October to late January hunting season. Also, because students in Moreno Valley Unified School District and the San Jacinto Unified School District schools observe summer vacation from June to August, the majority of school visits to the SJWA are assumed to occur within a 5-month period between February and May. This analysis also assumes that elementary and high school students visit the SJWA in groups of 20 students (assuming a class size of 20 students) and school district buses are utilized to transport students, teachers, and parent chaperones to and from the SJWA. As such, existing educational visits to the SJWA generates approximately 20 trips between February and May and these trips are currently distributed on the local area roadway network.

According to CDFW, implementation of draft LMP management activities would increase current educational visits/use of the SJWA by an additional 100 visitors/year. Assuming that students visit the SJWA in groups of 20 (i.e., the SJWA receives an additional 5 visits from local schools per year), then an increase of approximately 10 trips is anticipated between February and May.

Dog Trainers/Field Trailers

Approximately 1,000 dog trainers and hunt test people visit the SJWA on an annual basis. Dog training activities on the SJWA occurs during a 9-month (270-day) season from June to late February (the dog training use season overlaps with the general hunting season of late October to late January). Assuming an equal distribution of use throughout the 270-day period, approximately 5 dog trainers and hunt test people visit the SJWA on a daily basis and generate up to 10 trips that are currently distributed on the local area roadway network.

According to the CDFW, implementation of draft LMP management activities would increase dog training use on the SJWA by an additional 250 dog trainers visits per year. Assuming that these additional visits are evenly distributed over the 270-day season, an increase of approximately 1.5 dog trainers visits/day are anticipated from September to late February. As such, increased use of the SJWA for dog training purposes would generate an additional three trips/day between September and late February.

Equestrian Users

Approximately 250 equestrian users currently visit the SJWA on an annual basis. For purposes of this analysis it is assumed that the equestrian use of the SJWA generally occurs from February to October (i.e., outside of the late October to late January hunting season). No other seasonal restrictions for equestrian use are known. Assuming an equal distribution of use throughout the 8 month (240-day period), approximately 1 equestrian user/day currently visits the SJWA and generates 2 trips/day from February to October.

The CDFW anticipates that implementation of the draft LMP could result in an increase of up to 100 equestrian users/year on the SJWA. Assuming that these additional visits are evenly distributed over the 240-day season, then increased use of the SJWA for equestrian use could generate an additional 1 trip/day from February to October.

For purposes of this analysis, a worst case traffic scenario that considers overlapping recreation use schedule/seasons is used as it represents the largest recreation use period and associated traffic generation. Due to the limited waterfowl hunting schedule offered at the SJWA (i.e., 30 days between late October and late January) and the possibility of overlapping use of the area for upland game hunting during the same 30-day period/season, consideration of recreation activities that overlap with the waterfowl hunting season represents the worst-case scenario for traffic and circulation impacts. As stated above, as a worst-case scenario, increased hunting opportunities on the SJWA could generate an additional 26 trips/day on Wednesdays and Saturdays between late October and late January. During the same period, increased dog training use of the SJWA could generate an additional 3 trips/day. As such, this worst case analysis assumes that increased recreation opportunity on the SJWA could generate an additional 30 trips/day that would be distributed on the regional and local area roadway network.

As stated in Section 5.9.2, local roadways in the vicinity of the SJWA that would be utilized by recreationists (i.e., Ramona Expressway, Theodore Street, Alessandro Boulevard, SR-79/Lamb Canyon Road (Beaumont Avenue), and Highland Springs Avenue) to access the SJWA currently operating at LOS A or LOS B conditions. The addition of up to 30 vehicle trips on Wednesdays and Saturdays from late October to late January would not result in operating conditions on these roadways to degrade to LOS D or LOS E conditions. According to the County, LOS of C is optimal but LOS D conditions are also permitted in certain rural areas of the County including the Reche Canyon/Badlands, Lakeview/Nuevo, and San Jacinto Valley areas. Gilman Springs Road is currently operating at LOS E conditions in the vicinity of the Davis Unit. While increased hunting opportunity could result in the addition of 30 vehicle trips on Wednesdays and Saturdays to Gilman Springs Road during the late fall/early winter, hunters are anticipated to arrive and depart the SJWA during the early morning and early afternoon hours. The majority of this additional traffic would arrive and depart the SJWA outside of the peak hours of a.m. and

p.m. use. In addition, it is anticipated that some recreationists would elect to access the SJWA and more specially, waterfowl hunting opportunities on the Davis Unit, from the west via the Ramona Expressway or from the north via Davis Road. As such, fewer than 30 vehicle trips onto Gilman Springs Road may be generated on Wednesdays and Saturdays during the late fall/early winter. Therefore, given the multiple ingress and egress points to the Davis Unit and assuming that recreationists would generally arrive at and depart the SJWA outside of AM and PM peak hours, thus traffic associated with the draft LMP would not contribute to currently unacceptable operating conditions on Gilman Springs Road. Potential impacts resulting from operational vehicle trips on both the Davis and Potrero Units are considered **less than significant (Class III)**.

MM-TRAF-1 Prior to issuance of grading permits, California Department of Fish and Wildlife (CDFW) or the project contractor will prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way. The traffic control plan will be reviewed and approved by the County of Riverside and City of Moreno Valley for construction activities occurring on the Davis Unit and the City of Beaumont and County of Riverside for construction activities occurring on the Potrero Unit. Traffic control plan review will be conducted prior to the initiation of any construction activities. The traffic control plan will include provisions for construction times and control plans to allow motorist, bicyclist, pedestrian, and bus access throughout construction. The traffic control plan will include provisions to ensure emergency vehicle passage at all times, and includes signage and flagmen when necessary. The traffic control plan will include provisions for coordinating with emergency service providers regarding construction times.

Issue TRA-2 Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The 2011 Riverside County Congestion Management Program (CMP) (RCTC 2011) is the current CMP for Riverside County. The intent of the CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs which will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality.

RCTC's adopted minimum LOS threshold is LOS "E." Therefore, when a CMP street or highway segment falls to "F", a deficiency plan must be prepared. Preparation of a deficiency plan will be the responsibility of the local agency where the deficiency is located. Other agencies

identified as contributors to the deficiency will also be required to coordinate in the development of the plan. The plan must contain mitigation measures, including consideration of Transportation Demand Management (TDM) strategies and transit alternatives, and a schedule for mitigating the deficiency.

To ensure that the CMP is appropriately monitored to reduce the occurrence of LOS deficiencies, it is the responsibility of local agencies, when reviewing and approving development proposals, to consider the traffic impacts on the CMP System.

As shown on Figure 2-1, Riverside CMP System (Western Riverside), in the 2011 CMP, I-215, I-10, SR-60, and SR-79 are identified as Interstate and Highway CMP facilities, respectively. As such, any contribution to substantial deficiencies to these facilities would be considered a significant impact. Based on available information presented in Section 5.9.2, Existing Conditions, all facilities with the exception of I-215 are currently operating at LOS D or better conditions in the AM and PM peak hours. From SR-74/Case Road to Redlands Boulevard, northbound I-215 is operating at LOS D and LOS E conditions the AM and PM peak hours, respectively (Parsons Brinckerhoff, Inc. 2013). Along the same segment, southbound I-215 is operating at LOS E and LOS D conditions in the AM and PM peak hours, respectively (Parsons Brinckerhoff 2013).

Construction

As described above, the implementation of management goals and tasks that require construction activities (i.e., invasive species control/vegetation management, creation of new waterfowl ponds and open zones for waterfowl habitat and hunting, and the development of roads, access, and trail infrastructure) is not anticipated to generate substantial traffic on regional or local roadways that would contribute to substantial deficiencies of these facilities. Construction activities would generally occur over a 10-year timeframe and a substantial influx of construction vehicle traffic is not expected for any of the management goals and tasks that require construction. In the long-term timeframe, construction of the water storage project on Davis Subunit~~s D1 and~~ D2 is not anticipated to contribute substantial traffic to area CMP facilities such that those facilities would become substantially deficient. Neither short-term or long term direct or indirect impacts to these freeway facilities are expected to occur as a result of either construction or operational activities of the draft LMP. In addition, the delivery and removal of heavy equipment is recommended to occur outside of the morning and evening peak hours to have nominal impacts to traffic and circulation near the vicinity of the SJWA. However, because traffic could result in lane closures and an increase in construction traffic that could conflict with Riverside County's CMP this is considered a **potentially significant impact (Class II)**. Compliance with MM-TRAF-1, would require CDFW prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way, among other construction traffic-related matters. Therefore, with

implementation of MM-TRAF-1, project-related construction impacts to CMP facilities are not anticipated and impacts would be reduced to a less-than-significant level.

Operations

Increased traffic levels associated with enhanced recreation opportunity on the SJWA due to implementation of draft LMP management activities would be nominal (i.e., up to 30 additional vehicles added area roadways on Wednesday and Saturdays from late October to late January) and would not substantially affect traffic operations on local roads and regional facilities. Due to the nature of recreation activities on the SJWA, users are anticipated to arrive and depart the SJWA during the early morning and early afternoon hours and the majority would not access the regional highway and interstate network during peak hours of use. As such, traffic generated by implementation of draft LMP management activities would not contribute substantial number of daily trips capable of degrading operating conditions on the regional CMP System such that facilities would operate at LOS F conditions. Furthermore, use of the SJWA throughout the year varies and outside of the general late October to late January hunting season, recreation uses on the SJWA would generate considerably less than 30 daily trips to the regional CMP system. As such, project-related operational impacts to CMP facilities would be **less than significant (Class III)**.

Similar to the CMP, the 2012–2035 RTP/SCS provides a blueprint for improving quality of life by identifying infrastructure projects and improvements to reduce traffic and generally make it easier to get around. Furthermore, the SCS outlines SCAG's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. As previously stated, increased traffic levels associated with enhanced recreation opportunities on the SJWA due to implementation of draft LMP would be nominal (i.e., up to 30 additional vehicles added area roadways on Wednesday and Saturdays from late October to late January) and would not substantially affect traffic operations on local roads and regional facilities. In addition, the draft LMP proposes a limited amount of mobile housing for SJWA staff, and as such, would not induce population and employment growth. Furthermore, the draft LMP would not entail a change in existing land use or a substantial intensification of existing uses that would warrant the construction of new roads or the extension of public transit opportunities. The SJWA is located in rural/suburban Riverside County and is poorly served by transit (RTA Route 31 is the lone transit line serving roadways adjacent to the SJWA). With the exception of the westernmost extent of the Davis Unit, sidewalks are no installed alongside existing SJWA roads. Bicycle facilities are not installed on the main roads providing access to the Davis and Potrero Units. Also, the SJWA is a fixed location. It's location cannot be altered to decrease average trips lengths by placing it in closer proximity to users. Due to the nature of the draft LMP and because the proposed activities would no generate a substantial number of daily trips following construction, the transportation and safety measures identified in the RTP/SCS are not applicable to the project. Furthermore and as

discussed in Section 5.1, Air Quality, construction or operational activities would not generate emissions that would exceed the South Coast Air Quality Management District thresholds and impacts relating to the draft LMP's potential to conflict with or obstruct implementation of the applicable Air Quality Management Plans would be less than significant. Therefore, implementation of the draft LMP management activities would not conflict with the SCAG RTP/SCS and impacts would be **less than significant (Class III)**.

MM-TRAF-2 Implement MM-TRAF-1 for construction activities**.**

Issue TRA-3 Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction and operational activities associated with the SJWA LMP are not anticipated to result in a substantial increase in traffic levels on local roadways or area interstates and highways. Please refer to the discussion of anticipated construction and operational traffic in the Issue TRA-1 and TRA-2 analyses, above, for additional detail. Also, management activities envisioned in the SJWA LMP would not entail the introduction of vertical features that would be considered obstructions to air traffic patterns in the area. Rather, management activities would consist of habitat management activities, public use facilities, and administrative facilities. In regard to new administrative facilities, recommended improvements to existing administrative facilities on the Davis Unit include replacement of the two current employee double-wide trailers, one approximately 1,200 square feet and the other approximately 1,300 square feet, with three, approximately 1,300-square-foot residences. The new buildings would be similar to existing buildings in terms of location and size/scale. Two new residences are recommended for the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet. These facilities would be single story in height and would not obstruct air traffic patterns in the area. In addition, the proposed waterfowl ponds and the recycled water storage (reservoir) proposed in the Davis Unit is not within the March Air Reserve Land Use Compatibility Zone E. Lastly, new access roads and parking areas constructed in the SJWA would be constructed according County of Riverside standards and would occur under the direction of a licensed and qualified civil engineer. Therefore, construction and operational activities associated with the SJWA LMP would not result in a change in air traffic patterns that would in turn result in substantial safety risks. Impacts would be **less than significant (Class III).**

While implementation of the draft LMP would increase public use of the SJWA through increased recreational opportunity, the anticipated daily traffic generated by recreationists would be nominal and would not substantially affect ground or air traffic operations. As such, traffic increases associated with implementation of the draft LMP would not result in substantial safety

risks to air traffic patterns or result in changes to air traffic patterns. Impacts would be **less than significant (Class III)**.

Issue TRA-4 Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

During construction activities associated with SJWA LMP management activities, a relatively minor increase in traffic on local roadways is anticipated. Worker vehicle and truck traffic would be added to the existing local roadway network which is primarily comprised of two-lane roads (Gilman Springs Road), and four-lane expressways and highways (Ramona Expressway and SR-79/Lamb Canyon Road (Beaumont Avenue)). The addition of construction traffic to the existing local roadway network could result in the need for temporary lane closures and reduced speeds contributing to a **potentially significant impact (Class II)**. However, implementation of MM-TRAF-1 would require preparation of a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way, among other construction traffic-related matters. New access trails and parking areas constructed in the SJWA would be constructed according County of Riverside standards and would occur under the direction of a licensed and qualified civil engineer. As such, adequate sight distance at intersections with new access roadways/trails would be provided and would not result in dangerous intersection conditions. Therefore, with implementation of MM-TRAF-1, construction activities associated with the SJWA LMP would not substantially increase hazards due to a design feature or incompatible uses. Impacts would be reduced to a less-than-significant level with mitigation.

MM-TRA-4 Implement MM-TRA-1 for construction activities.

Issue TRA-5 Would the project result in inadequate emergency access?

The main ingress/egress for the Davis Unit of the SJWA is Davis Road from Ramona Expressway. The draft LMP contemplates opening an access point from Gilman Springs Road, which would facilitate emergency response to the SJWA, not hinder it. The main ingress/egress for the Potrero Unit is Highland Springs Avenue on the north end of the Potrero Unit. Implementation of the draft LMP is not expected to affect access roads for either of the Units, or limit emergency access. All areas of the SJWA would be accessible to emergency responders during construction and operations. During the up to 5 month construction period, local access to the SJWA may be reduced due to temporary lane closures but would ultimately remain available to visitors. In addition, the new access trail across Subunits D5 and D3 in the Davis Unit would be constructed according to County of Riverside standards (including Fire Department standards to ensure adequate roadway widths and turning radii) and all roadwork would occur under the direction of a licensed and qualified civil engineer. Similarly, new parking areas would be

designed to comply with applicable County of Riverside standards. No new roads are recommended for the Potrero Unit however, new access control (i.e., gates and fences) would be installed in the unit. As with existing gates, emergency service providers would be afforded means to pass through new gates at any time. Knox boxes would be installed on new gates and emergency service providers would be able to either directly open gates or use access keys to open gates and gain entrance onto SJWA lands.

As detailed above in the Issue TRA-1 discussion, increased use of the SJWA and additional daily trips added to the local and regional roadway network associated with draft LMP operation would be nominal and would not substantially affect traffic operations. As such, additional traffic generated by implementation and operation of the draft LMP would not directly or indirectly result in inadequate emergency access and impacts would be **less than significant (Class III)**.

Because construction activities have the potential to affect emergency access this is considered a **potentially significant impact (Class II)**. Compliance with MM-TRAF-1, which requires CDFW prepare a traffic control plan that specifically addresses construction traffic and possible lane closures within the public rights-of-way. The traffic control plan would be reviewed and approved by the County of Riverside and Cities of Moreno Valley and Beaumont prior to any construction activities. The traffic control plan includes provisions for construction times and control plans to allow motorist, bicyclist, pedestrian, and bus access throughout construction. The traffic control plan also includes provisions to ensure emergency vehicle passage at all times, and includes signage and flagmen when necessary. The traffic control plan includes provisions for coordinating with local school hours and emergency service providers regarding construction times. Therefore, impacts associated with emergency access would be reduced to a less-than-significant level with incorporation of MM-TRAF-1.

MM-TRA-5 Implement MM-TRAF-1 for construction activities.

Issue TRA-6 Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The draft LMP would not include any offsite improvements that would extend into adjacent roadways or otherwise impede public transit, bicycle, or pedestrian facilities. More specifically, construction activities associated with the implementation of draft LMP management goals and tasks would not include any improvements that would extend into Gilman Springs Road and SR-79/Lamb Canyon Road (Beaumont Avenue) via Route 31 that could in turn interfere with RTA Route 31 bus service or the construction of bicycle and pedestrian facilities in the future. The

new paved access trail on the Davis Unit would be constructed according to County of Riverside standards and all roadwork would occur under the direction of a licensed and qualified civil engineer. Similarly, new parking areas would be designed to comply with applicable County of Riverside standards. Approximately 5 miles of new trails are proposed around Mystic Lake on the Davis Unit and a new trail is recommended from the entrance gate in Subunit P5 to the existing parking lot in Subunit P4 on the Potrero Unit. New trails within the SJWA would expand existing trail-based recreation opportunities available in the area and would enhance access for pedestrians. Therefore, the draft LMP would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities, and impacts would be **less than significant (Class III)**.

5.9.7 Cumulative Impacts and Mitigation

The cumulative effects of past projects in the cumulative scenario have resulted in constrained traffic conditions in the area surrounding the SJWA. More specifically, trips generated by past projects and growth accommodated by local General Plans are distributed on area roads and contribute to unsatisfactory level of service operations at local area intersections during peak hours including at Redlands Boulevard/SR-60, Gilman Springs Drive/Bridge Street, and at SR-79/Gilman Springs Drive (north- and south bound). These existing unsatisfactory intersection operating conditions and possibly, constrained conditions on local area roadway and freeway segments, will likely be exacerbated by future trips generated by projects considered in the cumulative scenario. Of the projects described in Chapter 3, Cumulative Impacts Analysis Methodology, industrial and residential projects would generate AM and PM peak hour trips and ADT that would be distributed on the area circulation network and could create cumulative traffic and circulation impacts. Both the Mid-County Parkway Project and the SR-79 Realignment Project are partly being undertaken by the Riverside County Transportation Commission to create roadway capacity and accommodate future growth pursuant to local General Plans and regional projections and could assist in alleviating some of the foreseeable traffic and circulation issues associated with trips generated by projects considered in the cumulative scenario.

As most if not all of the projects considered in the cumulative scenario would generate at least 100 trips during peak hours, preparation of a traffic impact study or traffic impact analysis would be required during the discretionary review process. Unlike the draft LMP which is not anticipated to generate more than100 trips during peak hours, cumulative industrial and residential projects would be required to assess local area intersections, roadway segments, and freeway segments operating conditions with and without the development proposal under existing, opening day, near-term, and cumulative (or similar) scenarios. Further, these assessments would be required to identify project impacts under these scenarios and determine whether project trip generation contributions to a cumulative impact would be considered significant. Mitigation measures would be identified to reduce impacts to a less than significant

or, if impacts are severe and cannot be avoided even with implementation of mitigation measures, the traffic impact study/traffic impact analysis would disclose this fact and the Lead Agency ~~CDFW~~ would be required to make a statement of overriding considerations.

Implementation of the draft SJWA LMP is anticipated to result in increased recreational opportunities on the SJWA. When compared to existing conditions, increased recreational opportunities on the SJWA would generate more annual trips however, unlike the projects considered in the cumulative analysis, traffic generated by the draft LMP tends to be seasonal and tied to specific days of the week. For example, within the 4-month (i.e., late October to late January) waterfowl hunting season, the SJWA is open for approximately 30 days and hunting would generate approximate 60 trips/day. Combined with trips generated by cumulative industrial and residential projects, the addition of 60 trips/day could potentially be considerable however, in addition to the seasonality of these trips, they are also assumed to occur during off-peak hours. As discussed in Section 5.9.6, hunters are anticipated to arrive and depart the SJWA during the early morning and early afternoon hours and are not anticipated to arrive or be on project area roadways segments during the AM and PM peak hour timeframes (7 AM to 9:00 AM; 4:00 PM to 6:00 PM) that the majority of trips generated by the projects considered in the cumulative analysis would be. In addition to hunting, other activities on the SJWA receive seasonal use and as demonstrated in Section 5.9.6, when extrapolated over season of use activities generally generate a small volume of trips that would be distributed onto the local area circulation network. Therefore, given the seasonality of trip generating activities on the SJWA, the relatively small volume of trips generated when compared to projects considered in the cumulative analysis, and the temporal characteristics of trips generated by SJWA recreational activities. The draft LMPs contribution to any cumulatively significant traffic and circulation impacts would be less than significant.

5.9.8 Level of Significance After Mitigation

With implementation of MM-TRAF-1, Issue TRA-1,TRAF-2, TRAF-4, and TRAF-5 impacts would be reduced to a less-than-significant level . No residual impacts would occur after implementation of MM-TRAF-1.

Issue TRA-3 and TRAF-6 were found to be less than significant and as such, no mitigation is required.

5.9.9 References

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5.10 UTILITIES AND SERVICE SYSTEMS

5.10.1 Introduction

This section addresses potential impacts to water supply, wastewater treatment, and solid waste disposal resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Section 5.10.2 provides a description of the existing conditions for water supply, wastewater, and solid waste disposal in the SJWA, and Section 5.10.3 describes the regulatory setting. Section 5.10.4 describes the methodology used for the evaluation of utilities and service systems. Section 5.10.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts of implementation of the draft LMP and mitigation measures for identified significant impacts are provided in Section 5.10.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.10.7. The level of significance after mitigation is provided in Section 5.10.8, and Section 5.10.9 lists the references cited in this section.

Comments received in response to the Notice of Preparation (NOP) related to utilities, specifically water supply included a concern that the SJWA continue to be allowed to purchase water from the Eastern Municipal Water District (EMWD) at an affordable price, and that the Environmental Impact Report (EIR) needs to evaluate impacts to water supply. There were no comments received regarding wastewater treatment or solid waste. A copy of the NOP and letters received in response to the NOP are included in Appendix A.

The primary sources reviewed to prepare this section include information from EMWD, California Department of Fish and Wildlife (CDFW), California Department of Resources Recycling and Recovery (CalRecycle), and Riverside County. Section 5.10.9 lists the references cited in this section.

5.10.2 Existing Conditions

This section summarizes the existing network of water delivery and water storage structures present in the SJWA and also describes existing wastewater infrastructure in the SJWA study area and available solid waste and recycling services. A more detailed discussion of watershed and hydrologic features encompassed within the SJWA study area, and water quality and groundwater resources is discussed in Section 5.7, Hydrology and Water Quality. Refer to Figures 5.7-1, 5.7-3, and 5.7-4 for delineation of the San Jacinto River Watershed, FEMA flood zones, and groundwater management zones within the SJWA study area.

Water Supply

Water services for the SJWA are provided by EMWD. EMWD provides potable water, recycled water and wastewater services to an area of approximately 555 square miles in western Riverside County (EMWD 2016). Initially formed in 1950 to bring imported water to the area, EMWD was annexed into the Metropolitan Water District of Southern California (MWD) in 1951 and is now one of MWD's 26 member agencies.

The majority of EMWD's potable water supplies are imported water purchased through MWD from the State Water Project (SWP) and the Colorado River Aqueduct. In 2015, approximately 45 percent of EMWD's total retail supply consisted of imported water delivered through MWD. Imported water is delivered to EMWD either as potable water treated by MWD, or as raw water that EMWD can either treat at one of its two local filtration plants or deliver as raw water for non-potable uses (EMWD 2016).

EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities and several storage ponds spread throughout EMWD's service area that are all connected through the recycled water system. As of 2014, EMWD has used 100% of the recycled water it produces (EMWD 2016).

EMWD plans to meet increases in projected water demands through a combination of local supply development and ongoing water conservation. Future water supply projects described in the 2015 Urban Water Management Plan (UWMP) include continuing full utilization of recycled water, expansion of the desalination program, increasing local groundwater banking, and developing additional regional water transfers and exchanges. Table 5.10-1 identifies EMWD's existing, planned, and available water supplies.

Table 5.10-1
EMWD Total Retail and Wholesale Water Supply (AFY)

Water Supplies	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Retail						
Imported Water	56,397	81,197	89,097	100,497	111,597	122,097
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100

Table 5.10-1
EMWD Total Retail and Wholesale Water Supply (AFY)

Water Supplies	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Recycled Water	44,150	45,245	48,334	50,017	51,800	53,300
Total Retail Supply	**123,087**	**145,745**	**159,834**	**172,917**	**185,800**	**197,800**
Wholesale						
Imported Water	21, 768	50,500	54,100	57,700	61,200	64,800
Recycled Water	1,235	1,656	4,766	5,183	5,600	5,600
Total Wholesale Supply	**23,003**	**52,156**	**58,866**	**62,883**	**66,800**	**70,400**
Total Water Supply	**146,060**	**197,901**	**218,700**	**235,800**	**252,600**	**268,200**

Source: EMWD 2016, Table ES-3
Note: AFY = acre-feet per year

Water Demand

In 2015, the total water demand within the EMWD service area was approximately 146,000 acre-feet. This amount includes retail and wholesale potable and raw water and retail and wholesale recycled water. EMWD's retail and wholesale demand projections for its potable and non-potable systems are presented in 5.10-2.

Table 5.10-2
EMWD Total Water Demand Projections

	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Retail Potable and Raw Water Demand	78,937	100,500	111,500	122,900	134,000	144,500
Wholesale Potable and Raw Water Demand	21,768	50,500	54,100	57,700	61,200	64,800
Total Potable and Raw Water Demand	100,705	151,000	165,600	180,600	195,200	209,300
Retail Recycled Water Demand	44,150	45,245	48,338	50,017	51,800	53,300
Wholesale Recycled Water Demand	**1,235**	**1,656**	**4,766**	**5,183**	**5,600**	**5,600**
Total Recycled Water Demand	45,385	46,901	53,100	55,200	57,400	58,900
Total Water Demand	**146,090**	**197,901**	**218,700**	**235,800**	**252,600**	**268,200**

Source: EMWD 2016, Table ES-2
Note: AFY = acre-feet per year

Since its formation as a water agency, EMWD has shifted from primarily serving agricultural uses to primarily serving urban uses. Today, EMWD's retail customers are mostly residential, with other uses consisting of commercial, industrial, institutional, landscape, and agricultural. In

addition to retail potable water demand, EMWD delivers water to seven wholesale customer agencies and meets a significant portion of demand with recycled water (EMWD 2016).

Davis Unit

Historically, a~~A~~bout 95% of all the water demands within the Davis Unit is supplied by the EMWD recycled water system, which is sourced from tertiary treated wastewater, not groundwater. Approximately 5% of the water demand on the Davis Unit is served by groundwater with approximately 4% provided by the CDFW well at the Walker ponds, and the remaining 1% is provided by a domestic well that serves the administrative office, public restrooms and two state-owned housing units. Given approximately 5% of the water demand on the Davis Unit is served by groundwater, total groundwater use in 2015 is conservatively estimated to have been 185 acre-feet. Given 2015 was a time of severe/exceptional drought, this is likely on the high end of the groundwater demand of the SJWA under current management.

A vast network of water control and water storage structures is used to maintain the wetland habitat that exists on the Davis Unit of the SJWA. These structures include levees surrounding the managed wetlands, flood gates and weirs between wetland areas, pumps, pipelines, and release valves. Irrigation systems have also been installed in the existing agricultural fields to irrigate food crops. There are also five water guzzlers on the Davis Unit that are currently maintained by Quail Unlimited and are at least 20 years old. Guzzlers provide a water source for birds, small game, and in some instances, big game, particularly during the summer months at locations throughout the Davis Unit of the SJWA.

Potrero Unit

With the exception of culverts in Subunits P2, P3, P5, P10, and P11, no water management or water supply facilities are currently constructed on the Potrero Unit.

Reclaimed/Recycled Water

In 2015, EMWD produced 45,385 acre-feet of recycled water for distribution to retail and wholesale customers throughout its service area (EMWD 2016). System losses such as water storage evaporation and incidental recharge accounted for 11,384 acre-feet of this amount, with the remainder available as supply. The majority of recycled water sold is used for agricultural irrigation. A portion of the water sold for agriculture is used in lieu of groundwater, preserving the groundwater basin and improving water supply reliability. In addition to meeting agricultural demand, recycled sales to municipal customers are increasing rapidly as residential and urban development replaces irrigated farmland. Landscape irrigation is an emerging market and in 2008, EMWD started selling recycled water to a large industrial customer for cooling towers in a power generation plant. EMWD also sells recycled water to the CDFW for environmental use

within the SJWA and to recreational customers that are comprised of private duck clubs and bird sanctuaries that use recycled water for ponds. EMWD uses existing storage facilities to store water during off peak periods for delivery in peak months and to maximize the amount of recycled water sold. EMWD's current and projected retail recycled water sales for wetlands or wildlife habitat is summarized in Table 5.10-3.

Table 5.10-3
EMWD Current and Projected Retail Recycled Water Direct Beneficial Uses (AFY)

Beneficial Use Type	Level of Treatment	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Wetlands or wildlife habitat	Tertiary	3,507	4,500	4,500	4,500	4,500	4,500

Source: EMWD 2016, Table 6-11
Note: AFY = acre-feet per year

EMWD constructed and maintains the reclaimed water conveyance system that is used to deliver recycled wastewater to the SJWA from EMWD's Hemet/San Jacinto Regional Water Reclamation Facility. This distribution network provides a water source for wildlife habitat on the SJWA and in the area adjacent to the water conveyance system. The reclaimed/recycled water conveyance system is described in greater detail below (see Section 5.10.3).

Wastewater

According to the Moreno Valley General Plan, sewer service for most of the City and surrounding areas is provided by EMWD; however, sewer infrastructure does not exist within most of the eastern side of Moreno Valley (City of Moreno Valley 2006). EMWD is responsible for all wastewater collection and treatment in its service area.

EMWD operates four regional water reclamation facilities that together treat approximately 46 million gallons of wastewater per day (MGD - EMWD 2017a). The facility located nearest to the SJWA Potrero Unit and a portion of the Davis Unit, the San Jacinto Valley Regional Water Reclamation Facility, has a maximum treatment capacity of 14 MGD but currently treats approximately 7 MGD (EMWD 2017b). An expansion undertaken by EMWD in 2011 allowed the facility to receive wastewater from throughout the San Jacinto valley and through a mostly biological process, process wastewater into tertiary-level recycled water. This product is then pumped through a separate distribution system to be conveyed throughout the region for non-potable use. The facility also contains a multipurpose constructed wetlands that provides for additional treatment of tertiary treated wastewater. More than 12 MG of tertiary treated recycled water is stored in the constructed wetlands. The Moreno Valley Regional Water Reclamation Facility is located nearest to the western portion of the Davis Unit and the facility has a current treatment capacity of approximately 16 MGD (EMWD 2017c). According to EMWD, in 2016, the facility treated an average of 10.6 MGD (EMWD 2017c).

EMWD treats all of the wastewater collected in its service area to tertiary standards and disposes of its recycled water in one of three ways; (1) customer sales, (2) discharge to Temescal Creek, or, (3) through percolation and evaporation while stored in ponds throughout EMWD.

The SJWA straddles two EMWD sewer subservice areas: the southwestern most portion of the Davis Unit with a portion of the Davis Unit located in Subservice Area 2 (I.D. No. 32) while the remaining portion of the Davis Unit and the western portion of the Potrero Unit are located in Subservice Area 1 (I.D. No. 31) (EMWD 2017d).

There is currently no sewer/wastewater infrastructure constructed on either the Davis Unit or the Potrero Unit of the SJWA. On-site septic systems provide wastewater service for the public restrooms, residences, and administrative office located on the Davis Unit. There are no municipal/engineered stormwater drainage systems on the Davis Unit or the Potrero Unit of the SJWA.

Solid Waste

Solid waste collection services in the SJWA, including the City of Moreno Valley, unincorporated County of Riverside, and City of Beaumont, are provided by Waste Management Inland Empire. Once collected, solid waste is transferred by truck to a County landfill with available remaining capacity such as the Badlands Landfill, the El Sobrante Landfill, or the Lamb Canyon Landfill. These three landfills have a combined remaining capacity of 69.1 million tons, as shown in Table 5.10-4.

Table 5.10-4
Landfills and Current Remaining Capacity in the SJWA Study Area

Landfill	Location	Estimated Close Date	Maximum Permitted Daily Load (tons/day)	Estimated Total Capacity (tons)	Current Remaining Capacity (tons)
Badlands Landfill	31125 Ironwood Avenue Moreno Valley, California	2022	4,800	17.6 million	5.7 million as of July 2016
El Sobrante Landfill	10910 Dawson Canyon Road Corona, California	2045	16,054	209.9 million	57.5 million as of July 2016
Lamb Canyon Landfill	16411 Lamb Canyon Road (State Route 79) San Jacinto, California	2029	5,000	15.7 million	5.9 million as of July 2016
		Total	**25,554**	**243.2 million**	**69.1 million**

Source: CalRecycle 2017a, 2017b, 2017c; Hesterly, pers. comm. 2016.

5.10.3 Applicable Regulations, Plans, and Policies

Federal

Federal Clean Water Act of 1987

The Clean Water Act (CWA) is the primary federal law that protects our nation's waters, including lakes, rivers, aquifers, and coastal areas. Section 401 of the CWA requires that an applicant seeking a federal permit to conduct any activity, including the construction or operation of a facility that may result in the discharge of any pollutant, must obtain certification from the state.

Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. Section 404 of the CWA established a permit program to regulate the discharge of dredged material into waters of the United States.

National Pollution Discharge Elimination System

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. The U.S. Environmental Protection Agency (EPA) has authorized the State of California to administer its NPDES permitting program. The NPDES permitting program prohibits the unauthorized discharge of pollutants from a point source (e.g., pipe, ditch, well) to U.S. waters. The permitting program addresses municipal, commercial, and industrial wastewater discharges. Permittees must verify compliance with permit requirements by monitoring their effluent, maintaining records, and filing periodic reports. The program is administered at the local level by the Regional Water Quality Control Boards (RWQCBs).

State

Agreement Between State of California, Department of Fish and Game and Eastern Municipal Water District for the San Jacinto Wildlife Area Reclaimed Water Supply Project (1987)

On August 18, 1987, the California Department of Fish and Game (now CDFW) and EMWD entered into an agreement to complete a cooperative project for the construction and operation of a reclaimed water conveyance system consisting of approximately 53,000 feet of pipeline and appurtenant facilities to provide a water source for both the wildlife habitat on the SJWA and areas adjacent to the pipeline (the "Agreement"). The 11-mile pipeline, originating at EMWD's

Hemet/San Jacinto Regional Water Reclamation Facility, was completed in January 1990. In return for partially funding the pipeline, CDFW received, at a reduced cost, an initial amount of 1,500 acre-feet of reclaimed water each year, increasing to a maximum of 4,500 acre-feet per year in 1999–2000 and lasting the duration of the initial term of the Agreement (CDFG and EMWD 1987). While, the initial term of the agreement was 25 years, the agreement acknowledged that without continued water deliveries from EMWD, the wildlife and habitat at the SJWA would become degraded and ultimately much of it would cease to exist at the site. The dependence of the habitat and species on the water that is the subject of the original water contract between CDFW and EMWD is acknowledged in the contract and a specific provision in the contract calls for future extensions of the agreement in light of the signatories' long term commitment to support that valuable wildlife habitat. As part of the agreement, 6.5 MGD (20 acre foot per day) capacity rights in the system from September 1 through May 31 was reserved for the state (CDFG and EMWD 1987).

In June 2014, the state and EMWD executed the First Amendment to the 1987 Agreement for the SJWA (the amendment extended the original agreement terms one year; CDFG and EMWD 2014) and a subsequent Second Amendment to the 1987 Agreement was executed on June 26, 2015 (CDFG and EMWD 2015). CDFW and EMWD plan to extend this Agreement each year indefinitely until after the draft LMP is approved, at which time an Agreement will be requested that covers a longer time period.

Porter-Cologne Water Quality Control Act

In 1969, the Porter-Cologne Water Quality Control Act was established to preserve, enhance, and restore the quality of California's water resources. The Porter-Cologne Act created the State Water Resources Control Board (SWRCB) and established nine Regional Water Quality Control Board (RWQCB) Basin Plan regional offices. SJWA is located in the Santa Ana Basin Plan, Region 8. The Region 8 branch is responsible for controlling water quality by specifically focusing on local scale issues. The RWQCB regional office branch manages water sources that are present within the SJWA. Construction activities within the SJWA may be subject to the current SWRCB General Construction Permit, which regulates the type of stormwater discharge that may be allowed from a construction site and generally requires preparation and implementation of a Stormwater Pollution Prevention Plan, as well as evaluation of short- and long-term best management practices, which minimize adverse downstream water quality effects. The RWQCB also manages urban runoff through issuance of a countywide Urban Runoff Management Program pursuant to the federal CWA NPDES requirements and the state Water Discharge Requirements under the Porter-Cologne Act. This program, also known as the MS4 (Municipal Separate Storm Sewer System) permit, requires that the County of Riverside and incorporated cities adopt policies and regulations that meet regional water quality standards.

As such, management of urban runoff, including the use of recycled water, within the SJWA must meet these regional standards.

Sections 13550-13556 of the State Water Code

These sections of the State Water Code state that local, regional, or state agencies shall not use water from any quality source of potable water for nonpotable uses if suitable recycled water is available as provided in Section 13550 of the Water Code.

Urban Water Management Planning Act

The Urban Water Management Planning Act, requires urban water suppliers to develop written urban water management plans (UWMP). Urban water suppliers include publicly- or privately-owned suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (California Water Code Section 10617). While generally aimed at encouraging water suppliers to implement water conservation measures, the Urban Water Management Planning Act also created long-term planning obligations. In preparing UWMPs, urban water suppliers must describe the following:

- Existing and planned water supply and demand;
- Water conservation measures and a schedule for implementing and evaluating such measures; and
- Water shortage contingency measures

The Urban Water Management Planning Act requires that urban water suppliers use a 20-year planning horizon, or as far as data are available, in five-year increments, and update the data in the urban water plans every five years. In preparing their 20-year management plans, water suppliers must directly address the subject of future population growth and must include an assessment of the reliability of its water service to its customer during normal, dry, and multiple dry water years (California Water Code Section 10635(a)). The suppliers must also identify sources of supply to meet demand. The plan must "identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier." In identifying these future water sources, the suppliers need not conduct environmental review.

Waste Discharge and Producer/User Reclamation Requirements for Eastern Municipal Water District's Regional Water Reclamation Facilities (Santa Ana RWQCB Order No. R8-2014-0016 amending order No. R8-2008-0008))

On September 5, 2008, the Santa Ana RWQCB adopted Order No. R8-2008-0008, prescribing waste discharge and producer/user reclamation requirements for EMWD's regional water

reclamation facilities. The order applies to EMWD's production of recycled water from its four regional water reclamation facilities, as well as its storage and distribution system consisting of a series of storage ponds, pump stations, and distribution systems in its service area. The order outlines discharge prohibitions, effluent limitations and discharge specifications, receiving water limitations and specifications, standard provisions, monitoring and reporting requirements, and compliance determination procedures that EMWD must meet to comply with the Basin Plan and other governing regulations. Besides meeting effluent standards for tertiary-treated water, a major focus of the waste discharge requirement (WDR) is the implementation of new nitrogen and total dissolved solids (TDS) management strategies applicable to both surface and ground waters. The order recognizes that Basin Plan objectives for TDS and nitrogen may be difficult to achieve and thus allows EMWD to "offset" contributions to the basin through implementation of a Salinity Management Plan, a conjunctive use project in the San Jacinto Upper Pressure Zone. The amendment to the order (R8-2014-0016), among other things, removed the recycled water TDS limitation for the San Jacinto–Lower Pressure Zone based on soil characterization studies showing areas within the San Jacinto–Lower Pressure Zone are underlain by natural barriers that preclude the recycled water used in the groundwater management zone, and the commensurate TDS, from impacting the groundwater in the water bearing zones at lower depths. It also continues the implementation of EMWD extensive groundwater monitoring program.

Although CDFW is not the permittee under this WDR, it relates to the proposed program because it shows delivery of recycled water for the purpose of wetlands and waterfowl ponds on the Davis Unit is authorized by the Santa Ana RWQCB.

California Integrated Waste Management Act of 1989

Adopted in 1989, Assembly Bill (AB) 939 (Sher) established the California Integrated Waste Management Act of 1989. Among other items, the AB 939 established an integrated waste management hierarchy to guide the California Department of Resources Recycling and Recovery (CalRecycle) and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal (CalRecycle 2017e). AB 939 also established waste diversion mandates that required each City or County in the State of California to implement a schedule which showed a diversion rate of 50% of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting activities (CalRecycle 2017d).

AB 341

Adopted in 2011 and building on the success of AB 939, AB 341 (Chesbro) required CalRecycle to issue a report to the Legislature that included strategies and recommendations that would enable the state to divert 75% of the solid waste generated in the state from disposal by January 1, 2020

(CalRecycle 2017e). Under AB 341, businesses that generate four cubic yards or more of trash each week are subject to this law. Further, school districts and schools, and federal, state, local, and regional agencies or facilities are also subject to the waste diversion requirements of AB 341.

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside Department of Environmental Health

The County's Department of Environmental Health operates as the Local Solid Waste Management Enforcement Agency and is certified by Cal Recycle to regulate landfills, transfer stations, composting sites and other specific solid waste activities under State laws and regulations.

Riverside County Department of Waste Resources

The Riverside County Department of Waste Resources operates six landfills that serve County residents. These include the Badlands Sanitary Landfill (31125 Ironwood Avenue in Moreno Valley) and the Lamb Canyon Landfill (16411 Lamb Canyon Road in Beaumont) that are closest to the SJWA (Riverside County Department of Waste Resources 2017a). A privately operated landfill, El Sobrante Landfill (10910 Dawson County Road in Corona) is also located in the region and is operated by Waste Management, Incorporated. The El Sobrante Landfill is located approximately 16 miles west of the SJWA Davis Unit.

Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan was prepared in accordance with AB 939, and is comprised of the Countywide Summary Plan; the Countywide Siting Element; and the Source Reduction and Recycling Elements (SRREs), Household Hazardous Waste Elements (HHWEs), and Nondisposal Facility Elements (NDFEs) for unincorporated Riverside County and each of the cities in Riverside County (Riverside County Department of Waste Resources 2017b).

Applicable goals, policies, and objectives of the Countywide Summary Plan include the following:

- **Goal 1, Policy 3:** Promote an integrated waste management system which emphasizes source reduction as its first priority, recycling and composting as secondary priorities, and environmentally safe landfill disposal and transformation when recycling is not possible.

- **Goal 1, Objective 1:** Strive to comply with the waste reduction goals of AB 939 et seq.

Ordinance No. 657: An Ordinance of the County of Riverside Regulating the Collection, Transfer and Removal of Solid Waste.

In addition to establishing definitions for a variety of solid waste, recyclables, and related terms, Ordinance No. 657 established collection permit areas in the unincorporated County, solid waste removal responsibilities, identified certain prohibitions, and codifies the permit system associated with the collection, transfer, and removal of solid waste (Riverside County 1999).

Riverside County General Plan

In consideration of Utilities and Service Systems, County policies applicable to water resources and solid waste disposal are relevant for discussion here. Policies concerning wastewater were reviewed and were determined to not be particularly applicable to the draft LMP. The Multipurpose Space Element and Air Quality Elements of the County's General Plan (Riverside County 2015) contains policies related to water resources and waste reduction including the following:

Policy OS 1.1: Balance consideration of water supply requirements between urban, agricultural, and environmental needs so that sufficient supply is available to meet each of these different demands.

Policy OS 3.3: Minimize pollutant discharge into storm drainage systems, natural drainages, and aquifers.

Policy OS 3.4: Review proposed projects to ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Permits and require them to prepare the necessary Stormwater Pollution Prevention Plan (SWPPP).

Policy OS 4.9: Discourage development within watercourses and areas within 100 feet of the outside boundary of the riparian vegetation, the top of the bank, or the 100 year floodplain, whichever is greater.

Policy AQ 20.20: Reduce the amount of solid waste generation by increasing solid waste recycling, maximizing waste diversion, and composting for residential and commercial generators. Reduction in decomposable organic solid waste will reduce the methane emissions at County landfills.

Policy AQ 20.30: Reduce potable water use, wastewater and solid waste generation, and urban runoff at both new and existing County facilities and operations. Also, increase the amount of materials recycled from County facilities.

City of Moreno Valley General Plan

Under the draft LMP the SJWA would continue to receive water supply from EMWD and one onsite well and would not require a connection to the City's water infrastructure. In addition, existing and future development would use onsite septic for wastewater disposal. Therefore, only those City policies applicable to solid waste disposal are relevant.

According to the City's General Plan, in 1992 the Moreno Valley City Council adopted a SRRE describing how the City plans to meet waste diversion goals mandated by AB 939. As of 2004, 51% of solid waste generated in the City was diverted from landfills (City of Moreno Valley 2006). The General Plan states that locally generated solid waste is deposited in several local landfills including the Badlands Sanitary Landfill which is owned and operated by the Riverside County Waste Resources Management District.

Applicable General Plan regulations related to solid waste include the following:

Objective 7.8: Maintain an adequate system of solid waste collection and disposal to meet existing and future needs.

Policy 7-1: Support regional solid waste disposal efforts by the County of Riverside.

Municipal Code

The City of Moreno Valley Municipal Code requires that at least 50% of waste generated from construction, demolition, and remodeling debris shall be diverted from the landfill (Moreno Valley Municipal Code Section 8.80.020). Diversion of recyclable materials including cardboard, wood, pallets, and other materials is also required for new construction however, as this requirement only pertains to residential, commercial, and industrial development, the draft LMP would not be subject to this requirement.

City of Beaumont General Plan

The Potrero Unit would receive water supply from on-site wells and would not require a connection to the City's water infrastructure unless feasible in the future. In addition, existing and future development would use on-site septic for wastewater disposal. Therefore, only Community Development Element policy 29 applicable to wastewater treatment is listed.

Policy 29: The City of Beaumont will continue to ensure that future development is adequately served by wastewater treatment facilities.

5.10.4 Methodology

This section is based on a review of available studies and documents including the 2015 UWMP for EMWD, the City of Moreno Valley General Plan, County of Riverside General Plan, and City of Beaumont General Plan. A brief overview of the methodology applied to assess potential impacts associated with the draft LMP is provided as follows:

Water Supply: The availability of water supply was assessed by reviewing the 2015 UWMP prepared by EMWD. The UWMP summarizes EMWD's projected retail and wholesale water demands and characterizes the source waters available to meet those demands for the years 2015 to 2040.

Wastewater: Information used for this analysis includes relevant local planning documents, a review of the 2015 UWMP prepared by EMWD, and identification of the maximum treatment capacity and current treatment rate of EMWD treatment facilities.

Solid Waste: Information used for this analysis includes review of relevant local planning documents and the CalRecycle Solid Waste Information System (SWIS) search page.

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the draft SJWA LMP. The draft SJWA LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to protect and enhance wildlife values and guide public uses of the property. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the California Environmental Quality Act (CEQA) Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR (but are part of the existing baseline conditions). The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Fish and Game Code Section 1600 et seq. or 2081, or be reviewed by CDFW as a responsible agency under CEQA Guidelines Section 15096, CDFW may use that opportunity to evaluate

those permit applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.10.5 Standards of Significance

The State of California has developed guidelines to address the significance of utilities and service system impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Utilities and service system impacts would be considered significant if a proposed project would:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
7. Comply with federal, state, and local statutes and regulations related to solid waste.

5.10.6 Impact Analysis and Mitigation

Issue UTL-1 Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The SJWA is not currently connected to EMWD sewer service infrastructure and implementation of the draft LMP would not entail the extension of sewer services to the SJWA or the installation of new sewer connections to existing EMWD infrastructure. Existing developed uses on the Davis Unit, including the two residences, public restrooms and administrative space have an onsite septic system that provides wastewater treatment. New facilities including three new manufactured homes, to replace the existing units, would continue to use septic for wastewater treatment. One new septic system may need to be installed to service the third residence. Within

the Potrero Unit, two new residences (double-wide trailers approximately 1,440 square feet), an office, a workshop, and a warehouse are proposed to be developed in the future. Onsite septic would also provide wastewater treatment for this new development. While EMWD's sewer system has been designed to and continues to be compliant with RWQCB standards, the SJWA does not propose new connections from either the Davis Unit or Potrero Unit to the EMWD's sewer system.

Recycled water is purchased from the EMWD for use on the SJWA. In addition to CDFW, private duck clubs and bird sanctuaries operating within the SJWA purchase recycled water from EMWD. Under existing conditions, delivery of recycled water for the purpose of wetlands and waterfowl ponds on the Davis Unit is authorized by the Santa Ana RWQCB. EMWD has worked closely with the Santa Ana RWQCB in updating local basin plans and developing a long-term salinity management plan to support and ensure compliance with local basin objectives for salinity and nitrogen (EMWD 2016).

All of EMWD's recycled water reclamation facilities produce tertiary effluent that is suitable for all Department of Health Services permitted uses, including irrigation of food crops and full body contact. In addition, EMWD's regional water reclamation facilities including its distribution system which delivers recycled water to the SJWA are required to meet effluent standards for tertiary-treated water including water supply delivered to the SJWA for environmental and recreational use, consistent with Santa Ana RWQCB Order No. R8-2014-0016 amending order No. R8-2008-0008. The same as under existing conditions, expanded recreational opportunities on the SJWA including new riparian and wetland habitat management areas would be facilitated through the delivery and use of tertiary-treated recycled water purchased from EMWD. Because implementation of the draft LMP would not introduce wastewater generating uses and would continue to receive recycled water treated in accordance with the Santa Ana RWQCB requirements, impacts would be **less than significant (Class III)**.

Issue UTL-2 Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Construction of new water or wastewater treatment facilities, or the expansion of existing water or wastewater treatment plants operated by EMWD are not components of the draft LMP. Further, current habitat management areas and recreational opportunities occurring on the SJWA and the expansion of areas and opportunities pursuant to the LMP would not require the construction of new water or wastewater treatment facilities. Water-dependent habitat management areas and recreational opportunities on the SJWA are facilitated through contractual deliveries of recycled water from EMWD to CDFW. Pursuant to the recent subsequent Fourth

Amendment to the 1987 Agreement which was executed May 22, 2017, and ~~expires~~ would need to be extended by June 30, 2018, CDFW receives a maximum of 4,500 acre-feet of water per year from EMWD delivered via an 11-mile long pipeline that originates at EMWD's San Jacinto Regional Water Reclamation Facility. While it has a maximum treatment capacity of 14 MGD, the San Jacinto Regional Water Reclamation Facility currently only treats approximately 7 MGD (EMWD 2017c). Because the San Jacinto Regional Water Reclamation Facility currently treats wastewater and makes recycled water deliveries to the SJWA, and because the facility ostensibly has adequate capacity to continue to accommodate the recycled water needs of the SJWA (for wetlands or wildlife habitat) and other uses in its service area including agricultural, landscape, and golf course irrigation, commercial use and recreational impoundment, new or expanded water or wastewater treatment facilities would not be required.

New facilities proposed within the draft LMP include three new manufactured homes to replace the existing units, and either one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems to provide water for these new uses on the Davis Unit. An on-site well provides potable water within the Davis Unit for these residential facilities and will continue to serve these needs at the replaced residences. A new domestic water system is proposed within the Potrero Unit. Based on its remote location, it is assumed the source of water would be from a new well. The new domestic water system would be approximately 1,500 gallons and would provide water to serve two new residences (double-wide trailers that are approximately 1,440 square feet), an office, a workshop, and a warehouse. Because the new facilities proposed by the draft LMP would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, impacts would be **less than significant (Class III)**.

Issue UTL-3 Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As stated in Section 5.7, Hydrology and Water Quality, upon implementation of the draft LMP the rate and volume of runoff would be the same or similar to existing conditions. The draft LMP involves the creation of minimal impervious surfaces and there are no municipal/engineered stormwater drainage systems on either the Davis Unit or the Potrero Unit. Rather, flows are carried through drainage swales and riparian zones. As described under Issue HYD-1 (see Section 5.7, Hydrology and Water Quality), where new facilities or infrastructure involve impervious surfaces, there could be a minor and highly localized increase in the rate and volume of stormwater runoff relative to existing conditions. However, these increases would not be enough to appreciably alter the volume of water carried by existing swales and riparian zones. Therefore, because the draft LMP would not require or result in the construction of new storm

water drainage facilities or expansion of existing facilities, impacts on both the Davis and Potrero Units of the SJWA would be **less than significant (Class III)**.

Issue UTL-4 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The delivery of water from EMWD to CDFW for the benefit of wildlife habitat maintenance on the SJWA is subject to an agreement between EMWD and the State. On August 18, 1987, the California Department of Fish and Game (now CDFW) and the EMWD entered into an agreement to complete a cooperative project for the construction and operation of a reclaimed water conveyance system to provide a water source for both the wildlife habitat on the SJWA and areas adjacent to the pipeline. In return for partially funding the pipeline, CDFW received, at a reduced cost, an initial amount of 1,500 acre-feet of reclaimed/recycled water each year, increasing to a maximum of 4,500 acre-feet per year in 1999–2000 and lasting the duration of the initial term of the 25 year Agreement (CDFG and EMWD 1987). While the original term of the Agreement ended in 2012, 1-year extensions have been initiated since ~~the expiration of the original term~~that time. CDFW and EMWD plan to extend this Agreement each year indefinitely until after the draft LMP is approved, at which time an Agreement will be requested that covers a longer time period. Any water demands exceeding the 4,500 acre feet per year would also need to be addressed in a new long term agreement, and be subject to the availability of future EMWD recycled water supply. Based on historical records, the most water usage by CDFW was in 2015 (a drought year) in the amount of 3,493 acre-feet which is less than the agreed upon quantity of water to be delivered by EMWD to the CDFW in FY 2014-2015 and FY 2015-2016 per the Agreement (CDFG and EMWD 1987). Based on historic records, CDFW has used less water than it is contractually ~~obligated~~ entitled to receive and these water supplies have been adequate for habitat conservation and recreation purposes since on the SJWA the inception of the Agreement through various periods of drought (see Table 2-5, Historic Usage of Recycled Water at Davis Unit, in Chapter 2, Project Description).

The SJWA relies on EMWD's recycled water infrastructure for water deliveries used for maintenance of existing wetlands and waterfowl habitat. CDFW would continue to utilize water deliveries for the proposed expansion of these amenities on the SJWA. EMWD owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities and several storage ponds located throughout EMWD's service area that are all connected through the recycled water system. From 2010 to 2015, EMWD's total retail recycled water supply averaged over 46,000 AFY. EMWD beneficially used 100 percent of its recycled water produced in 2015, including 34,810 acre feet delivered for customer use. EMWD recycled water is delivered to the SJWA from EMWD's Hemet/San Jacinto Regional Water Reclamation Facility. While the San Jacinto Regional Water Reclamation Facility currently treats

approximately 7 MGD (EMWD 2017c), it has a maximum treatment capacity of 14 MGD. Also, system wide EMWD's reclamation facilities have a combined treatment capacity of 81,800 AFY yet in 2015 the facilities produced a combined 45,385 AF of recycled water (EMWD 2016). EMWD reclamation facilities and specifically, the Hemet/San Jacinto Regional Water Reclamation Facility, have adequate treatment capacity to supply the allocation of 4,500 acre feet per year for the SJWA and agricultural and landscape irrigation demand in the EMWD service area. Further, contractual water deliveries to the SJWA of 4,500 AFY for wetland or wildlife habitat are considered in EMWD's 2015 UWMP total retail recycled water demand projections and supply forecast through the year 2040.

EMWD is also in the process of completing master planning documents that detail expansion of recycled water supplies and facilities. The Recycled Water Strategic and Master Plan examines several options for the expansion of recycled water use in EMWD's service area and considers the current and potential constraints and opportunities for reducing discharge and increasing use of recycled water. Using EMWD's entire recycled water supply to offset demand for potable water will decrease the dependence of EMWD on imported water supplies and provide additional supply reliability. As EMWD continues to invest in its recycled water program, reliability will improve and the recycled water produced by EMWD's treatment plants will be utilized.

Although historic records indicate that annual water deliveries to the SJWA have been adequate for habitat conservation and recreation purposes, EMWD's Hemet/San Jacinto Regional Water Reclamation Facility has capacity to increase wastewater treatment. The dependence of the habitat and species on the water that is the subject of the original water contract between CDFW and EMWD is acknowledged in the contract between the two parties and a specific provision in the contract calls for future extensions of the agreement in light of the signatories' long term commitment to support that valuable wildlife habitat. (See Agreement section 3.F.) In addition, EMWD's April 2016 Recycled Water Strategic Plan calls for future deliveries to CDFW consistent with the currently contracted for supply. EMWD assigns a "Priority 1" to San Jacinto Wildlife Area's water supply contract and has committed that any future long-term agreement would also be included in this category that contractually guarantees deliveries. (A typical agricultural customer is categorized as Priority 4.) EMWD has also projected recycled water supplies will increase in the future. ~~(and ostensibly, recycled water deliveries), and~~ EMWD is continuing to invest in its recycled water program, the additional recycled water demand associated with new and expanded water-dependent uses on the SJWA in the draft LMP is not yet known. Recycled water demand on the SJWA must be known to determine if annual deliveries identified in the existing Agreement, or with CDFW well water supply, are sufficient to support the future water dependent uses proposed by the draft LMP. Once the draft LMP is approved, CDFW plans to request a new long-term Agreement, however, intentions to request a new Agreement do not ~~adequately demonstrate that existing~~ guarantee water ~~deliveries of up to 4,500 AFY would be sufficient to support new and expanded water dependent uses on the SJWA~~. Therefore, a

potentially significant impact (Class II) may occur. Implementation of MM-UTIL-1 would ensure that long-term impacts associated with sufficient water supplies would be less than significant.

A recycled water storage reservoir built by CDFW, that would serve as seasonal storage for recycled water to be used throughout the wildlife area is proposed on the Davis Unit. Similar to existing water deliveries to the SJWA for environmental uses, this reservoir would be filled with recycled water from the Hemet/San Jacinto Regional Water Reclamation Facility owned and operated by EMWD from the current allocation of 4,500 acre feet per year. The draft LMP currently proposes two options for the water storage reservoir. One option proposes that the reservoir would hold up to approximately 2,500 acre-feet of water, would be uncovered and would occupy approximately 275 acres within Davis Subunit D2. A second option for a reservoir would occupy approximately 235 acres within Davis Subunits D1 and D2, and would also be uncovered and would hold up to approximately 2,115 acre-feet of water. All of the recycled water delivered by EMWD for the new water storage project would be stored in the new reservoir and used on site only and additionally SJWA would still continue to use water from EMWD'S water delivery pressurized pipe system to other areas on the wildlife area. Because project-level design and related details are not known at this time, only a program-level analysis of the water storage facility is provided in this PEIR.

Once project-level details are known, additional project level environmental analysis would be prepared for the reservoir as would all pertinent technical studies. At this time it is assumed that up to 2,500 acre feet of water would be held in the proposed reservoir as part of the existing CDFW entitlement of up to 4,500 acre feet per year provided by EMWD pursuant to the 1987 Agreement. Since the water that would be stored in this reservoir would be exclusively available to the wildlife area and water deliveries in excess of 4,500 acre feet per year would not be required, no new or expanded entitlements would be needed to accommodate CDFW plans to develop a recycled water storage reservoir on the Davis Unit. As such, impacts are anticipated to be **less than significant (Class III)**.

MM-UTIL-1 Curtail New or Expanded Water-Dependent Uses in Absence of Sufficient Long-Term Water Supply. The construction of new or expanded water-dependent uses on the SJWA by the California Department of Fish and Wildlife (CDFW) will be curtailed if recycled water demand associated with the draft LMP exceeds the 4,500 AFY identified in the 1987 Agreement. Any new water demands exceeding the 4,500 acre feet per year is subject to the availability of future Eastern Municipal Water District (EMWD) recycled water supply and will need to be addressed in a new long term agreement. Demands could also be met with CDFW well water supply. The construction of new or expanded water-dependent uses may proceed once a new long-term Agreement with EMWD that

identifies sufficient recycled water deliveries to the SJWA to support increase recycled water demand pursuant to the draft LMP is executed.

Issue UTL-5 Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Please refer to Issue UTL-2, above. The SJWA and implementation of the draft LMP would not generate new wastewater flows that would be conveyed to EMWD's sewer infrastructure and eventually, the San Jacinto (or Moreno Valley) Regional Water Reclamation Facility. Any future development within either the Davis Unit or the Potrero Unit would install an onsite septic system to accommodate wastewater disposal. The construction of new sewer infrastructure within the SJWA or construction of connections to existing EMWD infrastructure, has not been proposed by CDFW in the draft LMP. As stated in the UTL-2 analysis above, CDFW purchases recycled water from EMWD annually and water is delivered to the SJWA for environmental uses (i.e., the creation and maintenance of water-dependent habitat management areas and recreational opportunities)

Implementation of the draft LMP would not require the construction of new wastewater treatment facilities. Water-dependent habitat management areas and recreational opportunities on the SJWA are facilitated through contractual deliveries of recycled water from EMWD to CDFW, as discussed above under Issue ULT-2. Because the draft LMP does not propose any uses that would connect to EMWD wastewater infrastructure or require treatment at an EMWD treatment facility, the draft LMP would not require new or expanded wastewater treatment facilities and impacts would be **less than significant (Class III)**.

Issue UTL-6 Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The construction of LMP facilities and expansion of habitat management areas as well as ongoing maintenance activities would generate miscellaneous trash that would require disposal at a local area landfill. However, because the draft LMP is not a traditional development project and proposes minimal development, construction activities are not anticipated to generate a substantial volume of solid waste requiring disposal. Given the nature of the draft LMP and because CDFW is not required to obtain a building permit from the City of Moreno Valley, Riverside County or the City of Beaumont for any proposed structures (see Table 2-8, Permits or Other Actions Required), the draft LMP would not be required to prepare a Waste Resources Waste Recycling Plan or a Waste Reporting Form (Riverside County Department of Waste Resources 2017c).

On the Davis Unit, the two double-wide trailers are proposed to be removed and replaced with three, approximately 1,300-square-foot new manufactured homes. Existing trailers may be resold at auction by CDFW or may be disposed of at a County landfill. To be resold at auction, the mobile homes would need to be transported to the auction yard, a process that would likely require permits from local jurisdictions (and possibly Caltrans) for the transport of an oversize load. Due to limited staff, CDFW would likely elect to hire a contractor for mobile home disposal. Mobile home demolition may occur by hand (to maximize recycling and salvage opportunities) or by heavy equipment to minimize costs. Once demolished, mobile home refuse would likely be deposited in roll-off dumpsters brought to the site by the selected contractor. The contractor would then transport the dumpster contents to an area landfill for disposal. Disposal from demolition activities may be disposed of at all County of Riverside landfills (RCDWR 2017d) and the Badlands Landfill, the El Sobrante Landfill, and Lamb Canyon Landfill have a combined remaining capacity of 69.1 million tons.

Typical maintenance activities, such as vegetation management, pesticide and herbicide application, and other as-needed repairs could involve activities, materials, and earthwork capable of generating solid waste. Further, hunting dog training within the Davis Unit would continue in Subunit D13 and be significantly expanded in Subunits D7, D11, and D13 and would generate solid waste (i.e., dog feces) requiring off-site disposal. In accordance with MM-HYD-1d (Proper Management of Dog Waste) CDFW would implement measures including the provision of signage, waste baskets, and baggies and biannual cleanup of dog waste within training areas that would ensure dog waste is managed and is not carried off-site to nearby managed wetlands and ponds. Regarding non-hazardous waste, all non-hazardous solid waste generated during operation (such as plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard) would be recycled in accordance with local and state regulations. Remaining non-hazardous solid waste would be disposed of at one of three Riverside County landfills with remaining capacity identified in Section 5.10.2. As previously stated, local area landfills have a combined remaining capacity of 69.1 million tons. Therefore, the SJWA would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. Impacts would be **less than significant (Class III)**.

Issue UTL-7 Would the project comply with federal, state, and local statutes and regulations related to solid waste disposal needs?

During both construction and operation, activities under the draft LMP would comply with all applicable state and local statutes or regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. There are no federal regulations or statutes related to solid waste that apply to the draft LMP. During construction, all waste would be recycled to the maximum extent possible. All non-hazardous solid waste generated from the SJWA such as plastic and glass bottles and jars, paper, newspaper, metal

containers, and cardboard would be recycled, consistent with state statutes, and in compliance with the Integrated Waste Management Act. The draft LMP proposes limited development that would generate a very small amount of solid waste, as explained above under Issue ULT-6. Operation and ongoing maintenance activities would also generate a very small amount of solid waste. Remaining non-hazardous solid waste would be disposed of at one of the three (or other) Riverside County landfills with remaining capacity identified in Section 5.10.2. Therefore, impacts related to compliance with applicable solid waste statutes and existing SJWA regulations would be considered **less than significant (Class III)**.

5.10.7 Cumulative Impacts and Mitigation

Cumulative impacts to utilities and services systems would result when projects combine to increase demand for utilities and service systems such that additional facilities must be provided or expanded. As with many other environmental issue areas, impacts to utilities may be less than significant at a project level, but when combined with other projects, effects could lead to a cumulative impact. However, because the draft LMP proposes to continue or only slightly expands existing uses on the SJWA, substantial increases in water demand, wastewater generation, and solid waste generation are not anticipated.

Each privately initiated cumulative project requiring a building permit from the County or local City would be required to provide development impact fees and undergo discretionary approval. Further, for project's that would be provided water and wastewater services by EMWD, EMWD's UWMP outlines current and projected water demand/supply, water sources, and methods of water use reduction and conservation. The latest UWMP (2016) states that MWD has sufficient supply capabilities to meet the expected demands of its member agencies from 2020 through 2040 under normal, historic single-dry and historic multiple-dry year conditions. While EMWD relies on imported water from MWD as the main source of supply for its retail and wholesale customers, water deliveries to the SJWA consist of wastewater treated to tertiary standards at the San Jacinto Regional Water Reclamation Facility. Because recycled water distributed by EMWD is subject to Santa Ana RWQCB Order No. R8-2008-0008, continued use of recycled water on the SJWA would comply with the requirements of the Santa Ana RWQCB and the draft LMP would not contribute to a cumulative RWQCB wastewater treatment requirement impact.

As stated above, the construction of new water or wastewater treatment facilities, or the expansion of existing water or wastewater treatment plants operated by EMWD or the City of Beaumont in the SJWA study area, are not components of the draft LMP. Further, the SJWA is not currently serviced by EMWD for wastewater/sewer and the draft LMP does not propose the installation of new wastewater infrastructure such as new sewer lines that would connect to

existing EMWD infrastructure in the area. Therefore, implementation of the draft LMP would not contribute to a cumulative water or wastewater treatment facility impact.

Cumulative projects are not expected to cause a significant impact related to stormwater infrastructure since all projects requiring stormwater facilities would be in accordance with applicable regulations and would be appropriately sized for the specific development proposal. Because the LMP does not propose the installation of new traditional stormwater facilities such as culverts on the SJWA, the draft LMP would not contribute to a significant cumulative impacts concerning stormwater infrastructure.

Prior to approval, development considered in the cumulative scenario would be required to identify adequate water supplies for construction and operations. Unlike the draft LMP, the majority of development considered in the adopted planning documents described in Chapter 3 would rely primarily on potable water and related infrastructure that would be extended to accommodate future users. CDFW however, relies on recycled water for environmental uses on the SJWA and these deliveries are provided by EMWD pursuant to existing facilities and are subject to a long-standing Agreement between the two agencies. Because the SJWA relies on recycled water that it is contractually obligated to receive from the EMWD and MM-UTIL-1 curtails the construction of new or expanded water-dependent uses on the SJWA if the water demand of the draft LMP exceeds the existing Agreement and a new long-term Agreement demonstrating sufficient water supply is not executed between CDFW and EMWD, and because the majority of projects considered in the cumulative scenario would require potable water for long-term operations, implementation of the draft LMP would not contribute to a potential cumulative potable water supply impact. Impacts would be less than significant with mitigation.

The amount of solid waste generated and disposed of in nearby landfills during operation of the draft LMP is expected to be within the permitted capacity of the landfills. The waste collection procedures and programs for all planned and proposed developments would be required to comply with the local and state requirements for recycling and collection of solid waste. All planned and proposed projects, including the draft LMP, would be required to be consistent with all applicable statutes and regulations, and would therefore not have cumulatively considerable impacts with respect to solid waste collection and management.

5.10.8 Level of Significance After Mitigation

With the exception of sufficient water supplies to support new or expanded water-dependent uses of the draft LMP, all potential impacts to utilities and service system associated with implementation of the draft LMP would be less than significant and no mitigation measures are

required. With implementation of MM-UTIL-1, impacts to utilities and service systems regarding sufficient water supplies would be less than significant.

5.10.9 References

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Riverside County Department of Waste Resources. 2017c. "Construction and Demolition (C&D) Waste." Accessed February 1, 2017. http://www.rcwaste.org/wasteguide/candd.

Riverside County Department of Waste Resources. 2017d. "Vehicles, Trailers, and Boats." Accessed June 9, 2017. http://www.rcwaste.org/wasteguide/vehicles.

Riverside County. 1999. Ordinance No. 657: An Ordinance of the County of Riverside Amending Ordinance No. 657 Regulating the Collection, Transfer, and Removal of Solid Waste. Last amended November 25, 1999.

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5.11 ENERGY

5.11.1 Introduction

This section addresses potential energy impacts resulting from implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP). Public Resources Code Section 21100(b)(3) and Appendix F of the California Environmental Quality Act (CEQA) Guidelines states that "the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3))." Appendix F includes a list of energy impact possibilities and potential conservation measures "designed to assist in the preparation of an EIR."

Section 5.11.2 provides a description of the existing conditions, and Section 5.11.3 describes the regulatory setting. Section 5.11.4 describes the methodology used for the evaluation of energy. Section 5.11.5 provides the standards of significance criteria used for the impact analysis. An analysis of impacts associated with implementation of the draft LMP is provided in Section 5.11.6, and an analysis of cumulative impacts and mitigation measures for cumulatively considerable impacts are provided in Section 5.11.7. The level of significance after mitigation is provided in Section 5.11.8. Section 5.11.9 lists the references cited in this section.

There were no comments received in response to the Notice of Preparation regarding energy or concerns associated with energy conservation.

5.11.2 Existing Conditions

The SJWA includes 20,126 acres of land located in Southern California within central Riverside County. The draft LMP prepared for the SJWA includes broad management recommendations over a 30-year long term. The SJWA consists of three noncontiguous land areas: the Davis Unit (two land areas) and the Potrero Unit. The Davis Unit generally consists of approximately 10,996 acres in the San Jacinto River Valley. The larger portion of the Davis Unit is located east of the Perris Reservoir, and the Davis Unit's smaller portion of land is located west of the Perris Reservoir. The Potrero Unit consists of approximately 9,130 acres in the foothills of the San Jacinto Mountains. Lands within the SJWA include multi-use trails for hiking, mountain biking, equestrians and other recreation activities, both dirt and paved roads, agricultural fields in active use, native shrub communities, coastal sage scrub, annual grasslands, ponds, riparian habitat, Mystic Lake, and a portion of the San Jacinto River channel.

Within the Davis Unit there is limited development including the SJWA administrative facilities located at 17050 Davis Road. This headquarters area includes a 1,200-square-foot office/check-station built in 1984. The building provides administrative work space for the SJWA staff and also

functions as a year-round visitor information site. Directly east of the office/check-station, a 4,000-square-foot shop and utility building was constructed in 1986. The utility building provides equipment storage for a backhoe, two wheel tractors, farming implements, irrigation pumps, and general maintenance equipment. Diesel fuel for equipment operation is dispensed from a 1,000-gallon aboveground tank, with containment vessel, located within the maintenance compound. In addition, there are two mobile home residences, one approximately 1,200 square feet and the other approximately 1,300 square feet, located behind the headquarters area. Three propane tanks provide gas for heating the residences and office/check-station.

Other developed areas within the SJWA include private duck hunting clubs (Ramona Hunt Club and Mystic Lake Duck Club, 21 Gun Club, and Four Winds Pheasant Club).

Southern California Edison provides electrical power and telephone service is provided by a local telephone company.

5.11.3 Applicable Regulations, Plans, and Policies

Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2010, fuel economy standards were set at 27.5 miles per gallon for new passenger cars and 23.5 miles per gallon for new light trucks. Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

State

Title 24 of the California Code of Regulations

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, included in Title 24. The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those outlined in Title 24 guidelines. The

standards are updated periodically to allow consideration and possible incorporation of new energy-efficiency technologies and methods. The premise for the standards is that energy-efficient buildings require less electricity, natural gas, and other fuels. The Title 24, Part 6, standards are updated every 3 years. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017, and will apply to the draft LMP. The 2016 standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. Title 24 also includes Part 11, known as California's Green Building Standards (CALGreen). The CALGreen standards took effect in January 2011, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The 2013 CALGreen Code went into effect on July 1, 2014. The mandatory standards require:

- 20% mandatory reduction in indoor water use;
- 50% of construction and demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented per the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements through stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements through even stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 30% cement reduction, and cool/solar reflective roofs.

Assembly Bill 1493

Adopted in 2002 by the state legislature, Assembly Bill (AB) 1493 ("Pavley" regulations) required that the California Air Resources Board (CARB) develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The Pavley regulations are expected to reduce GHG emissions from California passenger vehicles by about 22% in 2012 and about 30% in 2016, all while improving fuel efficiency and reducing motorists' costs.

Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

On December 12, 2008, CARB approved the Truck and Bus Regulation to significantly reduce particulate matter (PM), and oxides of nitrogen (NO_x) emissions from existing diesel vehicles operating in California. Amendments to this regulation were approved by CARB on April 25, 2014.

The regulation applies to nearly all diesel-fueled, dual-fueled, or alternative diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately- or federally-owned and for privately- and publicly-owned school buses. The purpose of this regulation is to reduce emissions of diesel PM, NO_x, and other criteria pollutants from in-use diesel-fueled vehicles.

Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets that comply with the schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines must be replaced starting in 2015. Replacements with a 2010 model year or newer engines meet the final requirements, but owners can also replace with used trucks that have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023, all trucks and buses must have 2010 model year engines with few exceptions. No reporting is required if complying with this schedule (CARB 2014).

Local

Chapter 1, section 1.4.1 of this Program EIR (PEIR) describes that CDFW, as a state entity, is not subject to local government planning; accordingly, any reference to local planning documents is for informational purposes only and such documents are not considered an "applicable plan" unless noted otherwise. Nonetheless, local plans and policies can often serve as a good reference to provide a sense of the planning setting in the project area. For this reason, this section references several County and City documents as well as other regional planning documents in some instances.

County of Riverside General Plan

The County of Riverside General Plan (County of Riverside 2015) does not include an Energy Element, but does include an Air Quality Element that contains policies that address energy conservation. Applicable policies are listed below.

Policy AQ 4.1: Require the use of all feasible building materials/methods which reduce emissions.

Policy AQ 4.2: Require the use of all feasible efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.

Policy AQ 4.3: Require centrally heated facilities to utilize automated time clocks or occupant sensors to control heating where feasible.

Policy AQ 4.4: Require residential building construction to comply with energy use guidelines detailed in Part 6 (California Energy Code) and/or Part 11 (California Green Building Standards Code) of Title 24 of the California Code of Regulations.

Policy AQ 5.4: Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

City of Moreno Valley General Plan

The City of Moreno Valley General Plan (City of Moreno Valley 2006) does not include an Energy Element, but the following policies from Chapter 9, Goals, Policies are listed below.

Policy 2.2.15: Encourage the use of innovative and cost effective building materials, site design practices and energy and water conservation measures to conserve resources and reduce the cost of residential development.

Policy 2.13.4: Encourage installation of advanced technology infrastructure, including, but not limited to, infrastructure for high speed internet access and solar energy.

Policy 6.7.6: Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

Policy 7.5.1: Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

Policy 7.5.5: Encourage the use of solar power and other renewable energy systems.

City of Beaumont General Plan

The City of Beaumont General Plan (City of Beaumont 2007) Resource Management Element only includes one applicable energy policy.

Policy 8: The City of Beaumont will encourage incorporation of energy conservation features in new developments and in the renovation of existing development.

5.11.4 Methodology

Potential energy impacts were determined by whether implementation of the draft LMP would result in inefficient, wasteful, and unnecessary consumption of energy. Recent case law has clarified the requirements to satisfy Public Resources Code Section 21100(b)(3) and Appendix F, holding that an EIR must quantify energy use during construction and operation, including energy associated with transportation associated with a project, and consider the availability of measures to reduce reliance on fossil fuels (*California Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173). Mere reliance on compliance with the California Building Code and other green building requirements is not sufficient to meet an agency's burden under Appendix F and Public Resources Code section 21100(b)(3); an agency must also consider whether a building should be constructed at all, how large it should be, where it should be located, and whether it should incorporate renewable energy resources (*California Clean Energy Committee v. City of Woodland*).

This PEIR evaluates the potential short-term (during construction), long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the draft SWJA LMP. The draft LMP consists of the continued management of existing habitats, species, and programs, as well as the expansion of some of the activities currently occurring on the SJWA to achieve CDFW's mission to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR, pursuant to Section 15146 of the CEQA Guidelines. Note that this PEIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from new or expanded LMP activities, meaning any activities that are existing and will not be modified will not be evaluated in this PEIR. The CDFW regulatory division would oversee all actions of the land management division, and when future activities discussed in this PEIR are proposed, the regulatory division would determine if additional CEQA documentation is needed, and determine the appropriateness of tiering pursuant to Section 15152 of the CEQA Guidelines.

Furthermore, this PEIR evaluates the effects of implementation of the draft LMP on the environment, not the potentially adverse environmental effects of other surrounding projects not under the control of CDFW. Should the surrounding projects seek CDFW approvals pursuant to Fish and Game Code Section 1600 et seq. or 2081, or be reviewed by CDFW as a responsible agency under CEQA Section 15096, CDFW may use that opportunity to evaluate those permit

applications and supporting documents for their adequacy in avoidance and minimization of impacts to the SJWA.

5.11.5 Standards of Significance

The State of California has developed guidelines to address the significance of energy impacts based on Appendix F of the CEQA Guidelines (14 CCR 15000 et seq.), which provide guidance as to whether a project would have a significant environmental impact. Based on Appendix F of the CEQA Guidelines, the draft LMP could have a significant impact on energy conservation if the project would:

1. Result in wasteful, inefficient, or unnecessary consumption of energy.
2. Conflict with existing energy standards and regulations.
3. Adversely affect local and regional energy resources or require additional supply, the provision of which could have a substantial impact on the environment.

5.11.6 Impact Analysis and Mitigation

Issue ENE-1 Would the proposed project result in the wasteful, inefficient, and unnecessary consumption of energy?

The draft LMP is a 30-year plan that includes various construction activities including new ponds and a reservoir; new roads and multi-use trails; parking areas; three, approximately 1,300 square-foot new manufactured homes and either one 5,000-gallon domestic water system or two 2,500-gallon domestic water systems; and new shade structures. In addition, implementation of the draft LMP would maintain and develop hunter check stations and blinds, improve fire management facilities (e.g., fuel reduction measures potentially including grazing, mowing, vegetation thinning using hand tools, or implementation of new fuel breaks or firebreaks), and implement fire control measures. All of these activities along with ongoing maintenance would require the use of heavy equipment, trucks, and other types of smaller construction equipment. All of this equipment and types of construction and maintenance activities would be typical for maintaining and managing a wildlife area, and the draft LMP does not include unusual circumstances that would require unusually high energy usage.

Construction and ongoing maintenance activities would require the use of diesel- or gas-powered engines. While the amount of fuel necessary for construction equipment and worker trips cannot be quantified at this time, it is not anticipated to result in the wasteful, inefficient, and unnecessary consumption of energy. Natural gas would not be used during construction.

Electricity would also be required for the three approximately 1,300 square-foot new manufactured homes within the Davis Unit, and in the future, two new residences are

recommended for the Potrero Unit along with an office, workshop, and warehouse. The two new residences and office would each be double-wide trailers, approximately 1,440 square feet (60 feet long and 24 feet wide). While the increase in electricity usage cannot be quantified at this time, it is anticipated to be relatively minor. When not in use, lights and other electric equipment would be powered off to avoid unnecessary energy consumption. It is also anticipated that the manufactured homes would incorporate energy efficient features, per Title 24 requirements. The specifications of these residences are not available at this time and because this is a program-level analysis, it is anticipated future environmental review may be required once these draft LMP components are developed.

It is anticipated that construction or operational activities of the Draft LMP would not result in the wasteful, inefficient, and unnecessary consumption of energy. Therefore, impacts would be **less than significant (Class III).**

Issue ENE-2 Would the project conflict with existing energy standards and regulations?

Section 5.11.3, above, describes the regulatory framework for energy usage and conservation at the federal, state, and local level. For building projects, Title 24 (California Code of Regulations) is of particular importance, as it sets standards for energy performance.

The manufactured homes to be installed within the existing administrative facilities area within the Davis Unit, and the two new residences in the Potrero Unit along with an office, workshop, and warehouse, would not conflict with the existing state or local energy standards and regulations. It is anticipated the manufactured homes would be purchased in California and would meet current Title 24 requirements.

The Riverside County, City of Moreno, and City of Beaumont General Plans include goals and policies related to energy. Due to the nature and type of construction and operation activities, the draft LMP would not conflict with applicable environmental policies, and this is a **less-than-significant impact (Class III**).

Issue ENE-3 Would the project adversely affect local and regional energy resources or require additional supply, the provision of which could have a substantial impact on the environment?

No additional energy infrastructure is required to serve the portion of the SJWA where the existing administrative facilities are located. The new manufactured homes would be located near the existing office/check-in building where existing electrical infrastructure is available. Southern California Edison provides electrical power for the entire facility. Propane is used to heat the existing office and residences and would also be used to heat the new residences on both

the Davis Unit and Potrero Unit sites. Given that up to two existing residences on the Davis Unit site would be replaced by up to three residences, and in the future two small residences may be constructed on the Potrero Unit, it is anticipated Southern California Edison can meet the demand associated with the additional three units. It is also anticipated that the new residences would be more energy-efficient than the existing mobile homes that date back to 1973 and 1980. Due to the limited amount of new construction anticipated, implementation of the draft LMP would not adversely affect local and regional energy resources or require additional supply, and the impact is **less than significant (Class III).**

5.11.7 Cumulative Impacts and Mitigation

The cumulative context for impacts associated with energy usage would be buildout of the Riverside County General Plan and buildout of the Cities of Moreno and Beaumont, within the Southern California Edison service area. All new development within the service area must meet the energy efficiency requirements of Title 24 of the California Code of Regulations. The Title 24 requirements and Southern California Edison's ongoing efforts to improve energy efficiency in the region would ensure that energy usage does not result in the wasteful, inefficient, or unnecessary consumption of energy. The draft LMP's contribution would be minuscule; therefore, the cumulative impact would be less than significant.

5.11.8 Level of Significance After Mitigation

Implementation of the draft LMP is not anticipated to increase energy demand and impacts associated with an increase in energy would all be less than significant.

5.11.9 References

CARB (California Air Resources Board). 2014. "Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation." http://www.arb.ca.gov/msprog/onrdiesel/documents/FSRegSum.pdf. Accessed May 10, 2017.

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CHAPTER 6
EFFECTS FOUND NOT TO BE SIGNIFICANT

6.1 PURPOSE

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) shall contain a statement that briefly indicates the reasons that various possible significant effects of a project were determined not to be significant and are therefore not discussed in in further detail in the EIR. As substantiated in Section 6.2 below, implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) would have no impact or a less-than-significant impact (without any mitigation needed) relative to the following issues areas: aesthetics and visual resources, agriculture and forestry resources, land-use, mineral resources, noise, population and housing, and public services. As such, these issue areas are not discussed in detail in Chapter 5 of this Program EIR (PEIR).

6.2 EFFECTS FOUND NOT TO BE SIGNIFICANT

Using the CEQA statutes and CEQA Guidelines Appendix G as a basis, this section presents the effects found not to be significant with implementation of the draft LMP.

6.2.1 Aesthetics and Visual Resources

Would the project have a substantial adverse effect on a scenic vista?

Given that this is a natural open space area, the SJWA is considered a scenic area. Scenic vistas are present within the general area. The draft LMP includes goals to optimize native vegetation, preserve existing agricultural practices and cultural resources, and protect natural visual resources. Therefore, implementation of the draft LMP would not include changes to the SJWA that would adversely obstruct or compromise scenic vistas that are currently available within the SJWA or that can be observed from outside of the SJWA. Impacts to scenic vistas as a result of LMP implementation would be less than significant and may even be considered beneficial to certain scenic resources given that implementation of the draft LMP would involve protection, management, and enhancement of natural areas.

Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated state scenic highways that traverse the SJWA. However, the SJWA is next to the Ramona Expressway and Gilman Springs Road, which are designated as County Scenic Highways but not State Scenic Highways. As described in Chapter 2, Project Description, the draft

LMP includes goals to optimize native vegetation, preserve existing agricultural practices and cultural resources, and protect natural visual resources. As such, scenic resources within the SJWA that are visible from any scenic highway would not be substantially modified by implementation of the draft LMP, and impacts would therefore be less than significant.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Implementation of the draft LMP would involve minor modifications to the existing landscape, such as restoration or habitat enhancement activities, a new water storage facility, new signage, and access improvements. While implementation of the draft LMP would result in changes to the visual character of portions of the SJWA, the draft LMP sets forth protection, management, and enhancement strategies for its natural habitats. Some of the proposed modifications, such as habitat restoration, would improve the visual quality of portions of the SJWA. While the proposed water storage facility would present a new landform to the SJWA that does not currently exist, it would appear as a lake feature and would not, therefore, substantially degrade the existing visual character or quality of the SJWA or its surroundings. Several new buildings would be installed within the Davis Unit and the Potrero Unit (see Chapter 2 for details). New buildings would be confined to two specific subunits (Davis Subunit D8 and Potrero Subunit P5). Within Davis Subunit D8, there are already buildings, structures, and facilities where the new structures would be installed. The new buildings would replace some of the existing buildings that are proposed for removal and would not differ substantially in size, massing, or location relative to existing structures. Further, this subunit is located on the interior of the Davis Unit, and the new structures would not be readily observable from areas outside of the SJWA due to intervening distance and topography. The new structures proposed for Potrero Subunit P5 would add a new visual element to the area. However, as with the structures that are currently in Davis Subunit D8 and that are proposed for that area, the structures would be relatively small and low to the ground and would not be readily visible from areas outside of the SJWA. As such, the appearance of the SJWA would not be substantially altered by these new structures. Therefore, the existing visual character and quality of the SJWA would not be substantially degraded by implementation of the draft LMP. Impacts would be less than significant.

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Implementation of the draft LMP would involve the construction of several new buildings and repairs/modifications to several existing structures. The new structures would have the potential to introduce new sources of light or glare to the surrounding areas. Three new residences are proposed in the Davis Unit (at or near the site of the two existing residences in Davis Subunit D8). Within Potrero Subunit P5, two new residences, an office, a workshop, and warehouse are

proposed. The residences and offices would be relatively small structures of approximately 1,300 to 1,400 square feet each. These structures are not anticipated to incorporate building materials that would generate continuous, significant source of glare (such as large glass window panes or large sheets of polished steel). Structures in Davis Subunit D8 would be similar to those that currently exist in location and size. The new structures would be situated within the SJWA well away from light- and glare-sensitive receptors such as residential uses and hospitals that are located in the surrounding communities and cities. Davis Subunit D8 is located near the Double Bar S Ranch, which is an inholding within Davis Subunit D4 that contains several residences. However, the structures that are proposed within Davis Subunit D8 would be separated from the Double Bar S Ranch by an intervening hillside and would not be readily observable from the ranch. Davis Subunit D8 is located more than 2 miles from the nearest residential uses that are off-site, and Potrero Subunit P5 is located more than 1 mile from the nearest residential uses. Furthermore, the structures, existing and proposed, would be placed in an area where they would not affect sensitive biological resources. While some night lighting may be required for these proposed structures, the need for night lighting would be minimal because approximately nine new buildings would be installed, and the structures would be relatively small (particularly in the context of the approximately 20,000-acre SJWA). Implementation of the draft LMP would also involve a new water storage facility within Subunits D1 and D2. This water storage facility would appear as a lake feature and would not create a significant source of light or glare such that day or nighttime views would be adversely affected, and it would not be located near any light- and glare-sensitive receptors. Any minor amounts of light or glare that are generated by the new uses are not expected to create a new source of substantial light or glare such that day or nighttime views would be adversely affected in the area. Impacts would therefore be less than significant.

6.2.2 Agriculture and Forestry Resources

Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Implementation of the draft LMP would involve removal of portions of the existing agricultural areas within the Davis Unit from agricultural use (see Section 2.2.3 and Figure 2-13 in this PEIR for details). No land on the Potrero Unit is currently used for agriculture or recommended for such uses under the draft LMP. While some of the existing agricultural lands within the Davis Unit would be converted to other uses, such as habitat management or waterfowl ponds, other areas that are not currently used for agricultural purposes would be placed into agricultural production. As such, implementation of the draft LMP would result in a net increase of more than 300 acres of agricultural production areas. None of the land within the Davis Unit has been designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on maps prepared by the state Farmland Mapping and Monitoring Program. Portions of the SJWA are designated as suitable

"Farmland of Local Importance," meaning lands that could be classified as Prime Farmland or Farmland of Statewide Importance but lack available irrigation water (California Department of Conservation 2015). Some of these lands are proposed for removal from agricultural production. However, the draft LMP would not alter irrigation conditions such that the lands could become Prime Farmland or Farmland of Statewide Importance as a result of activities included within the draft LMP. As such, the removal of agricultural land within the Davis Unit from production would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, as no lands with these designations exist within the SJWA. No impact would occur.

Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

There are no mapped Williamson Act Contract lands within the SJWA (California Department of Conservation 2016). However, there are lands within the Davis Unit that are zoned for agricultural uses. Not all of these agriculturally zoned areas align with areas that would be in agricultural production under the draft LMP. Some areas zoned for agricultural use would not be used for agriculture under the draft LMP, while some areas that would be used for agriculture are not zoned for such uses (County of Riverside 2016; City of Moreno Valley 2014). However, under existing conditions, not all of the lands currently zoned for agricultural use within the Davis Unit are being used for agricultural purposes. As such, conflicts between the non-agricultural land-uses within the Davis Unit and local government agricultural zoning designations are an existing condition of the SJWA. Furthermore, while implementation of the LMP would involve discontinuation of some agricultural lands (see Figure 2-13 for details), it would also bring new areas into agricultural use. As described in Chapter 2 of this PEIR, the draft LMP includes various goals and tasks that would support continued agricultural uses within the Davis Unit. These goals and tasks include a goal to "maintain and expand agricultural leases and California Department of Fish and Wildlife (CDFW) food plots to provide multiple benefits to multiple wildlife species while protecting other biological, cultural, and recreational resources." Additionally, one of the tasks included in the draft LMP involves planting and irrigation of wildlife food crops. Implementation of this task pursuant to the draft LMP has the potential to expand wildlife food crop planting areas to approximately 400 acres of active production, representing a fivefold increase over existing wildlife food crop planting areas (net increase in overall agricultural areas is expected to be over 300 acres). The draft LMP also directs staff to investigate opportunities for establishing agricultural leases that can also be used as management tools for upland game. This investigation would encourage maximization and expansion of agricultural leases within the SJWA. For these reasons, while local government zoning and LMP agricultural areas do not completely align under existing or proposed conditions, impacts to agriculturally zoned lands would not be significant. Furthermore, it is noted that as a state entity, CDFW is not subject to local government planning, policies, or zoning. Impacts would be less than significant.

Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The SJWA does not contain land zoned as forest land or timberland (County of Riverside 2016; City of Beaumont 2012; City of Moreno Valley 2014). Additionally, the ~~SWJA~~ SJWA does not contain Timberland Production Zones (FRAP 2002). Therefore, implementation of the draft LMP would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. No impact would occur.

Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The SJWA is a wildland area of natural open space. No forests or timberland exist on site or in the vicinity. Therefore, any impacts to vegetation communities that would occur through approved management activities would not affect any forest lands. Therefore, no impact would occur.

Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use?

Implementation of the draft LMP would involve removal of some existing agricultural lands within the SJWA from agricultural uses. However, as described above, the farmland that would be altered is not dedicated as Prime, Unique, or of Statewide Importance. Farmland is present within the vicinity of the SJWA. Lands designated as Farmland of Statewide Importance and Prime Farmland are present to the south of the Davis Unit (California Department of Conservation 2015). Changes in the environment that would occur in the Davis Unit under the draft LMP consist of habitat expansion, habitat maintenance, new wetland ponds, new roads, fire management activities, a new water storage facility, and demolition and construction of minor structures. Under existing conditions, the Davis Unit contains managed habitat, minor structures for staff and public use, wetland ponds, roads, fire management activities, etc. Expansions and changes in these existing activities and land-uses would not change the current environment to the extent that Farmland in the vicinity of the Davis Unit would be adversely affected or removed from production as a result of the draft LMP. Given that implementation of the draft LMP would not involve land-use changes that would convert Farmland, and because recreational and habitat maintenance activities occur within the Davis Unit under existing conditions, Farmland would not be converted to non-agricultural use as a result of the draft LMP. Impacts would be less than significant.

As described above, there are no forests or timberland within the SJWA, nor is there any forest land within the vicinity of the SJWA that would be converted to a non-forest use as a result of the draft

LMP (County of Riverside 2016; City of Beaumont 2012;City of Moreno Valley 2014;; FRAP 2002). No impacts involving conversion of forest land to non-forest use would occur.

6.2.3 Land-use

Would the project physically divide an established community?

The SJWA is a wildland area of natural open space. While two (2) residences currently exist in the Davis Unit for staff use, there are no established communities within the SJWA. Furthermore, the Davis Unit has been an existing preservation area since 1979, and the Potrero Unit was acquired as additional SJWA preservation land in 2003. The purpose of the draft LMP is to manage the area within the existing SJWA with no proposed expansion into existing or planned residential uses. As such, the activities, facilities, and land-use changes proposed under the draft LMP are limited to the area within the SJWA and would not physically divide an established community adjacent to or in the vicinity of the SJWA. There would be no impact to established communities.

Would the project conflict with any applicable land-use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project itself is a land-use plan that sets forth goals and tasks related to habitat management, public use facilities, and administrative facilities. As such, upon LMP adoption, any new activities, development, and land-use changes occurring in the SJWA would be consistent with the applicable land-use plan (i.e., the LMP). The SJWA is also subject to the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) and to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Consistency with these plans is addressed in the following threshold question, which pertains specifically to habitat and natural community conservation plans, and is discussed in detail in Section 5.3 of this PEIR.

The Davis Unit of the SJWA is located within unincorporated Riverside County, with a small portion in the City of Moreno Valley (see Section 2.1 of this PEIR for details). The Potrero Unit is within the City of Beaumont, with a portion on the western edge located in unincorporated Riverside County. Each of these local jurisdictions has land-use and zoning designations for the portion of their jurisdiction that lies within existing or proposed portions of the SJWA. (See the discussions of each jurisdiction below for a summary of the relevant land-use and zoning designations.) The draft LMP is generally consistent with the land-use and zoning designations of the overlapping general plans and zoning maps, as the majority of the SJWA is designated for open space or conservation land-uses. However, there are several parts of the SJWA that are designated for other uses, such as single-family residential and manufacturing, which would not

be consistent with the draft LMP. As a state entity, CDFW is not subject to local government planning, including policies and guidelines outlined in the County of Riverside General Plan, the City of Moreno Valley General Plan, or the City of Beaumont General Plan. As such, inconsistencies such as small areas of the SJWA that are zoned for residential or manufacturing uses are not applicable to the SJWA. Therefore, no impact would occur relative to conflicts with land-use plans. A brief discussion of the draft LMP's general consistency with each jurisdiction's applicable land-use and zoning designations for the SJWA is provided below.

County of Riverside

The Davis Unit of the SJWA is primarily designated as Open Space in the County of Riverside General Plan, with a few areas designated as Agriculture and a small area of the western detached portion designated as Community Development (County of Riverside 2015). These areas are generally zoned agriculture, residential, and "natural asset." The western detached portion (Subunit D14) is zoned as a Controlled Development Area (W-2) (County of Riverside 2016). A small section of the Potrero Unit is within the County of Riverside and is designated as Open Space and Community Development in the County of Riverside General Plan (County of Riverside 2015). These areas are zoned as Manufacturing-Heavy (M-H) and Controlled Development Area (W-2) (County of Riverside 2016). Some of the zoning designations, such as Heavy Manufacturing and Residential, are not currently being used for such purposes and are not consistent with the habitat management, recreational, and administrative uses proposed under the draft LMP. However, this inconsistency does not represent a conflict between the draft LMP and a land-use designation that has been adopted for the purposes of environmental protection. Further, the open space and natural asset designations are generally consistent with the existing land-uses. Therefore, implementation of the draft LMP would not introduce a new conflict with the existing land-use plans, policies, or regulations that have been adopted for the purposes of environmental protection. Overall, the recreational areas, habitat management, public facilities, and administrative facility uses proposed under the draft LMP are generally consistent with the County's land-use and zoning designations, and as noted above, where potential conflicts exist, the plans and designations in question were not adopted for the purpose of avoiding or mitigating adverse environmental effects.

City of Moreno Valley

~~The northern portion of the Davis Unit falls within the City of Moreno Valley. This area is designated as Residential (five dwelling units per acre), Open Space and Public Facilities in the City of Moreno Valley General Plan (City of Moreno Valley 2014).~~ Pursuant to the City of Moreno Valley Land Use Map (City of Moreno Valley 2017), the northernmost portion of the Davis Unit is designated primarily as Open Space, with an area in the northwest designated as Rural Residential (max 2.5 du/ac.), a larger area in the central portion designated Floodplain, with

a small area along the eastern edge designated Commercial. The City of Moreno Valley's sphere of influence extends south of the city boundary and includes portions of the Davis Unit (see Figure 2-3). These sphere of influence areas are designated mostly as Floodplain, with a small portion of Commercial located toward the northeast boundary of the Davis Unit. The uses proposed under the draft LMP would not be consistent with the Rural Residential or Commercial designations set forth in the City of Moreno Valley General Plan (City of Moreno Valley 2017). However, the SJWA is not subject to local land-use and zoning designations, municipal codes, or general plan policies. Further, this inconsistency does not represent a conflict between the draft LMP and a land-use designation that has been adopted for the purposes of environmental protection.

City of Beaumont

The majority of the Potrero Unit is located within the City of Beaumont and is designated as Recreation and Conservation on the City of Beaumont General Plan land-use map (City of Beaumont 2007). The area is also zoned as Recreation and Conservation. A portion of the proposed Potrero Unit is within a Mineral Resource Overlay zone (MRO) (City of Beaumont 2012). Under the draft LMP, the Potrero Unit would be used for recreation and conservation purposes, including habitat management, recreation, fire management, and administrative facilities. These proposed uses are therefore consistent with the City of Beaumont's land-use designations.

The MRO was designated by the City of Beaumont to facilitate mining and quarry activities, subject to the land-use regulations of the City of Beaumont (Beaumont Municipal Code Title 17, Section 17.03.160). No mining activities currently occur within the proposed Potrero Unit, nor are any proposed under the draft LMP. The MRO does not require the land within this overlay designation to be used for mining, and CDFW is not subject to the City of Beaumont's land-use policies. Further, the MRO does not represent a land-use designation or policy that was adopted for the purposes of environmental protection. Therefore, the uses proposed for the Potrero Unit would be consistent with City of Beaumont land-use designations.

Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The SJWA is envisioned as a component of the ultimate regional preserve that is outlined in the SKR HCP and Western Riverside County MSHCP. As such, the SJWA provides important conservation for a variety of special-status species that require management of habitat conditions and monitoring. The SJWA conserved lands include established mitigation lands consistent with the SKR HCP. Furthermore, the SJWA conserved lands are an established and integral part of the Western Riverside County MSHCP Reserve Assembly. The draft LMP's consistency with these plans is addressed in detail in Section 5.3 of this PEIR. No impact would occur.

6.2.4 Mineral Resources

Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, there is one historical oil well along Bridge Street, within the Davis Unit of the SJWA. However, this well is plugged (DOGGR 2016). Currently there are no oil, gas, geothermal, or other known active wells located within the SJWA (DOGGR 2016). Therefore, the proposed project would not have the potential to interfere with existing extraction activities for oil, gas, or geothermal resources.

A portion of the SJWA lies within the San Bernardino Production–Consumption Region. Several areas within this region have been classified by the state as Mineral Resource Zone 2 areas, which are defined as "areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists." However, these mapped mineral resource areas do not overlap with SJWA boundaries (Division of Mines and Geology 1987). Implementation of the draft LMP would involve some excavation in association with the new water storage facility and some ground disturbance in association with habitat management, public use facilities, and administrative facilities. However, SJWA is not identified as an important mineral resources area by the state. Therefore, implementation of the draft LMP would not result in the loss of availability of a known mineral resource that has been identified by the state, as none exist. No impact would occur.

Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land-use plan?

Within the County of Riverside, mineral extraction processing facilities or areas held in reserve for future mineral extraction and processing are designated as Open Space–Mineral Resources in the County's area plans. None of these land-use designations exist within the ~~SWJA~~ SJWA (County of Riverside 2016). While mineral resource activities may be permissible in other land-use designations, such as Rural and Water, they are not specifically set aside for such uses (County of Riverside 2015). Within the City of Moreno Valley, no existing or planned mineral resource activities are identified in the city's general plan. Specifically, the City of Moreno Valley General Plan states that the mineral potential within the study area (i.e., the city and its sphere of influence) is very limited (City of Moreno Valley 2006). While one sand and gravel quarry is identified adjacent to the northeast boundary of the Davis Unit within the City of Moreno Valley's sphere of influence, this mine was inactive as of 2001, is not within the SJWA boundaries, and would not be affected by the draft LMP (City of Moreno Valley 2006).

Within the City of Beaumont, a portion of the proposed Potrero Unit is within a Mineral Resource Overlay, as shown on the City of Beaumont's Zoning Map (City of Beaumont 2012). The City Council's findings for the adoption of the City of Beaumont General Plan states, "where mineral extraction does not conflict with other policies or land uses, undeveloped portions of the General Plan Area may yield sand, gravel, and aggregate that can be employed in local construction activities" (City of Beaumont 2007). In the case of the Potrero Unit, upon adoption of the draft LMP, this area would be subject to the land-use policies set forth in the draft LMP. These policies would establish recreational and habitat management land-uses within the Potrero Unit. As such, so long as the LMP is in place, mineral resource extraction would not occur within the Potrero Unit. However, the draft LMP would not involve urban development or other such land-uses that would result in the long-term loss of availability of any locally important aggregate resources that may exist within the Potrero Unit. Furthermore, the City of Beaumont General Plan states that there are currently no significant mineral extraction activities in the city, and there have been no significant amounts of mineral deposits found in the city (City of Beaumont 2007). Therefore, any locally important mineral resources within the Potrero Unit are not currently being utilized. For these reasons, impacts would be less than significant.

6.2.5 Noise

Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise Standards

As described in Section 6.2.3, as a state entity CDFW is not subject to local government planning, including policies and guidelines outlined in the County of Riverside General Plan, the City of Moreno Valley General Plan, or the City of Beaumont General Plan or the municipal codes and ordinances of those jurisdictions. Therefore, the noise ordinances of these jurisdictions would not apply to activities within the SJWA. However, those noise ordinances, and the draft LMP's general consistency therewith, are summarized below for informational purposes only.

County of Riverside

Within unincorporated Riverside County areas, sound emanating from the following sources is exempt from the provisions of the County's Noise Regulation Ordinance: facilities owned or operated by or for a governmental agency, capital improvement projects of a governmental agency, the maintenance or repair of public properties, and the discharge of firearms consistent with all state laws, among other exemptions (Riverside County Municipal Code Section 9.52.020). The activities that currently occur within the SJWA and that are proposed to occur

within the SJWA under the draft LMP would generally fall into one or more of these exemptions. Therefore, the draft LMP would not conflict with the County's noise ordinance.

City of Moreno Valley

For construction and demolition activities, the City of Moreno Valley noise ordinance states the following: No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m., except for emergency work by public service utilities or for other work approved by the city manager or designee (Moreno Valley Municipal Code Section 11.80.030). The City of Moreno Valley also establishes specific maximum levels for impulsive sound, which includes gunfire, as shown in Table 6-1.

Table 6-1
City of Moreno Valley Maximum Impulsive Sound Levels

Number of Repetitions per 24-Hour Period	Sound level [dB(A)]
1	145
10	135
100	125

dB(A) = A-weighted decibels
Source: Moreno Valley Municipal Code Section 11.80.030

City of Beaumont

Within public places, the City of Beaumont considers it unlawful and a public nuisance for any person to make, suffer, permit, continue, or cause to be made or continued, any loud noise, commotion, gathering, or event that disturbs the peace or quiet of a public park or other public facility, or that causes discomfort or annoyance to any reasonable person of normal sensitivity within such park or facility (Beaumont Municipal Code Section 9.02.040). Construction, repair, or excavation activities are exempt from the city's noise prohibition if they are regulated by state or federal law; if they are performed in connection with public works projects, public service projects, and public utilities projects; or if they are conducted for the immediate preservation of life or property (Beaumont Municipal Code Section 9.02.060).

Existing Conditions

Under existing conditions, noise is generated within the Davis Unit from the existing habitat management, recreational, and administrative activities. Habitat management and public facilities maintenance involves the use of a variety of construction activities, including noise-generating construction equipment. A list of the equipment used for ongoing activities is provided in Table 2-

7 in Chapter 2 of this Draft PEIR. Table 6-2 shows the typical sound levels that would be produced by some of the construction equipment that is typically used within the SJWA.

Table 6-2
Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dBA) 50 Feet from Source
Backhoe	80
Dozer	85
Loader	85
Truck	88

dBA = A-weighted decibels (adjusted for human frequencies)
Source: FTA 2006

Off-Site Sensitive Receptors

The nearest sensitive receptor is the Double Bar S Ranch located entirely within the Davis Unit, Subunit D4. This 156-acre ranch is a family-owned horse training facility with 3 residences and multiple building/facilities. Currently it is in the process of being sold. The closest off-site sensitive receptor to the Davis Unit is the Lake Perris State Recreation Area. The boundaries of this recreation area abut the boundaries of the Davis Unit in some areas (see Figure 2-2). Aside from this recreation area, the nearest sensitive receptors to the Davis Unit are residences located approximately 60 feet west of Subunit D14. These residences are located across Lake Perris Drive (a two-lane roadway) from the westernmost boundary of Subunit D14. There are also residences located on the southwest side of Ramona Expressway (a four-lane highway) that are situated approximately 170 feet from the westernmost boundary of Subunit D14. The closest sensitive receptor to the Potrero Unit is a residence located along Highland Springs Avenue, adjacent to the northern boundary of Potrero Subunit P6. Additionally, there are several residences located approximately 800 feet south and southwest of the southwestern Potrero Unit boundary (specifically, south/southwest of subunit P7). These residences are located just north of Gilman Springs Road.

Ongoing Habitat and Facilities Maintenance

Noise levels from conventional construction activities, with a typical number of three to four pieces of equipment operating on the site, range from approximately 75 to 86 dBA L_{eq} at a distance of 50 feet. Due to improvements in construction equipment silencing technology, these sound levels are three decibels (dB) lower than the noise levels reported in the 1971 reference study (UEPA 1971). Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity. Maintenance activities such as mowing or clearing ditches would generate noise, but would be expected to generate less noise than conventional construction. Most construction and maintenance activity would take place within

the interior area of the approximately 10,996-acre Davis Unit and therefore is not generally audible to sensitive receptors such as the Lake Perris State Recreation Area or within the residential neighborhoods to the southwest of Subunit D14. Conventional construction activities, such as construction of the water storage facility, are planned within the vicinity of the Double Bar S Ranch. Temporary maintenance activities implemented outside of and around the ranch would not be different than those implemented currently.

Recreational Activities

Under existing conditions, noise is also produced from waterfowl hunting, small upland game hunting activities, and hunting dog training within the Davis Unit. However, hunting activities do not occur within Subunit D14, which is near residential sensitive receptors (see Figures 2-9 and 2-12a). While upland game hunting activities occur adjacent to the Lake Perris State Recreation Area boundaries, upland game hunting is also allowed within the adjacent portions of the Lake Perris State Recreation Area, in designated hunting zones (California Department of Parks and Recreation 2016). Therefore, the noise conditions would be generally similar in adjacent areas of the nearby recreation areas.

Gunfire is considered impulsive noise. Noise at the shooter's ear can range from approximately 132–183 dB (Ylikoski 1995; ASHA 2016). The propagation of peak impulse levels over distances is very difficult to predict and is highly variable depending on topography, terrain, and weather (Williams 2003). Under existing conditions, hunting activities are conducted in accordance with the most recent CDFW regulations, set forth in the California Waterfowl, Upland Game Hunting, and Public Use of Department Lands Regulations (CDFW 2015). These regulations establish certain seasons and daily hours during which hunting is permissible and establish the types of firearms that are permissible.

Proposed Conditions

During implementation of the draft LMP, the noise-producing activities described above may increase in frequency, and the areas in which they occur may be increased in size.

Proposed Habitat Management and Facilities Maintenance/Development

Implementation of the draft LMP would involve additional habitat management and facilities maintenance/development activities, including a new water storage facility. The types of construction equipment used for these purposes would be similar to those used under existing conditions in the SJWA. However, more activities may occur within the Davis Unit, and these activities would begin occurring in the Potrero Unit, where such activities do not currently take place. As shown in Figures 2-6a through 2-11b, these activities would occur in select locations throughout each unit. While some activities, particularly upland habitat management, would

occur near the boundaries of the SJWA, most noise-generating habitat management and facilities development/maintenance would occur within interior areas. The SJWA is approximately 20,000 acres. Noise-generating construction activities near the few off-site sensitive receptors that exist would be infrequent and temporary. Furthermore, the off-site sensitive receptors are separated from the outer boundaries of the SJWA by intervening features such as roadways and ridgelines. For these reasons, new habitat management and facilities maintenance/development activities would not be expected to produce noise in excess of standards. Overall, the likelihood that construction activities would occur along the Lake Perris State Recreation Area boundaries or within audible distance of nearby residences is low. In the event that this were to occur, the duration of construction along the SJWA boundaries would be brief.

Proposed Recreational Activities

Existing and expanded recreational activities would include hiking, wildlife viewing, driving on the auto-tour loop and other interior and exterior roadways, and hunting. While all of these activities have the potential to produce noise, any net increases in hiking, visitor vehicular trips, and wildlife viewing is not anticipated to produce a noticeable increase in noise at off-site sensitive receptors. Hiking and wildlife viewing do not generate noise, aside from conversations, which are not expected to be audible beyond areas immediately adjacent to hiking areas and wildlife viewing areas. While increases in vehicular trips are often associated with increased noise, the increase in trips that would occur under the draft LMP would be minor and highly dispersed (see Section 5.9 of this PEIR for details). As such, the draft LMP would not produce substantial off-site traffic noise.

Increased hunting activities would have the potential to generate periodic, intermittent increases in the incidences of impulsive noise. Figures 2-9, 2-12a, 2-12b, and 2-14 in this Draft PEIR show the areas of existing, proposed, and future potential hunting activities and hunting dog training activities. Waterfowl hunting occurs within the interior of the Davis Unit. While the area of waterfowl hunting may increase with implementation of the draft LMP, the activities would continue to take place primarily within the interior of the Davis Unit. Some proposed and future potential areas for waterfowl hunting and hunting dog training are located near the southern and eastern boundaries of the Davis Unit; however, there are no sensitive noise receptors near these boundaries. These boundaries are adjacent to agricultural uses within unincorporated Riverside County.

Small upland game hunting areas would not change under the draft LMP in the Davis Unit, as shown in Figure 2-12a. However, such activities would be added to the Potrero Unit, as shown in Figure 2-12b. Proposed hunting areas are located in Subunit P5 and Subunit P6. These subunits are located along the northern boundary of the Potrero Unit but are surrounded by undeveloped land and land that is designated as open space, with the exception of a residence located along Highland Springs Avenue. Future potential upland game hunting areas within the Potrero Unit

are more extensive and include Subunits P1 through P8 and Subunit P11. The Potrero Unit is generally surrounded on all sides by undeveloped land, with the exception of agricultural uses, a small group of residences located to the south along Gilman Springs Road, and a residence located north of Highland Springs Avenue. The residential uses south of Gilman Springs Road are located 800 feet or more from the boundary of the Potrero Unit and are separated from the Potrero Unit by a steep hillside. Any increases in impulsive noise would be periodic and intermittent and would be reduced through intervening topography and distance. The residence located along Highland Springs Avenue is directly adjacent to the northern boundary of Potrero Subunit P6. As such, gunfire noise associated with the proposed small upland game hunting areas within Potrero Subunits P5 and P6 could potentially be audible from this residence, in the event that such gunfire were to occur near the SJWA boundary. However, any increases in impulsive noise experienced at this residence would be periodic and intermittent. Furthermore, all hunting activities would occur in accordance with CDFW regulations, which include prohibition of nighttime hunting.

Summary

Overall, implementation of the draft LMP would result in increased noise generation but the noise levels would be expected to remain the same as existing conditions, and activities such as hunting are regulated by seasons and daily hours. Noise-producing activities would be also dispersed through the approximately 20,000-acre SJWA, and most noise-producing activities would not occur near the boundaries of the SJWA. The SJWA is generally surrounded by open space and agricultural uses; nearby sensitive receptors are limited. While CDFW is not subject to the noise ordinances of nearby local governments, the draft LMP is not anticipated to violate these local government standards. The proposed activities within the draft LMP would be generally exempt from the County of Riverside noise control regulations, and any construction-related activities would be exempt from the City of Moreno Valley and City of Beaumont noise regulations. The City of Moreno Valley establishes specific regulations for impulsive noise, which includes gunfire. While upland small game hunting would occur adjacent to and within the City of Moreno Valley, this area is currently used for such purposes. Therefore, no substantial changes in the incidence of impulsive noise within or near the City of Moreno Valley would be anticipated. Implementation of the draft LMP would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Any indirect impacts to wildlife resulting from noise are addressed in Section 5.3 Biological Resources.

For the reasons explained above, impacts would be less than significant.

Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The activities under the draft LMP are not expected to involve excessive groundborne vibration or groundborne noise levels. Vibration is typically associated with intensive activities such as pile-driving. As shown in Table 2-7 of this Draft PEIR, pile drivers and other heavy pieces of construction equipment would not be involved with construction activities. However, some construction activities and equipment (such as use of haul trucks) would have the potential to produce periodic, temporary groundborne vibration during construction of a future water storage facility on the Davis Unit. Vibration attenuates quickly with distance (typically on the order of 25 feet). Nearby vibration-sensitive receptors consist of the Double Bar S Ranch within Subunit D4, Lake Perris State Recreation Area (which is directly adjacent to the Davis Unit), residences located approximately 60 feet west of Subunit D14, a residence located adjacent to Potrero Subunit P6, and residences located approximately 800 feet southwest of Subunit P7. As such, in the event that a vibration-producing activity was to occur on or within 25 feet of any of these receptors, vibration could be experienced within the immediately adjacent portion of the Lake Perris State Recreation Area and at the residence adjacent to Potrero Subunit P6. However, in the event that such activities were to occur, the vibration would be temporary and would attenuate within 25 feet or less. Furthermore, regarding the Lake Perris State Recreation Area, the shared boundary between the Davis Unit and this area generally extends along the crest of the mountains that surround Lake Perris. Thus, the portions of the Lake Perris State Recreation Area that are within 25 feet of the Davis Unit are not readily accessible for recreational purposes. The nearby residences are located 60 feet or f~~u~~rther from the westernmost portions of the Davis Unit and are separated from the boundaries of the Davis Unit by either Lake Perris Drive (a two-lane roadway) or the Ramona Expressway (a four-way roadway). As such, in the unlikely event that vibration-producing activities were to occur along the westernmost boundaries of the Davis Unit, the vibration would not significantly affect the nearby residential uses due to the intervening distances and roadways. The residence located adjacent to Potrero Subunit P6 is separated from the SJWA boundaries by a rural road (Highland Springs Avenue), a long driveway (approximately 700 feet long), and a low-lying hillside. For these reasons, vibration attributable to implementation of the draft LMP would be less than significant.

Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The draft LMP does not involve activities that would lead to a substantial permanent increase in ambient noise levels. Increases in noise would occur in association within increased habitat management, increased recreational use, and construction and maintenance of public and administrative facilities. New facilities, particularly the new staff residences, may have the potential to involve HVAC systems that may create a permanent source of noise. However, such facilities are

proposed within the interior of the Davis and Potrero Units. Because noise attenuates with distance, any permanent noise sources attributable to new public or administrative facilities are not expected to be audible in the SJWA vicinity. Furthermore, Double Bar S Ranch is not located near any of the proposed new facilities that could potentially generate noise. Over the course of the approximately 30-year planning horizon of the draft LMP and the 20,000-acre expanse of the study area, the noise produced by the proposed activities would not be continuous. Any minor increases in off-site vehicular trips would be minor and dispersed and, therefore, would not lead to a substantial increase in permanent noise levels. Rather, noise attributable to implementation of the draft LMP would be temporary and periodic. No substantial permanent increase in ambient noise levels would result; therefore, no impact would occur.

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Under existing conditions at the SJWA, temporary and periodic increases in ambient noise levels occur in association with habitat management, recreational activities and events, and facilities maintenance activities. Equipment used for such activities under existing conditions includes tractors, backhoes, chainsaws, and haul trucks (see Table 2-7 in Chapter 2 for details). Under the draft LMP, such activities would continue to occur. The draft LMP proposes to increase the existing activities in the Davis Unit and would introduce similar activities in the Potrero Unit where no such activities currently take place.

The construction activities and associated equipment use that would occur during implementation of draft LMP activities, including the construction of a potential future water storage facility, are temporary and not considered to be acutely noise generating. Furthermore, these activities would occur throughout the approximately 20,000-acre SJWA and would occur infrequently over a long-term approximate 30-year planning horizon. Many of the activities would occur in open spaces of the SJWA, well away from surrounding sensitive receptors. In addition, these activities are not expected to affect the Double Bar S Ranch as they are located to the north and outside of Subunit D4. Any indirect impacts to wildlife resulting from noise are addressed in Section 5.3 Biological Resources. Therefore, impacts would be less than significant.

Would the project be located within an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or would the project expose people residing or working in the project area to excessive noise levels?

The SJWA is not located within an airport land-use plan or within 2 miles of an airport (Caltrans 2012). The nearest public airport is the March Air Reserve Base approximately 2.5 miles west of the westernmost portion of the Davis Unit. While some airport noise may be experienced within the SJWA, the draft LMP would not involve residential development, nor would it involve a

substantial number of new employees in the SJWA. The existing and proposed staff housing within the Davis Unit is located over 7 miles from the March Air Reserve Base. No impact involving excessive noise levels due to nearby public airports would occur.

Would the project be within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The SJWA is not located within the vicinity of a private airstrip (Airnav.com 2016). Therefore, no noise impacts would occur due to nearby private airstrips.

6.2.6 Population and Housing

Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Implementation of the draft LMP does not include construction or operation of any new residential or commercial land-uses, and therefore, would not result in a direct population increase from construction of new homes or businesses. Several residences would be developed for the use of on-site staff. As described in Chapter 2 of this PEIR, the Davis Unit currently contains two residences for on-site employees. Under the draft LMP, these existing residences would be removed and replaced with three residences of a similar size, in approximately the same location as the existing residences. At the Potrero Unit, there are currently no residences. Under the draft LMP, two new residences may be constructed. The net increase of three residences within the SJWA would support existing and future staff. Under the draft LMP, staff within the SJWA could increase from 5 existing, permanent employees to 19 permanent employees, representing an increase of 14 staff members over existing conditions. Temporary, seasonal positions are anticipated to increase from 2 employees to 8 employees, representing an increase of 6 temporary, seasonal employees. Under the conservative assumption that all new employees would move to the County from a location outside the County and would bring their household with them, the population could increase by approximately 65 people.[1] This increase would not constitute substantial population growth. The estimated population in the County for 2015 was 2,361,026 (U.S. Census Bureau 2016). An additional 65 residents within the County represents negligible population growth over the area's current population levels. In the future, as the draft LMP is implemented, the County's population is projected to be 2,592,000 in 2020 and 3,324,000 in 2035. The addition of 65 people to the County would represent far less than 0.01% of the projected growth between 2015 and 2020 and far less than 0.01% of the projected growth between 2020 and 2035 (the County is projected to grow by approximately 230,974 between 2008 and 2020 and by 732,000 between 2020 and 2035) (SCAG 2012).

[1] Increase in permanent positions (14 employees) + increase in temporary positions (6 employees) = 20 new employees; 20 new employees × average household size (3.24 persons per household) = 64.8

New roads and infrastructure, or improvements thereof, are proposed in both the Davis and Potrero Units; however, these new or improved features would be constructed for the purpose of habitat management and recreational uses, and would not indirectly facilitate or encourage development of new homes or other substantial growth-inducing opportunities. For the reasons described above, the impacts of implementation of the draft LMP related to population growth would be less than significant.

Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

As described above, implementation of the draft LMP may involve removal of two residences from the Davis Unit. These residences are used by existing staff and would be replaced with three new residences, of similar size. The new residences are anticipated to be located in approximately the same place as the existing residences, on the slope directly behind the SJWA headquarters area at 17050 Davis Road. Thus, a minor amount of housing would be removed during LMP implementation but would be replaced in generally the same location. Therefore, the draft LMP would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

As mentioned above, implementation of the draft LMP would involve removal of two existing residences for on-site staff. However, these existing residences would be replaced with three new residences in approximately the same location as the existing residences. Therefore, substantial numbers of people would not be displaced necessitating the construction of replacement housing elsewhere. No impact would occur.

6.2.7 Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

The need for new or altered fire facilities is typically associated with an increase in population. As described under Section 6.2.6, the draft LMP would not substantially alter population in the project area. However, implementation of the draft LMP would result in additional wildfire management

activities and increased human presence within the SJWA, both of which could result in periodic increases in the demand for fire protection. Under the draft LMP, prescribed burn activities would be introduced to both the Davis Unit and the Potrero Unit. However, emphasis would be placed on using grazing as the primary method for habitat maintenance and fuel control, rather than prescribed burns. The prescribed burns would be conducted in cooperation with the California Department of Forestry and Fire Protection (CAL FIRE) and in accordance with South Coast Air Quality Management District requirements. The addition of prescribed burn areas may result in increased demand for fire protection within the SJWA. However, these increases would be temporary, since they would only occur in association with providing support or supervision for the prescribed burns. Over the life of the LMP, the prescribed burns and other fire management practices are anticipated to reduce the potential for catastrophic wildfire within the SJWA. The temporary, occasional need for additional fire protection during prescribed burns would be negligible relative to the fire protection that would be required in the event of a catastrophic wildfire.

Implementation of the draft LMP may also result in additional recreational trails and activities in the SJWA, particularly in the Potrero Unit, which is not currently managed by CDFW for such purposes. With increased human presence, the potential for human-caused ignition of wildfires may increase. However, the draft LMP includes numerous goals and tasks pertaining to wildfire management and prevention. Implementation of the draft LMP would also include the addition of new personnel on site, which would lead to increased supervision and visitor support within the SJWA. Under the draft LMP, the SJWA staff would also increase coordination efforts with passive recreation users, hunters, dog training groups, and CAL FIRE to inform groups of management practices, rules, and regulations within the SJWA. The additional coordination efforts would decrease the likelihood of visitors engaging in activities that could increase risk of ignition. See Chapter 2, Project Description, for more details regarding other goals, tasks, and activities that would be implemented pertaining to increased fire management and prevention measures. While the draft LMP would involve management practices (namely, prescribed burns) and increased recreational use, both of which could lead to increased demand for fire protection, such increases are expected to be attenuated through new fire management and prevention activities. Further, temporary increases in demand associated with prescribed burns would not trigger the need for new or expanded facilities for the purpose of supporting the prescribed burns, since the increased demand would be periodic and temporary. In the unlikely event that increased human presence within the SJWA were to result in a fire hazard at the site, additional support within SJWA would be temporary, lasting only for the duration of the fire, and would not trigger the need for new or expanded facilities. As explained above, the need for new or expanded fire facilities is generally associated with a substantial increase in population, which would not occur under the draft LMP. Therefore, impacts involving new and expanded fire facilities would be less than significant.

Police protection?

The need for new or altered police facilities is typically associated with an increase in population. As described under Section 6.2.6, the draft LMP would not substantially alter population in the project area. However, implementation of the draft LMP would result in increased recreational use of the Davis Unit and the addition of a new area of land that would be managed by CDFW for recreation, among other uses (the Potrero Unit). Therefore, the draft LMP could result in increased human presence within the SJWA, which could subsequently lead to an increased demand for police protection. During waterfowl season there is an increased presence of wildlife officers at the Davis Unit.

Under existing conditions, two employees live on the SJWA (within the Davis Unit) and perform site security functions to ensure the area is safe and accessible to the public. The SJWA headquarters entrance gate is closed and locked each day, an hour or so after sundown, and unlocked and opened again in the morning. As described in Section 6.2.6, implementation of the draft LMP is expected to lead to the addition of 14 permanent staff members and two temporary staff members within the SJWA. Three employees would live at the Davis Unit and two employees would live at the Potrero Unit. The additional employees would supply additional site supervision, commensurate with the anticipated increase in recreational use of the SJWA. Existing site security measures include gates, fences, and signage that protect habitat and support public safety. The draft LMP would include increased site security measures such as repairs to gates and fences, as well as the addition of access control in the Potrero Unit (i.e., new gates and fences). Fencing will be reviewed by CDFW to ensure it does not pose a barrier to wildlife movement and shall be installed to allow for safe passage of all species, including small mammals. While minor increases in calls for police protection could occur upon increased recreational use within the SJWA, it is expected that the increases in on-site staff, as well as the addition and maintenance of access controls that would be implemented under the draft LMP, would minimize any minor, incremental increases in the demand for police protection that may occur. Therefore, impacts related to the need for new or expanded police protection facilities would be less than significant.

Schools?

The need for new or altered schools is typically associated with an increase in residential population. As described under Section 6.2.6, the draft LMP would not substantially alter population in the project area. Some of the new employees could reside within the cities or unincorporated communities that surround the SJWA, and their children could attend area schools. However, the increase in staff under the draft LMP would be approximately 20 employees. In the context of the numerous cities and unincorporated communities that surround the SJWA, the minor increase in staffing at the SJWA would not significantly affect schools such that new or expanded schools would be required in nearby areas. Therefore, the draft LMP

would not substantially alter the ability of existing schools to accommodate students to the extent that new or expanded school facilities would be required. No impact would occur.

Parks?

The draft LMP includes an expansion of the land area that is within the SJWA. It would also expand recreational opportunities within the SJWA by providing new hunting areas, new roads, new trails, and new visitor support facilities. Therefore, the project itself includes the expansion of recreational areas and does not cause an increase in the demand such that other new or altered parks would be required. No impact would occur.

Other public facilities?

The draft LMP includes new public facilities, such as a new land area within the SJWA (the Potrero Unit), new administrative facilities within the SJWA, new roads, and new visitor support facilities. Other public facilities available in surrounding communities and cities include libraries and local government administrative services. The need for new or altered libraries or administrative services is typically associated with an increase in population. As described under Section 6.2.6, the draft LMP would not result in substantial population growth to the extent that new or expanded facilities would be required. Impacts would therefore be less than significant.

6.3 REFERENCES

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CHAPTER 7
SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

7.1 INTRODUCTION

CEQA sections 21100(b)(2) and 21100.1(a) require that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency must include a discussion of significant irreversible environmental changes of project implementation. In addition, CEQA Guidelines section 15126.2(c) describes irreversible environmental changes as:

> Uses of nonrenewable resources during the initial and continued phases of development may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts, such as highway improvement that provides access to a previously inaccessible area, generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

7.2 ENVIRONMENTAL EFFECTS

Adoption and implementation of the draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) is expected to result in irreversible environmental effects consisting of the following:

- Commitment of approximately 235 to 275 acres of land on Davis Subunits D1 and D2 that would be physically altered and degraded to create a recycled water storage reservoir. The irreversible environmental changes of this commitment include incremental demands for public utilities (i.e., recycled water). The commitment of land and incremental demands for public utilities is considered less than significant (Class III) because the stored water would be exclusively available to the wildlife area and would be used on-site only. Furthermore, the water would be used solely for the production of valuable wildlife habitat on the SJWA and would support draft LMP management goals and tasks pertaining to the enhancement of existing, and development of new, wetland and riparian resources for a variety of game and non-game species, and the maintenance and improvement of wildlife viewing opportunities. In addition, construction of a storage reservoir and procurement of viable water supply would support the ongoing maintenance of the SJWA and protection of special-status plants, wildlife, and their habitat.
- Implementation of the draft LMP may result in incidental take of special-status species' habitat. Mitigation measures have been outlined in the EIR (see Section 5.3, Biological

Resources) that would reduce these biological resources impacts to below a level of significance or no adverse effects. However, the incidental take of special-status species and associated habitat would still comprise a small, but irreversible, environmental change associated with implementation of the draft LMP.

- Adoption and implementation of the draft LMP would entail the conversion of portions of existing agricultural areas within the Davis Unit to other uses, such as habitat management or waterfowl ponds. However, other areas within the Davis Unit that are not currently used for agricultural purposes would be placed into agricultural production. As such, implementation of the draft LMP would result in a net increase of over 300 acres of agriculture production areas and would not entail a significant irreversible environmental effect associated with the loss of agricultural land.
- Use of various new raw materials, such as lumber, sand, and gravel, for new facilities and structures and to develop roads, access, and trail infrastructure. Some of these raw materials are already being depleted worldwide. The energy consumed in construction and ongoing maintenance of management activities on the SJWA may be considered a permanent investment. Adoption and implementation of the draft LMP would be a relatively minor consumer of these supplies when compared to a regional context. Use of these resources would represent an incremental effect on the regional consumption of these commodities. Implementation of the draft LMP would involve an incremental increase in consumption of energy resources, derived in part from nonrenewable resources, such as fossil fuels. For example, electrical service would be slightly increased to serve new administrative facilities and residences and new water infrastructure would constitute an increase in the consumption of energy associated with ongoing maintenance of the SJWA.
- The commitment of funds associated with the adoption and implementation of the draft LMP would be irreversible, and those funds would be irretrievable. However, the proposed action is required to ensure the protection of special-status plant and wildlife species as well as consistency with the California Endangered Species Act, California Native Plant Protection Act, California Fish and Game Code section 1600 et al.
- The SJWA is currently and would continue to be managed through an adaptive management framework, in which monitoring is used to evaluate the effectiveness of management practices, which is then adjusted, as necessary, to enhance the ability to achieve the goals of the plan. Some of the proposed LMP activities, such as the water storage facility, would comprise a small, but irreversible, environmental change associated with implementation of the draft LMP. Through coordination with the MSHCP Biological Monitoring Program, the California Department of Fish and Wildlife can use the results of information gathered through the Monitoring Program and from other sources to adjust management strategies and practices to assist in providing for the protection of sensitive species and habitats.

CHAPTER 8
GROWTH INDUCEMENT

8.1 INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines mandates that the growth-inducing nature of the proposed project be discussed. This CEQA Guidelines section states that the growth-inducement analysis is intended to address the potential for the project to "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Furthermore, the CEQA Appendix G Checklist (Population and Housing) mandates that a CEQA document discuss the project's likelihood to induce substantial population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure) (14 CCR 15000 et seq.).

A project may be distinguished as either facilitating planned growth or inducing unplanned growth. Facilitating growth is relating to the establishment of direct employment, population, or housing growth that would occur within a project site. Inducing growth is related to lowering or removing barriers to growth or by creating an amenity or facility that attracts new population and economic activity. For the purposes of this EIR analysis, a significant growth-inducement impact would occur if the project, and all associated infrastructure improvements, directly or indirectly removed obstacles to growth such that the induced growth would significantly burden existing community services, impact the environment, or cause a demand for general plan amendments.

8.1.1 Growth-Inducing Impacts of the Draft LMP

The draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) will guide the management of the SJWA to protect special-status plants, wildlife, and their habitats, compatible uses such as hunting, fishing (reptiles and amphibians), wildlife viewing, wildlife photography, conservation education, plant and wildlife research. Pursuant to Fish and Game Code (FGC) Section 1526, the Fish and Game Commission may adopt regulations for the occupation, use, operation, protection, enhancement and administration of wildlife management areas or public shooting grounds.

The regulations governing the use of wildlife areas are further defined in the California Code of Regulations (CCR) (Title 14, Division 1, Subdivision 2, Chapter 11, Sections 550, 550.5 and 551). Section 550 provides a general list of activities on wildlife areas as well as regulations that apply to specific lands including the SJWA. Proposed management activities are necessary to maintain habitat objectives of the area and the proposed recreational opportunities are compatible with the protection of biological resources present in the reserve.

The Fish and Game Code, gives the CDFW the authority to construct and maintain the facilities necessary to manage and operate the land. Consistent with that, the draft LMP provides for the construction of new structures and water systems on the SJWA, these structures and systems would not support significant new housing or employment opportunities. For example, two existing double-wide trailers (one approximately 1,200 square feet and the other approximately 1,300 square feet) that provide housing for employees are proposed to be removed and replaced with three, approximately 1,300-square-foot new manufactured homes on the Davis Unit. One 5,000-gallon domestic water system or two 2,500-gallon domestic water systems would be constructed and installed to serve the manufactured homes. In addition, four new 1,200-square-foot shade structures are also proposed on the Davis Unit. On the Potrero Unit, a new domestic water system and supporting power system is proposed that would support new facilities including two new residences for employees (double-wide trailers that are approximately 1,440 square feet), an office, a workshop, and a warehouse.

While the draft LMP provides for the construction of new structures on the SJWA, the proposed structures are relatively minor and consistent with the limitations prescribed in FGC section 1745 and CCR sections 550, 550.5, 551. Furthermore, construction of the structures would not result in significant new housing or employment opportunities that result in growth-inducing impacts. Similar to the existing double-wide trailers on the Davis Unit , new manufactured homes would be used by SJWA employees that live on-site to perform site security functions and ensure the area is safe and accessible to the public. Also, proposed shade structures would be temporarily used during the day by SJWA visitors. While the Potrero Unit facilities may support new housing and employment opportunities, these new facilities would be relatively small in size, and new housing opportunities would be capable of supporting a maximum of three SJWA employees. In addition, the proposed office, workshop, and warehouse would be used to support SJWA management activities. Therefore, because SJWA employees currently live on-site and new structures would be utilized to support SJWA staff and management activities, growth-inducing impacts associated with adoption and implantation of the draft LMP are considered to be **less than significant (Class III).**

In addition to the construction and operation of new structures, the draft LMP provides for CDFW to construct and operate a recycled water storage reservoir on the Davis Unit. As proposed, the reservoir would serve as seasonal storage for recycled water that would be used throughout the wildlife area and would be filled with recycled water from the San Jacinto Valley Regional Water Reclamation Facility (owned and operated by Eastern Municipal Water District (EMWD)). The water that would be stored in this reservoir would be exclusively available to the wildlife area as per the San Jacinto Wildlife Area Reclaimed Water Supply Project Agreement with the Eastern Municipal Water District (CDFG and EMWD 1987), as discussed in Section 5.3, Biological Resources of this Program EIR (PEIR). Since the water to be stored in the reservoir would be used solely for the production of valuable wildlife habitat and would consist

of recycled water, construction of the water storage reservoir would not remove an obstacle to additional growth and development, such as providing a viable potable water supply for the new residential or office development. Furthermore, residential, office, or other development on the SJWA would not conflict with biological objectives for wildlife areas established in the California Code of Regulations. Because the storage reservoir would be used solely for the production and maintenance of wildlife habitat on the SJWA and would consist of recycled water, growth-inducing impacts associated with adoption and implantation of the draft LMP are considered to be **less than significant (Class III).**

8.2 REFERENCES

CDFG and EMWD (California Department of Fish and Game and Eastern Municipal Water District). 1987. "Agreement Between State of California, Department of Fish and Game and Eastern Municipal Water District for the San Jacinto Wildlife Area Reclaimed Water Supply Project." August 18, 1987.

California Fish and Game code 2017

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CHAPTER 9
ALTERNATIVES

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a reasonable range of project alternatives that would feasibly attain most of the basic objectives of the project but would avoid or lessen any significant environmental impacts. EIRs are also required to evaluate the comparative merits of the alternatives. This chapter of the Program EIR (PEIR) describes and evaluates project alternatives and implements the requirements set forth in the CEQA Guidelines for alternatives analysis. This chapter also identifies the Environmentally Superior Project Alternative as required by CEQA Guidelines Section 15126.6(e)(2).

Note that SJWA is a currently operating management area. As such, the purpose of the PEIR is to focus the analysis on those potential effects on the environment resulting from implementation of newly proposed activities/programs and those existing activities/programs that are being expanded into areas not previously disturbed by ongoing activities/programs at the SJWA. Therefore, the alternatives analysis involves alternatives relative to proposed new and expanded existing activities/programs.

9.1 ALTERNATIVES CONSIDERED IN THIS EIR

The range of alternatives and methods for selection is governed by CEQA and applicable CEQA case law. As stated in CEQA Guidelines Section 15126.6(a), the lead agency is responsible for considering a reasonable range of potentially feasible project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. This chapter includes the range of project alternatives that have been selected by the lead agency (in this case, the California Department of Fish and Wildlife [CDFW]) for examination, as well as its reasoning for selecting these alternatives.

As stated in Section 15126.6(a) of the CEQA Guidelines, there is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. This rule is described in Section 15126.6(f) of the CEQA Guidelines and requires the EIR to set forth only those alternatives necessary to foster informed decision-making. As defined in Section 15126.6(f), the rule of reason limits alternatives analyzed to those that would avoid or substantially lessen one or more of the significant effects of a project. Of those alternatives, an EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. Other relevant provisions set forth in the CEQA Guidelines state that EIRs do not need to consider every conceivable alternative to a project, nor are they required to consider alternatives that are infeasible. The Guidelines also specify that the discussion of alternatives should not be remote or speculative;

however, the assessment of alternatives need not be presented in the same level of detail as the assessment of the proposed project.

The draft San Jacinto Wildlife Area (SJWA) Land Management Plan (LMP) would not result in any significant and unavoidable effects to the environment, but does result in impacts that, in the absence of mitigation, would be significant. The range of alternatives that was selected for analysis in this EIR includes those that would result in reduced impacts when compared to those of the draft LMP, even though those impacts have been identified as less than significant with mitigation.

9.1.1 Proposed Land Management Plan

As described above, project objectives and the significant impacts of a project are key determiners of the alternatives that are initially examined by the lead agency and the alternatives that are ultimately carried forward for detailed analysis in the EIR. To that end, this subsection includes (a) a summary of the draft LMP's characteristics to facilitate comparison between the draft LMP and its alternatives, (b) the list of draft LMP objectives, and (c) a summary of the draft LMP's significant impacts.

Draft LMP Summary

The SJWA project area is currently composed of approximately 20,126 acres of land located in Southern California within central Riverside County. The SJWA consists of three noncontiguous land areas: the Davis Unit (two land areas) and the Potrero Unit. The Davis Unit generally consists of approximately 10,996 acres in the San Jacinto River Valley. The larger portion of the Davis Unit is located east of Perris Lake, and a smaller portion of land is located west of the Perris Reservoir. The Potrero Unit consists of approximately 9,130 acres in the foothills of the San Jacinto Mountains.

In 1979, the SJWA lands were put aside as mitigation property for the State Water Project's wildlife losses in Southern California through execution of a Memorandum of Agreement between CDFW, the Department of Water Resources, and the Metropolitan Water District of Southern California. In 1982, the SJWA was designated as a wildlife area by the California Fish and Game Commission.

The SJWA provides recreational resources including waterfowl and upland game hunting, birding, hiking, hunting dog training, fishing, horseback riding, nature study, photography, and mountain biking. Many of the recreational uses are supported by CDFW's active management of SJWA facilities, including its wetland ponds and trails. The SJWA also supports a diverse array of biological resources and is an important stop for a number of migratory birds along the Pacific flyway. The SJWA also provides significant conservation lands, including areas that are part of the Stephens' Kangaroo Rat Habitat Conservation Plan and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). As such, it provides important

conservation for a variety of special-status species that require the management of habitat conditions and monitoring. The SJWA has been managed by CDFW since its inception.

CDFW has prepared the draft LMP to help guide its future planning and management operations for the SJWA. The general purpose of the SJWA is to protect and enhance habitat for wildlife species and to provide the public with compatible, wildlife-related recreational uses. The existing operation of the SJWA includes public uses, which are incorporated into the draft LMP. Public uses that would continue to be permitted under the draft LMP include waterfowl and upland small game hunting, birding, hiking, hunting dog training, fishing, horseback riding, nature study, photography, and mountain biking.

Objectives

The purpose of the draft LMP is to set forth the goals, objectives, and actions for management of CDFW's lands within the SJWA consistent with the requirements of Sections 15 and 1745 of the California Fish and Game Code. Specific objectives of the draft LMP's protection and management of lands, while allowing approved recreational uses, within the SJWA include:

- To guide the management of habitat, species, and programs described in the LMP, and achieve CDFW's mission to protect and enhance floral and faunal values;
- To preserve and enhance biological communities in the region including grassland, sage scrub, chaparral, wetlands, and alkali scrub, that protect habitat contributing to and sustaining the overall ecosystem health of the region. This habitat is necessary to support special status species, including Stephen's kangaroo rat, least Bell's vireo, tricolored blackbird, burrowing owl, and others covered by the MSHCP;
- To maintain habitat connectivity between the SJWA and MSHCP core areas and linkages;
- To provide quality, recreational opportunities, including hunting, wildlife observation, and hiking, where compatible with biological resource protection objectives;
- To provide interpretive and educational programs for the natural diversity within the SJWA; and
- To provide an overview of the SJWA's operation and maintenance, and personnel requirements to implement management goals. The LMP will also serve as a budget planning aid for annual regional budget preparation.

The draft LMP management discussion is categorized in three hierarchical levels: elements, goals, and tasks. The elements are the management categories or considerations; the goals identify the conditions management is designed to achieve; and tasks are the steps that would be taken to attain the goals.

9.1.2 Alternatives Considered But Rejected

One of the requirements for alternatives analysis that is set forth in the CEQA Guidelines is identification of alternatives that were considered by the lead agency but rejected as infeasible during the scoping process. As stated in Section 15126.6(c) of the CEQA Guidelines, the EIR should briefly explain the reasons underlying this determination. Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are:

(i) Failure to meet most of the basic project objectives,

(ii) Infeasibility, or

(iii) Inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c))

Section 15126.6(f)(1) of the CEQA Guidelines states that "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)." However, as stated in this subsection, no single factor establishes a fixed limit on the scope of reasonable alternatives.

In accordance with 15126.6(c) of the CEQA Guidelines, a reasonable range of alternatives was considered and are further analyzed below. Several of these alternatives were rejected from further analysis due to one or more of the above reasons. A description of each alternative and the rationale for rejection is provided below.

Off-Site Alternative

An alternate site or off-site alternative was determined to be infeasible for this project because the LMP covers the SJWA, and it is not possible to identify an alternate, over a 20,000-acre area for the LMP within Riverside County with similar species, habitat, and open space. Therefore, an off-site or alternate project location was dismissed from further evaluation.

Expand the SJWA

CDFW also evaluated the potential of expanding the boundaries of the SJWA to encompass a larger area, specifically in the Davis Unit (expanding Subunits D5 and D11). However, it was determined acquiring this land was economically infeasible and not realistic due to anticipated high market value, so CDFW opted not to pursue this as a feasible alternative.

Additional Recreation

Another alternative that was evaluated by CDFW was expanding recreational activities, including more hiking and mountain biking trails, and camping facilities, and also providing areas for special events. After evaluating the inclusion of more recreation activities, it was determined that there could be a conflict with the project objective of seeking to preserve and enhance biological communities in the region, including grassland, sage scrub, chaparral, wetlands, and alkali scrub. Therefore, CDFW determined this was not a feasible alternative, and it was not carried forward for analysis.

~~**Significant Effects of the Draft LMP**~~

~~The following project-specific significant and unavoidable impact has been associated with the draft LMP. All other project impacts were identified as less than significant or could be mitigated to a less-than-significant level with mitigation, with the exception of the impact listed below. Allowing hunting on the Potrero Unit during the nesting season would result in a significant and unavoidable impact (Issue BIO-1). Under Alternative 4 (No Hunting on the Potrero Unit) eliminating hunting on the Potrero Unit would ensure there would be no potential impact to nesting birds associated with hunting activities during the hunting season.~~

- ~~Issue BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? Impacts to nesting birds due to small game hunting activities on the Potrero Unit would result in a significant and unavoidable project impact.~~

9.2 ALTERNATIVES CARRIED FORWARD FOR CONSIDERATION

Pursuant to Section 15126.6 of the CEQA Guidelines, a reasonable range of alternatives to the draft LMP were selected that would feasibly attain most of the basic objectives of the plan, but would avoid or substantially lessen one or more of the significant effects of the project. The analysis focuses on activities proposed under the draft LMP as a whole and only distinguishes between the Davis Unit and the Potrero Unit if necessary.

9.2.1 Alternative 1 – No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of "no project" along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the

proposed project. As specified in Section 15126.6(e)(3)(B) of the CEQA Guidelines, the no project alternative for a project consists of the circumstance under which a proposed project does not proceed.

Accordingly, Alternative 1 assumes that improvements to the SJWA that include creating new habitat for waterfowl, new housing for employees, and new water storage and other infrastructure improvements, including new roads and trails, proposed to take place under the draft LMP would not occur, and existing conditions would continue as is. No changes would be made to existing maintenance activities and current operations. It is assumed current maintenance activities comply with existing federal, state and local laws and requirements regarding handling and storing hazardous materials and best management practices to protect water quality.

Air Quality

Under the No Project Alternative, emissions associated with the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes), office, workshop, and warehouse buildings; roads and expanded trail/interpretive services projects that would require land disturbances such as grading and site-preparation activities would not occur. Mitigation measure MM-AIR-1a and 1b that requires preparation of a construction phasing plan would not be required under this alternative.

Emissions associated with existing land management activities including prescribed burning, mowing and disking fields, vehicle trips associated with recreation (e.g., hiking, biking, hunting), and dog training and school events would remain at existing levels and would continue. Therefore, emissions associated with an increase in vehicle trips associated with land maintenance activities, hunting and hiking, and construction projects would be avoided. Air quality impacts would be less than significant and would be less intense compared to the draft LMP because there would be no expansion of existing activities or construction of new facilities.

Greenhouse Gases

With regard to greenhouse gases (GHGs), there would be no change in existing activities so there would be no substantial increase in GHG emissions nor would there be any conflicts with the adopted City of Beaumont's *Sustainable Beaumont: The City's Roadmap to Greenhouse Gas Reductions* (CAP) and the City of Moreno Valley's *Energy Efficiency and Climate Action Strategy* (CAS) as well as the Southern California Association of Governments (SCAG) adopted 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The effect of climate change would remain less than significant, the same as the draft LMP.

Biological Resources

Under the No Project Alternative, the draft LMP would not be implemented and planned activities including grading and trail maintenance, habitat conversion, hydrological modifications, and repeated surveys and associated trampling and soil compaction would not occur. Mitigation measures MM-BIO-1a through MM-BIO-1p would not be implemented and new potentially significant temporary and permanent impacts to special-status plant and wildlife species and suitable habitat (Issue BIO-1) would not occur. ~~There would be no significant and unavoidable impact to nesting birds on the Potrero Unit under the No Project Alternative. Instead, ongoing actions relating to biological resources and public use management in the SJWA would continue to occur.~~ The No Project Alternative and lack of planned LMP activities would also avoid new temporary and permanent impacts to sensitive vegetation communities and mitigation measures MM-BIO-2a and b that address impacts to chaparral; coastal sage scrub; meadows and marshes; riparian scrub, woodland, and forest; and Riversidean alluvial fan scrub would not be required (Issue BIO-2). Since new impacts to sensitive vegetation impacts associated with draft LMP activities would not occur, mitigation measures MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1m would not be implemented for temporary impacts to sensitive vegetation communities; and MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1l would not be implemented for permanent impacts.

The No Project Alternative would also avoid new temporary and permanent impacts to federal and state protected wetlands/potentially jurisdictional waters (Issue BIO-3), new temporary and permanent impacts to wildlife movement (Issue BIO-4) and more specifically, new impacts to wildlife moving through the SJWA due to construction and management activities, and new potential impacts concerning conflicts with the local policies (i.e., Riverside County Oak Tree Management Guidelines) (Issue BIO-5) due to temporary and permanent direct and indirect impacts to oak dominated vegetation on the SJWA. As such, implementation of mitigation measures MM-BIO-1a through MM-BIO-1m for temporary impacts and MM-BIO-1a through 1l for permanent impacts would not be required for impacts to potentially jurisdictional waters. Implementation of mitigation measures MM-BIO-1c MM-BIO1e, MM-BIO-1g through MM-BIO-1i, MM-BIO-1p and 1q would also not be required for potential permanent impacts to wildlife movement. Mitigation measures MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1m for temporary impacts and MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1l for permanent impacts would not be required for impacts to oak-dominated vegetation communities. Lastly, as with implementation of the draft LMP, implementation of the No Project Alternative would not conflict with provisions of the Western Riverside MSHCP (Issue BIO-6). In absence of the draft LMP, the CDFW would still continue to manage the SJWA consistent with the requirements of the MSHCP for MSHCP Management Unit No.2 (Badlands/San Jacinto River Management Unit), and the Stephens' Kangaroo Rat Habitat Conservation Plan, and would continue to collaborate with the RCA.

However, under the No Project Alternative many of the biologically beneficially programs proposed under the draft LMP including restoring alkali habitat and wetlands and riparian areas would not occur. In addition, water guzzlers would not be installed to ensure an adequate water source is available for birds, small game and in some instances for big game. These programs and facilities would not be provided which may result in loss of habitat or species. Generally, impacts to biological resources would be less under the No Project Alternative compared to the draft LMP because there would be no disturbance in areas not previously disturbed by ongoing activities/programs at the SJWA and mitigation measures required to avoid direct and indirect, temporary and permanent impacts to special-status species would not be required.

Cultural Resources

Under the No Project Alternative, potential disturbance of unknown subsurface historic-era and archaeological resources during draft LMP construction activities involving land grading, trenching, or excavation including the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads into areas not previously disturbed by ongoing activities/programs at the SJWA would be avoided. As construction activities proposed to take place under the draft LMP would not occur and there would be no land disturbance, implementation of mitigation measure MM-CUL-1a through MM-CUL1d that address the potential to impact known or unknown historic or prehistoric archeological resources or built environment resources would not be required. As such, the No Project Alternative would result in no impacts to historical and archaeological resources (including buildings), which eliminates impacts to historical and archaeological resources associated with implementation of the draft LMP (i.e., less than significant with mitigation).

Similarly, potential disturbance to paleontological resources, tribal cultural resources, and human remains associated with draft LMP construction activities involving land grading, trenching, or excavation would be avoided under the No Project Alternative. As construction activities proposed to take place under the draft LMP would not occur, implementation of mitigation measures MM-CUL-3 through MM-CUL-5 would not be required. The No Project Alternative would result in no impact to paleontological resources, tribal cultural resources, and human remains, which eliminates impacts to these resources associated with implementation of the draft LMP (i.e., less than significant with mitigation).

Geology/Soils

Under the No Project Alternative, construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution,

management, and water storage systems; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trail/interpretive services projects would not occur so there would be no increase in soil erosion or loss of topsoil, and soil resources would continue to be managed in accordance with current management practices. Mitigation measures MM-GEO-1a or MM-GEO-1b that address seismic considerations for new buildings and water storage would not be required. In addition, there would be no new buildings constructed so there would be no increase in exposure of people or structures to potential substantial adverse effects associated with earthquakes, unstable soils or landslides.

Some ongoing maintenance and operational activities including prescribed burning, mowing and disking fields and routine maintenance on facilities would still occur under the No Project Alternative; but there would be no increase in soil erosion or effects associated with unstable soils due to any new maintenance or operational activities in areas previously not disturbed. Impacts under the No Project Alternative would remain the same as the draft LMP, less than significant.

Hazards and Hazardous Materials

Under the No Project Alternative, there would not be an increase in the transport, use or disposal of hazardous materials or in soil disturbance associated with construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trail/interpretive services so mitigation measure MM-HAZ-1a that requires additional soil sampling in areas where habitable structure are proposed would not be required. Nor would mitigation measure MM-HAZ-1c that requires soil sampling be conducted for construction in areas where the former Lockheed Propulsion Company was located because there would be no change to the existing conditions in this area under the No Project Alternative. There would be no impacts under this alternative.

Because no new construction would occur under this alternative there would be no potential to impair or interfere with an adopted emergency response plans and mitigation measure MM-HAZ-7 would not be required which includes best management practices (BMPs) to avoid impeding emergency response or traffic in the event of an evacuation. The potential for exposing people or structures to wildfire would also be less under this alternative because there would not be an increase in prescribed burns nor would there be new construction activities that could result in the creation of heat or sparks that could start a fire. Mitigation measure MM-HAZ-8 which includes BMPs to reduce the potential for an accidental wildfire would not be required. Compared to the draft LMP, impacts would be less than significant or no impact and no mitigation would be required.

Hydrology and Water Quality

Under the No Project Alternative, as mentioned previously, there would be no new construction activities that would require compliance with stormwater BMPs, outlined in mitigation measure MM-HYD-1a or BMPs required for the application of pesticide and herbicide usage specified in mitigation measure MM-HYD-1b. Mitigation measure MM-HYD-1c fire management BMPs; mitigation measure MM-HYD-1d dog waste removal and disposal; and BMPs to minimize stormwater runoff provided in MM-HYD-1e would also not be required because there would be no change in existing maintenance and SJWA activities in areas that area currently undisturbed. None of these mitigation measures would be required under this alternative. Compared to the draft LMP, impacts would remain less than significant or there would be no impact and no mitigation would be required.

Recreation

Under the No Project Alternative, there would be no expansion of waterfowl and upland small game hunting opportunities within the SJWA, and no new hunting dog areas would be constructed on the Davis Unit. In addition, no new visitor's center/interpretive areas, parking lots/trailheads, and trails would be constructed on the Davis and Potrero Units. Existing conditions and existing recreational opportunities at the SJWA would be maintained by CDFW under this alternative including visitation by recreation user groups including hunters, bird/wildlife viewers, school students, dog trainers, hikers, and equestrian users. There is the potential that the number of visitors to the SJWA may increase leading to increased demand on the existing SJWA facilities and areas designated for hunting and dog trials. It is anticipated under the No Project Alternative that impacts associated with increased usage of neighborhood and regional parks or other recreational facilities in the County and in the surrounding jurisdictions would remain the same as the draft LMP, less than significant.

Because no new construction would occur under this alternative, there would be no potential for new or expanded recreational facilities to create adverse physical effects on the environment through land grading, trenching, or excavation activities. Therefore, the No Project Alternative would not create adverse physical effects on surface biological resources or water quality and as described above, no mitigation measures would be required for these resources under this alternative. Mitigation measure MM-REC-2 which implements biological resource and hydrology and water quality mitigation measures would not be required. When compared to the draft LMP, impacts associated with adverse physical effects on the environment resulting from construction or expansion of recreational facilities would be reduced under the No Project Alternative, but impacts leading to the overuse and degradation of existing facilities may increase under this alternative. Therefore, it is assumed impacts would likely result in similar impacts as the draft LMP.

Traffic and Circulation

Under the No Project Alternative, additional trips associated with construction traffic (i.e., worker trips, export and import of construction materials, and heavy equipment) would not be generated and distributed onto local roadway segments and intersections. As such, implementation of mitigation measure MM-TRAF-1 (preparation of traffic control plans) would not be required. Further, maintaining current operations in the SJWA would not generate daily trips in excess of trips generated by existing conditions on the Davis and Potrero Units as increased public recreation use of the units associated with expanded recreational opportunities would not occur. The No Project Alternative would not generate construction trips that would be distributed onto roadways included in the Riverside County Congestion Management Program and would not require implementation of mitigation measure MM-TRAF-2. As with the draft LMP, implementation of the No Project Alternative and continued operation of the SJWA as under existing conditions would not result in a change in air traffic patterns and would not conflict with policies or plans regarding public transit, bicycle, or pedestrian facilities. Lastly, the No Project Alternative would not include hazardous design features (i.e., no new features would be constructed) and would not generate construction traffic that could affect emergency access in the area (mitigation measure MM-TRAF-5) would not be required. Therefore, the No Project Alternative and continued operation of the SJWA as under existing conditions would result in reduced impacts to traffic and circulation when compared to the draft LMP.

Utilities and Service Systems

There would be no new construction activities and no new or expanded uses at the SJWA under the No Project Alternative. As with the draft LMP, no mitigation measures would be required. The SJWA would operate and be managed as under existing conditions and impacts to utilities and service systems under the No Project Alternative would be comparable to impacts anticipated to occur under the draft LMP.

Energy

The increase in energy associated with the use of construction equipment and any maintenance or operation activities would not occur under the No Project Alternative. As with the draft LMP, there are no impacts requiring mitigation. Thus, there would be no increase in energy demand under this alternative and impacts would be reduced when compared to the draft LMP.

Ability to Meet Project Objectives

If the draft LMP is not adopted and the SJWA remains as it is currently, and there are no changes to any aspects of existing operations and maintenance, the ability to achieve CDFW's mission to protect and enhance plant and wildlife habitats would be questionable (Objectives 1 and 2).

There would be a reduction in the provision of more recreational opportunities and interpretive and educational programs (Objectives 4 and 5). Lastly, there would not be a structure in place that establishes goals that establish operation, maintenance, and personnel requirements to meet those goals. Overall, the No Project Alternative would not achieve most if not all of the project objectives. In addition, CDFW is required to prepare a land management plan for the SJWA pursuant to Section 1019(a) of the California Fish and Wildlife Code. Therefore, the continuation of management of the SJWA in the absence of a LMP, as would be the case under the No Project Alternative, is not considered feasible.

9.2.2 Alternative 2 – No Recycled Water Storage Facility

The No Recycled Water Storage Facility Alternative would eliminate the recycled water storage reservoir proposed within the Davis Unit, Subunits D1 and D2. Removing the recycled water storage reservoir would eliminate an on-site source of water for use within the wildlife area and habitat for waterfowl when water is available. Further, construction activities associated with excavating and constructing the reservoir and trenching activities of approximately 3,000 feet associated with the pipeline construction would not occur.

Air Quality

Under the No Recycled Water Storage Facility Alternative there would be a reduction in the amount of land disturbance because the water storage reservoir that would range in size from ~~between~~ 235 to 275 acres would not be constructed. Therefore, the increase in air emissions associated with the use of heavy equipment and dust from general land disturbance would not occur. Mitigation measure MM-AIR-1a requires a construction grading plan be prepared to ensure that construction of the water storage reservoir would not occur concurrent with other construction projects and the daily maximum PM_{10} emissions threshold is not exceeded. The remaining project components including construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trails would still generate construction-related emissions that could expose sensitive receptors to pollutants as well as maintenance and operational activities. However, the most intense element of the draft LMP is construction of the water storage reservoir. Therefore, impacts associated with construction emissions affecting air quality would be less than the draft LMP under this alternative. Impacts associated with creation of odors would not change relative to the draft LMP and remain less than significant.

Greenhouse Gases

With regard to GHGs, eliminating construction of the water storage reservoir would help decrease the generation of GHGs relative to the draft LMP. There would be no change in existing activities so the impact would remain the same as the draft LMP, less than significant. In addition, there would be no change in potential conflicts with the adopted City of Beaumont's CAP or the City of Moreno Valley's CAS, as well as the SCAGs adopted 2016–2040 RTP/SCS. The effect on climate change and GHGs would remain less than significant, the same as the draft LMP.

Biological Resources

Under the No Recycled Water Storage Facility Alternative, there would be a reduction in the amount of land disturbance because the water storage reservoir that would range in size from 235 to 275 acres would not be constructed. Further, ground-disturbing activities and resulting impacts to biological resources on the portions of Davis Unit, Subunits D1 and D2 on which the water storage reservoir would be placed, would not occur. As a result, potential temporary and permanent direct impacts to special-status plants (Coulter's goldfields and San Jacinto Valley crownscale) and special-status upland and wetland wildlife species (upland species include San Diego black-tailed jackrabbit, loggerhead shrike, MacGillivray's warbler, bobcat, and coyote; wetland species include white-faced ibis, double-crested cormorant, great blue heron, black-crowned night-heron, and American bittern) mapped on these subunits would be avoided. Temporary and permanent indirect impacts to the species would occur as a result of management activities in the adjacent area and CDFW would still implement mitigation measures to reduce the severity of anticipated effects in areas adjacent to Subunits D1 and D2 and throughout the SJWA, where appropriate and necessary. However, compared to the draft LMP, impacts to special-status plant and wildlife species (Issue BIO-1) would be reduced due to an overall smaller construction footprint and maintaining existing conditions on Subunits D1 and D2. ~~However, the significant and unavoidable impact to nesting birds on the Potrero Unit would remain under this Alternative (Issue BIO-1).~~

Similarly, the No Recycled Water Storage Facility Alternative would avoid direct impacts to sensitive vegetation communities (Issue BIO-2) on Subunits D1 and D2 including Alkaline Ephemeral Wetland Mapping Unit MU and Willow MU on Subunit D1. For purposes of this analysis and because a specific location for the storage facility has not been identified, it is assumed that the Willow MU on Subunit D2 (see Figure 5.3-2A.2) would be avoided by CDFW during construction of the storage facility. Mitigation measures would not be required to reduce the severity of biological resource impacts on Subunits D1 and D2 however, mitigation would be implemented to address impacts to sensitive vegetation communities throughout the remaining subunits of the Davis Unit and the Potrero Unit. Overall impacts to sensitive vegetation

communities would be reduced under this alternative due to an overall smaller construction footprint and maintaining existing conditions on Subunits D1 and D2.

Compared to the draft LMP, the No Recycled Water Storage Facility Alternative would result in reduced impacts to federal and state protected wetlands/potentially jurisdictional waters (Issue BIO-3). Potentially jurisdictional waters have been mapped on portions of Subunits D1 and D2 (see Figure 5.3-3A) and direct disturbance and impacts to these areas would not occur under this alternative. Impacts to potentially jurisdictional waters would occur elsewhere on the SJWA as a result of implementation of the draft LMP and construction and management activities and as such, CDFW would implement appropriate mitigation measures (i.e., mitigation measure MM-BIO-3a and b) to ensure that impacts are reduced to a less-than-significant level.

Eliminating construction of the water storage reservoir and generally, an overall smaller construction footprint on the SJWA, would result in reduced impacts to wildlife movement (Issue BIO-4) when compared to the draft LMP. However, construction activities including grading for restoration activities occurring elsewhere on the SJWA would create temporary and permanent impacts to habitat connectivity and CDFW would implement mitigation measures MM-BIO-1a, MM-BIO-1c, MM-BIO-1g, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, and MM-BIO-1p during construction and operation.

As there are no oak-dominated vegetation communities on the Davis Unit, eliminating construction of the water storage reservoir would not avoid or reduce draft LMP impacts and potential conflicts associated with the Riverside County Oak Tree Management Guidelines. As such, impacts regarding conflicts with local policies or ordinances protection biological resources (Issue BIO-5) under the No Recycled Water Storage Facility Alternative would be similar to impacts anticipated under the draft LMP and mitigation measures MM-BIO-1a through MM-BIO-1c, MM-BIO-1e through MM-BIO-1m for temporary and permanent impacts would still be required.

Lastly, while the No Recycled Water Storage Facility Alternative would generally result in reduced impacts to biological resources by eliminating construction of the water storage reservoir on Davis Subunits D1 and D2, remaining LMP activities would result in significant impacts to special-status species and impacts would be avoided, minimized, or mitigated to less than significant through implementation of mitigation measures. In addition and in even in absence of the water storage reservoir, CDFW would manage the SJWA consistent with the requirements of the MSHCP for Unit No. 2, and would collaborate with the RCA. Therefore, conflicts with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Issue BIO-6) would be reduced by eliminating construction of the water storage reservoir, but overall impacts would be similar to the draft LMP.

While this analysis focuses on a comparison of impacts associated with Alternative 2 – No Recycled Water Facility and the draft LMP, it should be noted that Alternative 2 would result in less additional habitat for water-dependent species on the Davis Unit.

Cultural Resources

Under the No Recycled Water Storage Facility Alternative, potential disturbance to historical and archaeological resources, paleontological resources, tribal cultural resources, and human remains associated with construction of the recycled water storage reservoir within the Davis Unit, Subunits D1 and D2 would be avoided. However, draft LMP construction activities involving land grading, trenching, or excavation would occur elsewhere throughout the Davis and Potrero Subunits associated with construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trail/interpretive services projects and new roads would still occur under this alternative. Mitigation measures MM-CUl-1a through MM-CUL-1d, MM-CUL-2, MM-CUL-3, MM-CUL-4, and MM-CUL-5 would still be required under this alternative and overall, eliminating the water storage reservoir does not change the severity of the impacts identified under the draft LMP but would result in an smaller construction footprint on the SJWA. Therefore, impacts under the No Recycled Water Storage Facility Alternative would be slightly less compared to impacts anticipated to occur under the draft LMP because it would eliminate potential disturbance to a minimum of 235 acres.

Geology/Soils

Under this alternative, construction activities and projects that include construction of waterfowl ponds and wildlife viewing platforms; enhancement of riparian resources through targeted grading; installation of water distribution and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trails would still construct habitable buildings that could expose people to adverse effects of earthquakes and landslides and contribute to soil erosion and loss of topsoil. Mitigation measures MM-GEO-1a and MM-GEO-2 would still be required under this alternative. However, mitigation measure MM-GEO-1b which requires seismic and stability considerations for the water storage reservoir would not be required. Impacts associated with locating project elements, such as the new buildings on unstable soils or in areas that are not capable of supporting a septic system would remain less than significant, the same as the draft LMP.

Hazards and Hazardous Materials

Under the No Recycled Water Storage Facility Alternative, there would still be numerous construction activities that could result in an increase in the transport, use, or disposal of hazardous materials or in soil disturbance associated with construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop, and warehouse buildings; roads and expanded trails so mitigation measure MM-HAZ-1a that requires additional soil sampling in areas where habitable structures are proposed and mitigation measure MM-HAZ-1c that requires soil sampling be conducted for construction in areas where the former Lockheed Propulsion Company was located would still be required, the same as the draft LMP. Eliminating construction of the water storage reservoir would slightly reduce the overall intensity of the impact because a large component of the LMP would not be constructed, but overall it would be somewhat inconsequential relative to hazards.

Under this alternative, new construction would still occur so there would still be the potential to impair or interfere with an adopted emergency response plans and mitigation measure MM-HAZ-7 would be required, which includes BMPs to avoid impeding emergency response or traffic in the event of an evacuation. The potential for exposing people or structures to wildfire would also still occur under this alternative because there would be an increase in prescribed burns associated with maintenance activities, the same as the draft LMP. Mitigation measure MM-HAZ-8 which includes BMPs to reduce the potential for an accidental wildfire would also still be required, the same as the draft LMP. Overall, eliminating the water storage reservoir does not change the severity of the hazards and hazardous materials impacts identified under the draft LMP and impacts would be comparable under this alternative.

Hydrology and Water Quality

Under this alternative, there would be the same new construction activities as the draft LMP that would require compliance with stormwater BMPs, outlined in mitigation measure MM-HYD-1a; BMPs required for the application of pesticide and herbicide usage, specified in mitigation measure MM-HYD-1b; mitigation measure MM-HYD-1c fire management BMPs; mitigation measure MM-HYD-1d dog waste removal and disposal; and BMPs to minimize stormwater runoff provided in MM-HYD-1e. For all land-disturbing construction activities that exceed 1 acre in size, CDFW must obtain coverage under the Construction General Permit from the State Water Resources Control Board (SWRCB; SWRCB Order No. 2009-0009-DWQ, as amended). A Stormwater Pollution Prevention Plan (SWPPP) would be required that identifies all pollutant sources and non-stormwater discharges associated with the construction activity, and identifies the water quality BMPs that are appropriate for the construction activities proposed. However,

eliminating the water storage reservoir would reduce the overall intensity of impacts associated with project construction due to reducing the amount of erosion, increase in siltation in local water courses, and long-term changes in runoff patterns (e.g., rate and volume) that could adversely affect stormwater quality. Eliminating the water storage reservoir would decrease the amount of erosion and potential to affect water quality reducing the overall intensity of the impacts identified for the draft LMP.

Recreation

Compared to the draft LMP, the No Recycled Water Storage Facility Alternative would entail less overall construction activities because the water storage reservoir would not be constructed. However, the recycled water storage facility is not proposed to be available for recreational activities such as waterfowl hunting and therefore, if this facility were not to be constructed, it would not decrease the overall amount of recreational opportunities in the SJWA. As with the draft LMP, improvements would be implemented at the SJWA, new recreational opportunities would be installed, and the SJWA would experience increased visitation. Because the recycled water storage facility is not a recreational facility and all other aspects of the draft LMP would be implemented under this alternative, impacts to recreation would be comparable to the draft LMP.

Traffic and Circulation

Under the No Recycled Water Storage Facility Alternative, the water storage facility would not be constructed and the anticipated construction trips/day (50 over the approximate 3- to 5-month construction period) would not be generated and distributed onto local roads. Even without the daily construction trips associated with constructing the water storage project, the No Recycled Water Storage Facility Alternative would still require implementation of all mitigation measures (i.e., MM-TRAF-1, MM-TRAF-2, MM-TRAF-4, and MM-TRAF-5) that would be implemented under the draft LMP. Further and similar to the draft LMP, implementation of the No Recycled Water Storage Facility Alternative would not result in a change in air traffic patterns and would not conflict with policies or plans regarding public transit, bicycle, or pedestrian facilities. Overall, traffic and circulation impacts would be comparable to the draft LMP, but slightly reduced in the short-term due to the elimination of the water storage project and associated daily construction trips over the approximate 3- to 5-month construction period. Even with this slight reduction in trips impacts associated with transportation would still be considered comparable with the draft LMP.

Utilities and Service Systems

The No Recycled Water Storage Facility Alternative would have overall minor effects on the utilities and service systems impacts identified for the draft LMP. While additional project-level analysis would not be required for the water storage facility as this element is not included in the

No Recycled Water Storage Facility Alternative, impacts to utilities and service systems would generally be comparable to the impacts identified for the draft LMP. As with the draft LMP, the No Recycled Water Storage Facility Alternative does not propose to introduce new wastewater generating uses and under the alternative the SJWA would continue to receive recycled water treated in accordance with the Santa Ana Regional Water Quality Control Board (RWQCB) requirements. Further, the No Recycled Water Storage Facility Alternative does not propose the construction of new or expanded water or wastewater treatment facilities or storm water drainage facilities. As with the draft LMP, existing Eastern Municipal Water District (EMWD) entitlements and supplies are assumed to be adequate to meet the anticipated increase in water demand associated with proposed and future potential wetlands, riparian resources, and alkali habitat on the Davis and Potrero Units under this alternative. Also, the No Recycled Water Storage Facility Alternative would not generate new wastewater flows that would be conveyed to EMWD's wastewater infrastructure and landfills in the area have adequate remaining capacity to accommodate waste generated during construction and operation of development envisioned by the draft LMP or the No Recycled Water Storage Facility Alternative. Lastly, as under existing conditions, new and expanded uses that would be developed at the SJWA under the No Recycled Water Storage Facility Alternative would comply with all applicable state and local statutes or regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. Thus, impacts under this alternative would be comparable to the draft LMP.

Energy

Under the No Recycled Water Storage Facility Alternative there would be a decrease in the amount of construction required in the short-term because the water storage reservoir would not be constructed. This would slightly reduce the overall demand for energy in the short-term compared to the draft LMP. However, the energy impact would be comparable to the draft LMP.

Ability to Meet Project Objectives

If this alternative is adopted, the ability to achieve CDFW's mission to protect and enhance plant and wildlife habitats would still be achievable because removing the water storage reservoir would only affect the ability to provide water throughout the SJWA and provide waterfowl habitat (Objectives 1 and 2). There would still be recreational opportunities and interpretive and educational programs provided (Objectives 4 and 5), and there would be a LMP that would establish goals for operation, maintenance and personnel requirements (Objective 6). Overall the No Recycled Water Facility Alternative would achieve a majority of the project objectives, but not to the same degree as the draft LMP.

9.2.3 Alternative 3 – No Expansion of Hunting in the Davis Unit

Under the No Expansion of Hunting in the Davis Unit Alternative, construction of the 71-acre pond (Subunit D7) and 33 acres in fields (Subunit D4) that would permit waterfowl hunting would not be created. These lands would not change relative to existing conditions. In addition, the future potential waterfowl hunting areas that total 1,413 acres in Subunits D1, D3, D4, D11 and D13 would not be open to waterfowl hunting and no hunting blinds would be constructed. With the removal of proposed and future potential waterfowl hunting areas on the Davis Unit, projected future hunter visitation to the SJWA would be reduced by approximately 330 additional hunters/persons per year. Under the draft LMP there are no additional lands proposed to be added that would permit small game hunting in the Davis Unit. This would not change under this alternative. Figure 9-1 shows the proposed change in hunting areas under this alternative. Under this alternative the proposed and future lands designated for small game hunting in the Potrero Unit would remain unchanged from what is proposed.

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Figure 9-1 Alternative 3, No Expansion of Hunting in the Davis Unit

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Air Quality

Under the No Expansion of Hunting in the Davis Unit Alternative there would not be an increase in hunters accessing the area to pursue hunting. A total of 500 additional hunters per year are assumed would access the SJWA under the draft LMP. Under this alternative it is assumed waterfowl hunting opportunities on the Davis Unit would be reduced by approximately 330 additional hunters/persons per year, or approximately 22 vehicle trips/day during the 4-month waterfowl hunting season (i.e., late October to late January). Eliminating these additional vehicle trips would only marginally reduce the increase in air emissions associated with vehicle trips. Mitigation measure MM-AIR-1a, which requires a construction grading plan be prepared to ensure that construction of the water storage reservoir would not occur concurrent with other construction projects and the daily maximum PM_{10} emissions threshold is not exceeded, would still be required because this component of the draft LMP would not change. The remaining project components including enhancement of riparian resources through targeted grading; installation of water distribution, water storage and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop, and warehouse buildings; roads and expanded trails would still generate construction-related emissions that could expose sensitive receptors to pollutants as well as maintenance and operational activities. No hunting blinds would be constructed on Subunits D1, D3, D4, D11 and D13, which would reduce some short-term emissions associated with construction activity. However, impacts associated with air quality would be slightly less than the draft LMP under this alternative due to the reduction in vehicle trips associated with hunting and the short-term construction-related emissions and would remain less than significant, the same as the draft LMP. Impacts associated with creation of odors would also not change from the draft LMP and would remain less than significant.

Greenhouse Gases

With regard to GHGs, eliminating the expansion of hunting on the Davis Unit would help decrease the overall generation of GHGs relative to the draft LMP. However, the decrease in GHGs would be marginal because the elimination of approximately 330 hunters per year, which is estimated to equate to 22 vehicle trips/day, is not considered a significant contributor to GHGs. In addition, not constructing hunting blinds would also result in a very small decrease in construction-related emissions. There would be no change in the other elements proposed under the draft LMP so there would still be construction activities and maintenance and operation activities that would contribute to GHGs. However, the impact would be comparable to the draft LMP and would be less than significant. In addition, there would be no change in potential conflicts with the adopted City of Beaumont's CAP or the City of Moreno Valley's CAS, as well as the SCAGs adopted 2016–2040 RTP/SCS. The effect on climate change and GHGs would remain less than significant, the same as the draft LMP.

Biological Resources

While implementation of this alternative would eliminate the expansion of hunting on the Davis Unit, proposed and future potential waterfowl resources would be constructed on Subunits D1, D3, D4, D11 and D13. However, proposed ponds on Subunit D7 and Subunit D4 (see Figure 9-1) would not be constructed under this alternative and instead, existing conditions would be maintained. As such, direct impacts to mapped special-status plants that overlap with the footprint of the proposed Subunit D7 pond (i.e., San Jacinto Valley crownscale and potentially Coulter's goldfields) and Subunit D4 (Coulter's goldfields) would not occur. Similarly, direct impacts to special-status upland species (loggerhead shrike and coyote), wetland species (double-crested cormorant and white-faced ibis), and riparian species (tree swallow, yellow warbler, least Bell's vireo, and downy woodpecker) mapped in these pond areas (see Figures 5.3-4A, 5.3-5A1, 5.3-5B1, and 5.3-5C1) associated with construction activities would not occur.

Despite avoidance of direct impacts to special-status plant and wildlife species at the proposed pond locations in Subunits D7 and D4, impacts to special-status plant and wildlife species would occur elsewhere on the SJWA and would require implementation of the same suite of mitigation (i.e., mitigation measures MM-BIO-1a through MM-BIO-1q) to reduce impacts to a less-than-significant level~~, with the exception of impacts to nesting birds on the Potrero Unit that would remain significant and unavoidable.~~. As such, under the No Expansion of Hunting in the Davis Unit Alternative, impacts to special-status species (Issue BIO-1) would be reduced, but overall impacts would be similar to those associated with the draft LMP.

Under the No Expansion of Hunting in the Davis Unit Alternative, sensitive vegetation communities that occur where new ponds on Subunits D7 and D4 are proposed (see Figure 9-1) would be maintained. According to Figure 5.3-2A.2, alkaline ephemeral wetland MU occur where waterfowl hunting ponds are proposed and these areas would be directly impacted by implementation of the draft LMP and construction of ponds that would be utilized for waterfowl hunting. Therefore, while eliminating the expansion of hunting on the Davis Unit and the construction of proposed ponds on Subunits D7 and D4 would result in overall reduced impacts to sensitive vegetation communities (Issue BIO-2), construction and management activities occurring elsewhere on the SJWA would indirectly and directly impact sensitive vegetation communities, including alkaline ephemeral wetland MU, mapped on the Davis Unit. As with the draft LMP, CDFW would be required to implement measures (i.e., mitigation measures MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1m for temporary impacts, and MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1l for permanent impacts) to ensure that impacts are reduced to a less-than-significant level.

Because potential jurisdictional waters are mapped where ponds are proposed on Subunits D7 and D4 (see Figure 5.3-3A), implementation of the No Expansion of Hunting in the Davis Unit

Alternative would result in reduced impacts to jurisdictional waters (Issue BIO-3) when compared to the draft LMP. As shown on Figure 5.3-3A, playas and vernal pools are mapped within the footprint of the proposed pond on Subunit D7 and water is mapped within the footprint of a portion of the proposed ponds on Subunit D4. Under this alternative, these ponds would not be constructed and existing conditions would be maintained. However, impacts to jurisdictional waters would still occur on the SJWA outside of Subunits D7 and D4 and implementation of mitigation measures MM-BIO-1a through MM-BIO-1m for temporary impacts and MM-BIO-1a through 1l for permanent impacts would still be required to protect these resources. Therefore, while eliminating construction of new ponds on Subunits D7 and D4 where jurisdictional waters occur would result in reduced impacts, overall impacts would be of a similar severity as those associated with implementation of the draft LMP.

Eliminating the construction of the new ponds where waterfowl hunting would be permitted on the Davis Unit would result in a slight reduction in permanent impacts and a substantial reduction in indirect impacts to wildlife movement (Issue BIO-4). As discussed above, the No Expansion of Hunting in the Davis Unit Alternative would reduce impacts to special-status species, both plants and wildlife, and vegetation communities because proposed waterfowl ponds would not be constructed and existing conditions would be maintained. In addition, this alternative would result in a reduction in indirect impacts to special-status species, both plants and wildlife, and vegetation communities through an overall reduction of noise, ground vibration, lighting, and human activity occurring in the subunits, as compared to the draft LMP. However, it should be noted that hunting seasons are limited, and the majority of nesting birds in California do not nest during waterfowl and upland small game hunting seasons. Further, hunting activities are conducted in accordance with the most recent CDFW regulations, set forth in the California Waterfowl, Upland Game Hunting, and Public Use of Department Lands Regulations (CDFW 2015). Lastly, regarding indirect noise effects associated with hunting, gunfire is considered impulsive noise and any increases in impulsive noise, and potential indirect effects on special-status species, would be periodic and intermittent and would be reduced through intervening topography and distance.

While eliminating ponds on Subunits D7 and D4 reduces overall habitat conversion on the SJWA, these ponds would not provide additional habitat for migrating birds. An overall reduction in construction activities would result in reduced temporary impacts associated with construction including noise; ground vibration; lighting; increased human activity, assuming that approximately 330 hunters per year would refrain from visiting the SJWA; and the associated increase in trash and garbage. Further, as with the draft LMP, mitigation measures MM-BIO-1a, MM-BIO-1c, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, and MM-BIO-1p would still be implemented to reduce impacts to a less-than-significant level.

There are no oak-dominated vegetation communities on Davis Unit, Subunit D7 and D4 where the ponds are proposed. As such, eliminating new ponds in these areas would not avoid or reduce draft LMP impacts and potential conflicts associated with the Riverside County Oak Tree Management Guidelines. As such, impacts regarding conflicts with local policies or ordinances for the protection of biological resources (Issue BIO-5) under the No Expansion of Hunting in the Davis Unit Alternative would be similar to impacts anticipated under the draft LMP.

While the No Expansion of Hunting in the Davis Unit Alternative would generally result in reduced impacts to biological resources by eliminating construction activities where new ponds are proposed on Davis Subunits D7 and D4, remaining LMP activities would still result in significant impacts to special-status species and impacts would be avoided, minimized, or mitigated to less than significant through implementation of mitigation measures. In addition, even in the absence of the new waterfowl hunting permitted ponds on the Davis Unit, CDFW would manage the SJWA consistent with the requirements of the MSHCP for Unit No. 2, and would collaborate with the RCA. Therefore, conflicts with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Issue BIO-6) would not change from the draft LMP. Eliminating construction of proposed waterfowl ponds on Davis Subunits D7 and D4 would reduce impacts to sensitive vegetation communities compared to the draft LMP. Impacts under this alternative would be slightly less intense than under the draft LMP.

Cultural Resources

While this alternative entails no expansion of hunting in the Davis Unit and would not construct a 71-acre pond (Subunit D7) and 33 acres in fields (Subunit D4) for waterfowl hunting opportunities, construction activities involving land grading, trenching, or excavation would occur elsewhere throughout the Davis and Potrero Subunits. Further, impacts to cultural resources (i.e., unknown subsurface historical and archaeological resources, paleontological resources, tribal cultural resources, and human remains) associated with surface disturbances including the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution and management systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads would still occur under this alternative and would require implementation of mitigation measures to reduce the severity of impacts. Mitigation measures MM-CUl-1a through MM-CUL-1d, MM-CUL-2, MM-CUL-3, MM-CUL-4, and MM-CUL-5, would still be required under this alternative to reduce the severity of cultural resource impacts. Overall, impacts to cultural resources would be comparable to the draft LMP (i.e., less than significant with mitigation), but slightly reduced due to the smaller footprint of disturbance. Compared to the draft LMP the area left undisturbed where the waterfowl ponds would not be

constructed would only slightly reduce the overall severity of the impact. The impacts would be comparable to the draft LMP.

Geology/Soils

Under this alternative, construction activities and projects that include enhancement of riparian resources through targeted grading; installation of water distribution, water storage, and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trails would still occur and could expose people to adverse effects of earthquakes and landslides and contribute to soil erosion and loss of topsoil. Mitigation measures MM-GEO-1a, MM-GEO-1b, and MM-GEO-2 would still be required under this alternative. Impacts associated with locating project elements, such as the new buildings on unstable soils or in areas that are not capable of supporting a septic system would remain less than significant, the same as the draft LMP. Eliminating expansion of hunting on the Davis Unit would eliminate construction of waterfowl ponds and wildlife viewing platforms, which would slightly reduce the amount of construction, amount of soil erosion and loss of topsoil that could occur, but mitigation measure MM-GEO-2 would still be required to ensure BMPs are incorporated to minimize erosion and loss of topsoil to protect local water quality. Overall, impacts to geology and soils would be slightly reduced due to the elimination of construction/land disturbing activities to create more waterfowl hunting areas on the Davis Unit, but would be comparable to the draft LMP.

Hazards and Hazardous Materials

Under this alternative, construction activities with the exception of the creation of waterfowl ponds and hunting blinds in the Davis Unit that could result in an increase in the transport, use or disposal of hazardous materials or in soil disturbance associated with enhancement of riparian resources through targeted grading; installation of water distribution, water storage and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trails would still occur. Mitigation measure MM-HAZ-1a that requires additional soil sampling in areas where habitable structures are proposed and mitigation measure MM-HAZ-1c that requires soil sampling be conducted for construction in areas on the Potrero Unit ,where the former Lockheed Propulsion Company was located would still be required, the same as the draft LMP. Eliminating construction of waterfowl ponds and hunting blinds would slightly reduce the overall intensity of the impact, but overall impacts would be comparable to the draft LMP.

Under this alternative new construction would still occur so there would still be the potential to impair or interfere with an adopted emergency response plan and mitigation measure MM-HAZ-7 would be required which includes BMPs to avoid impeding emergency response or traffic in

the event of an evacuation. The potential for exposing people or structures to wildfire would also still occur under this alternative because there would be an increase in prescribed burns associated with maintenance activities, the same as the draft LMP. Mitigation measure MM-HAZ-8 which includes BMPs to reduce the potential for an accidental wildfire would also still be required, the same as the draft LMP. Overall, eliminating the creation of waterfowl ponds and hunting blinds does not change the severity of the impacts identified under the draft LMP, and impacts would be less than significant with mitigation comparable to the draft LMP.

Hydrology and Water Quality

Under this alternative, there would be the same new construction activities as the draft LMP that would require compliance with stormwater BMPs, outlined in mitigation measure MM-HYD-1a; BMPs required for the application of pesticide and herbicide usage, specified in mitigation measure MM-HYD-1b; mitigation measure MM-HYD-1c, fire management BMPs; mitigation measure MM-HYD-1d, dog waste removal and disposal; and BMPs to minimize stormwater runoff provided in MM-HYD-1e. For all land-disturbing construction activities that exceed 1 acre in size, CDFW must obtain coverage under the Construction General Permit from the SWRCB (SWRCB Order No. 2009-0009-DWQ, as amended). A SWPPP would be required that identifies all pollutant sources and non-stormwater discharges associated with the construction activity, and identifies the water quality BMPs that are appropriate for the construction activities proposed. However, eliminating creation of the waterfowl ponds and hunting blinds would only slightly reduce the overall intensity or severity of impacts associated with project construction due to reducing the amount of erosion and increase in on or off-site siltation in local water courses and long-term changes in runoff patterns (e.g., rate and volume) that could adversely affect stormwater quality. Eliminating the creation of waterfowl ponds and hunting blinds would only very marginally decrease the amount of erosion and potential to affect water quality identified for the draft LMP. Impacts would not change from the draft LMP.

Recreation

Under this alternative, hunting opportunities on the Davis Unit would not be expanded. Instead, existing hunting areas on the Davis Unit would be maintained and would operate the same as under existing conditions. Due to maintenance of existing hunting areas on the Davis Unit, increased hunter visitation anticipated under the draft LMP would not be realized, but overall SJWA visitation of these use groups would increase from existing levels due to the introduction of upland game hunting areas on the Potrero Unit. Removing proposed and future potential waterfowl hunting areas on the Davis Unit would eliminate approximately 330 additional hunters/persons per year. Implementation of the No Expansion of Hunting in the Davis Unit alternative would not result in increased usage of existing neighborhood and regional parks or other recreational facilities. Hunting opportunities are not typically offered at neighborhood or regional parks and as such, hunters are unlikely to visit local

and regional parks in lieu of the SJWA for comparable recreation opportunities. As under existing conditions and the draft LMP, demand for hunting would be adequately accommodated by the SJWA under the No Expansion of Hunting in the Davis Unit alternative. Therefore, impacts associated with increased use of neighborhood and regional parks and other recreational facilities and substantial physical deterioration of those facilities would be comparable to the draft LMP, and would remain less than significant.

As with the draft LMP, the No Expansion of Hunting in the Davis Unit Alternative would include new or expanded recreational facilities on the SJWA that may have an adverse physical effect on the environment. Avoiding the construction of new hunting opportunities in the Davis Unit would decrease the overall amount of construction and resulting adverse effects to biological resources and hydrology and water quality identified for the draft LMP however, mitigation measure MM-REC-2 would still be implemented under this alternative to reduce potential adverse effects to the environment associated with new or expanded recreational facilities. While this alternative would include an overall reduced construction footprint in the SJWA, eliminating the creation of new waterfowl ponds in the Davis Unit does not substantially change the severity of the recreation impacts identified under the draft LMP. As such, recreation impacts under this alternative associated with adverse physical effects on the environment would be comparable to impacts under the draft LMP.

Traffic and Circulation

Under the No Expansion of Hunting in the Davis Unit Alternative, the overall volume of construction activities would be reduced compared to the draft LMP as construction truck trips associated with new waterfowl hunting areas on the Davis Unit would not be generated. Maintaining existing hunting areas on the Davis Unit, as opposed to expanding hunting opportunities, would also generate fewer operational vehicle trips associated with hunter and bird/wildlife watchers during the hunting and non-hunting seasons. Under this alternative there would be approximately 330 fewer hunters accessing the SJWA during hunting season which translates to 22 vehicle trips per day during the hunting season. While the No Expansion of Hunting in the Davis Unit Alternative avoids the generation of new construction and operational trips associated with new waterfowl ponds and expanded hunting on the Davis Unit, construction activities would still require implementation of all mitigation measures (i.e., MM-TRAF-1, MM-TRAF-2, MM-TRAF-4, and MM-TRAF-5) that would be implemented under the draft LMP. Further and similar to the draft LMP, implementation of this alternative would not result in a change in air traffic patterns and would not conflict with policies or plans regarding public transit, bicycle, or pedestrian facilities. Overall, traffic and circulation impacts would be comparable to the draft LMP, but slightly reduced due to the elimination of expanded hunting opportunities in the Davis Unit and associated short-term construction trips and vehicle trips during hunting season.

Utilities and Service Systems

Under the No Expansion of Hunting in the Davis Unit Alternative, waterfowl and upland small game hunting opportunities would not be expanded on the Davis Unit and hunting on the Davis Unit would be managed similar as under existing conditions. No expansion of hunting on the Davis Unit would have overall minor effects on utilities and service systems. All of the other components included under the draft LMP would not change under this alternative, including installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads. Therefore, overall, impacts to utilities and service systems under the No Expansion of Hunting in the Davis Unit Alternative would be comparable to the draft LMP (i.e., less than significant).

Energy

Under the No Expansion of Hunting in the Davis Unit Alternative, there would be a decrease in the amount of construction required because the creation of some waterfowl ponds and hunting blinds in the Davis Unit would not be constructed. The reduction associated with the increase in demand for energy would be so minor it would make little or no difference in the severity of the impact compared to the draft LMP. Impacts would be comparable to the draft LMP, and would remain less than significant.

Ability to Meet Project Objectives

The No Expansion of Hunting in the Davis Unit Alternative would achieve CDFW's mission to protect and enhance plant and wildlife habitats (Objectives 1 and 2) and maintain connectivity between the SJWA and the MSHCP (Objective 3). There would still be recreational opportunities and interpretive and educational programs provided (Objectives 4 and 5) and there would be a LMP that would establish goals for operation, maintenance, and personnel requirements (Objective 6). Overall the No Expansion of Hunting in the Davis Unit Alternative would essentially achieve all of the project objectives.

9.2.4 Alternative 4 – No Hunting in Potrero Unit

The No Hunting in Potrero Unit Alternative would not permit any upland game or small game hunting within any of portion of the Potrero Unit, specifically small game hunting in upland habitat areas. The Potrero Unit does not contain any wetland habitat, but under the draft LMP, CDFW proposes to manage approximately 202 acres of riparian habitat within the Potrero Unit. It is also assumed new upland game hunting opportunities on the Potrero Unit would add approximately 170 additional hunters/persons per year that would generate an additional 4 trips/day during the 100 day hunting season. In addition, the 1,136 acres under the draft LMP

proposed for small game hunting areas would not occur under this alternative along with the 5,734 acres proposed for future small game hunting. No upland or small game hunting would ~~not~~ be allowed on the Potrero Unit under this alternative.

Air Quality

Under the No Hunting in the Potrero Unit Alternative there would be no hunters accessing the area to pursue hunting. It is assumed small game hunting opportunities on the Potrero Unit would increase under the draft LMP by approximately 170 additional hunters/persons per year, or approximately 4 vehicle trips/day during the hunting season. Eliminating these additional vehicle trips would make no noticeable change to the increase in air emissions associated with vehicles. Mitigation measure MM-AIR-1, which requires a construction phasing plan be prepared to ensure that construction of the water storage reservoir would not occur concurrent with other construction projects and the daily maximum PM_{10} emissions threshold is not exceeded, would still be required because this component of the draft LMP would not change. The remaining components including enhancement of riparian resources through targeted grading; installation of water distribution, water storage, and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop, and warehouse buildings; roads and expanded trails would still generate construction-related emissions that could expose sensitive receptors to pollutants as well as maintenance and operational activities. Impacts associated with air quality under this alternative would essentially be comparable to the draft LMP. The reduction in vehicle trips associated with hunting would be so minor it would make little to any difference in the severity of the impact. Air quality impacts would remain less than significant with mitigation, the same as the draft LMP. Impacts associated with creation of odors would also remain less than significant, the same as the draft LMP.

Greenhouse Gases

With regard to GHGs, eliminating hunting on the Potrero Unit would do very little if anything to help decrease the overall generation of GHGs relative to the draft LMP. The decrease in GHGs would be so small because the elimination of approximately 170 hunters per year, which is estimated to equate to 4 vehicle trips/day during hunting season, is not considered a significant contributor to GHGs. There would be no change in the other elements proposed under the LMP so there would still be construction activities and maintenance and operation activities that would contribute to GHGs. Impacts would be comparable to the draft LMP and would remain less than significant. In addition, there would be no change in potential conflicts with the adopted City of Beaumont's CAP or the City of Moreno Valley's CAS, as well as the SCAGs adopted 2016–2040 RTP/SCS. The effect on climate change and GHGs would remain less than significant, the same as the draft LMP.

Biological Resources

The elimination of hunting on the Potrero Unit would result in fewer overall visitors to the area. As described above, proposed hunting opportunities are anticipated to generate approximately 170 additional hunters to the Potrero Unit and under this alternative, these would be eliminated. Due to fewer visitors and overall less human activity on the unit, indirect impacts to special-status plant species, including smooth tarplant, Yucaipa onion, and Jaeger's bush milkvetch, and wildlife species including numerous upland mammals, birds, amphibians, and reptiles, and several riparian bird species, mapped on the Potrero Unit associated with potential trampling from hunters would be reduced when compared to the draft LMP. However, impacts to special-status plant and wildlife species would occur elsewhere on the SJWA and would require implementation of the same suite of mitigation (i.e., mitigation measures MM-BIO-1a through MM-BIO-1p) to reduce impacts to a less-than- significant level. ~~As such, However, as stated in Section 5.3 of the PEIR, because upland small game hunting season in the Potrero Unit may overlap with the nesting bird season, impacts to nesting birds are considered significant and unavoidable. Because hunting would not be allowed on the Potrero Unit, significant and unavoidable impacts to nesting birds would be avoided under this alternative. Thus, under the No Hunting in Potrero Unit Alternative, impacts to special-status species (Issue BIO-1) would be reduced., but overall similar to those associated with the draft LMP.~~

Eliminating hunting on the Potrero Unit would decrease human activity associated with expanded recreational opportunities, and indirect impacts to sensitive vegetation communities including chaparral, coastal sage scrub, riparian scrub, woodland, and forest, and ~~r~~Riversidean alluvial fan scrub would not occur and mitigation would not be required to reduce the severity of impacts. Therefore, elimination of hunting from the Potrero Unit would result in reduced indirect impacts to sensitive vegetation communities. However, mitigation measures would still be implemented to address impacts associated with construction of facilities and structures on the Potrero Unit and construction and operations occur elsewhere on the SJWA. As with the draft LMP, CDFW would be required to implement measures (i.e., mitigation measures MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1m for temporary impacts, and MM-BIO-1a through MM-BIO-1c, and MM-BIO-1e through MM-BIO-1l for permanent impacts) to ensure that impacts are reduced to a less-than-significant level.

Potential jurisdictional waters occur on the Potrero Unit (see Figure 5.3-3B) in areas that would be opened for hunting by the draft LMP. Implementation of the No Hunting on Potrero Unit Alternative would result in fewer visitors to the area through an overall reduction in recreational opportunities which would result in reduced potential for indirect effects to potential jurisdictional waters on Subunits P5, P7, and P10. However, impacts to jurisdictional waters would still occur on the SJWA within the Potrero Unit in Subunits P5, P7, and P10, and implementation of mitigation measures MM-BIO-1a through MM-BIO-1m for temporary

impacts and MM-BIO-1a through 1l for permanent impacts would be implemented by the CDFW to protect these resources. Therefore, while entirely eliminating hunting opportunities on the Potrero Unit and more specifically, on subunits where potential jurisdictional waters occur would result in reduced impacts, overall impacts would be of a similar severity as those associated with implementation of the draft LMP (i.e., less-than-significant with implementation of mitigation measures).

Elimination of proposed and future potential upland small game hunting areas on the Potrero Unit would result in reduced impacts to wildlife movement (Issue BIO-4). This alternative would result in reduced indirect impacts to special-status species, both plants and wildlife, and vegetation communities through an overall reduction of noise, ground vibration, lighting, and human activity occurring in the subunits. Further, by eliminating hunting from the unit altogether, human and management activity (i.e., hunting) impediments to movement would be reduced. However, it should be noted that hunting activities are conducted in accordance with the most recent CDFW regulations, set forth in the California Waterfowl, Upland Game Hunting, and Public Use of Department Lands Regulations (CDFW 2015), and the majority of nesting birds in California do not nest during the limited waterfowl and upland small game hunting seasons. Also, in regards to indirect noise effects associated with hunting, gunfire is considered impulsive noise and any increases in impulsive noise, and potential indirect effects to special-status species, would be periodic and intermittent and would be reduced through intervening topography and distance. While hunting would not be permitted on the Potrero Unit under this alternative, hunting would continue to occur and would be expanded in the Davis Unit and as with the draft LMP, mitigation measures MM-BIO-1a, MM-BIO-1c, MM-BIO-1d, MM-BIO-1e, MM-BIO-1n, and MM-BIO-1p would be implemented to reduce impacts to less than significant. As such, impacts to wildlife movement under the No Hunting in Potrero Unit Alternative would be reduced but overall comparable to the draft LMP.

Approximately 11 acres of oak-dominated vegetation communities occur on the Potrero Unit. While hunting would be eliminated from the Potrero Unit under this alternative and not opening areas for hunting (i.e., increased human activity) would result in reduced opportunities for indirect effects, oak-dominated communities in the Potrero Unit may be affected by other LMP activities including proposed trails and wildlife viewing infrastructure, fire Management, and by the construction of public use and administrative facilities. Therefore, overall effects on oak-dominated habitats would be slightly reduced under this alternative but similar to the draft LMP, mitigation measure MM-BIO-5a and b would be implemented to reduce impacts to a less-than-significant level.

Implementation of the No Hunting in Potrero Unit would generally result in reduced impacts to biological resources by eliminating hunting opportunities and potential indirect effects to biological resources resulting from these activities. However, remaining draft LMP activities would result in significant impacts to special-status species and impacts would be avoided,

minimized, or mitigated to less than significant through implementation of mitigation measures. In addition and in absence of hunting on the Potrero Unit, CDFW would manage the SJWA consistent with the requirements of the MSHCP for Unit No. 2, and would collaborate with the RCA. Therefore, conflicts with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Issue BIO-6) would be slightly reduced by eliminating hunting opportunities on the Potrero Unit, but overall impacts across the SJWA would be similar to those anticipated under the draft LMP.

Cultural Resources

While this alternative avoids the creation of new hunting areas on the Potrero Unit, expanded and new recreational facilities would be introduced to the Potrero and Davis Units on the SJWA. Also, construction activities involving grading, trenching, or excavation would occur elsewhere throughout the SJWA and impacts to cultural resources (i.e., unknown subsurface historical and archaeological resources, paleontological resources, tribal cultural resources, and human remains) associated with surface disturbances including the construction of waterfowl ponds and wildlife viewing platforms; the enhancement of riparian resources through targeted grading; installation of water distribution and management systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads would still occur under this alternative. Mitigation measures MM-CUl-1a through MM-CUL-1d, MM-CUL-2, MM-CUL-3, MM-CUL-4, and MM-CUL-5 would still be required under this alternative to reduce the severity of cultural resource impacts. Overall, impacts to cultural resources would be the same as the draft LMP (i.e., less than significant with mitigation), because eliminating hunting on the Potrero Unit would make little if no difference in the severity of cultural impacts because it is not a ground-disturbing activity .

Geology/Soils

Under this alternative, construction activities and projects that include construction of waterfowl ponds and wildlife viewing platforms (Davis Unit); enhancement of riparian resources through targeted grading; installation of water distribution, water storage and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop and warehouse buildings; roads and expanded trails would still occur and could expose people to adverse effects of earthquakes and landslides and contribute to soil erosion and loss of topsoil. Mitigation measures MM-GEO-1a, MM-GEO-1b and MM-GEO-2 would still be required under this alternative. Impacts associated with locating project elements, such as the new buildings on unstable soils or in areas that are not capable of supporting a septic system would remain less than significant, the same as the draft LMP. Eliminating hunting on the Potrero Unit would not change the amount of construction that would occur so there would be no measurable reduction in the amount of soil erosion and loss of topsoil that could occur. Mitigation measure MM-GEO-

2 would still be required for the other project components to ensure BMPs are incorporated to minimize erosion and loss of topsoil to protect local water quality. Overall, impacts to geology and soils would be comparable to the draft LMP and there would be no measurable difference in the intensity or severity of impacts under this alternative.

Hazards and Hazardous Materials

Under this alternative, construction activities that could result in an increase in the transport, use or disposal of hazardous materials or in soil disturbance associated with the enhancement of riparian resources through targeted grading; installation of water distribution, water storage, and management facilities; construction of employee residences (i.e., manufactured homes), office, workshop, and warehouse buildings; roads and expanded trails would still occur. Mitigation measure MM-HAZ-1a that requires additional soil sampling in areas where habitable structures are proposed and mitigation measure MM-HAZ-1c that requires soil sampling be conducted for construction in areas where the former Lockheed Propulsion Company was located would still be required, the same as the draft LMP. Eliminating hunting on the Potrero Unit would not change the significance of impacts and there would be no measurable difference in the intensity or severity of impacts under this alternative compared to the draft LMP.

Under this alternative new construction would still occur so there would still be the potential to impair or interfere with an adopted emergency response plan and mitigation measure MM-HAZ-7 would be required, which includes BMPs to avoid impeding emergency response or traffic in the event of an evacuation. The potential for exposing people or structures to wildfire would also still occur under this alternative because there would be an increase in prescribed burns associated with maintenance activities, the same as the draft LMP. Mitigation measure MM-HAZ-8 which includes BMPs to reduce the potential for an accidental wildfire would also still be required, the same as the draft LMP. Overall, eliminating hunting activities on the Potrero Unit would not change the severity of the impacts identified under the draft LMP, and impacts would be less than significant comparable to the draft LMP.

Hydrology and Water Quality

Under the No Hunting in the Potrero Unit Alternative there would be the same new construction activities as the draft LMP that would require compliance with stormwater BMPs, outlined in mitigation measure MM-HYD-1a; BMPs required for the application of pesticide and herbicide usage, specified in mitigation measure MM-HYD-1b; mitigation measure MM-HYD-1c fire management BMPs; mitigation measure MM-HYD-1d dog waste removal and disposal; and BMPs to minimize stormwater runoff provided in MM-HYD-1e. For all land-disturbing construction activities that exceed 1 acre in size, CDFW must obtain coverage under the Construction General Permit from the SWRCB (SWRCB Order No. 2009-0009-DWQ, as

amended). A SWPPP would still be required that identifies all pollutant sources and non-stormwater discharges associated with the construction activity, and identifies the water quality BMPs that are appropriate for the construction activities proposed. However, eliminating hunting activities on the Potrero Unit would not change the overall intensity or severity of impacts identified under the proposed LMP. Impacts associated with project construction due to reducing the amount of erosion and increase in on or off-site siltation in local water courses and long-term changes in runoff patterns (e.g., rate and volume) that could adversely affect stormwater quality would still occur. Not allowing hunting on the Potrero Unit would not decrease the amount of erosion and potential to affect water quality identified for the draft LMP and all the impacts would be the same as under the draft LMP.

Recreation

Under the No Hunting in the Potrero Unit Alternative there would be no hunters accessing the Potrero Unit to pursue hunting. As such, this alternative would be operationally similar to the existing SJWA as no waterfowl hunting areas or upland small game hunting area are currently located on the Potrero Unit. While hunting would not be permitted on the Potrero Unit, waterfowl hunting areas and upland small game hunting areas would be expanded on the Davis Unit, similar to the draft LMP. As such, overall recreation opportunities in the SJWA would increase and the SJWA would experience increased visitation from hunting and bird/wildlife viewers. However, maintaining existing conditions related to a lack of hunting opportunities on the Potrero Unit would not result in an increase in neighborhood or regional parks or other recreational facilities. Hunting opportunities are not typically offered at neighborhood or regional parks and as such, hunters are unlikely to visit local and regional parks in lieu of the SJWA for similar recreation opportunities. Also, under existing and future conditions, hunting is managed by CDFW. For example, upland game hunting in the SJWA is managed by a self-issued permit system (hunters must check in at the permit booth located near the Wildlife Area headquarters office) and waterfowl hunting is managed with a daily cap of 50 available slots during the open hunting season (i.e., from the third Saturday in October to the last Sunday in January). Given the proposed expanded hunting opportunities on the Davis Unit and maintenance of a management system similar to the existing in-place system, the anticipated increased visitation to the SJWA attributed to implementation of the draft LMP would be adequately accommodated by the SJWA. Therefore, this alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities and substantial physical deterioration of existing recreational facilities would not occur. Overall, impacts to recreation would not change relative to the draft LMP (i.e., less than significant).

Traffic and Circulation

The No Hunting in the Potrero Unit Alternative would eliminate approximately 170 hunters and 4 daily vehicle trips during the hunting season. Therefore, compared to the draft LMP, the

overall volume of vehicle trips would be somewhat reduced under the No Hunting in the Potrero Unit Alternative. However, the reduction of 4 daily vehicle trips during construction activities would be so minor it would make little or no difference in the severity of the impact. While the No Hunting in the Potrero Unit Alternative would avoid the generation of new trips associated with the introduction of hunting areas on the Potrero Unit, construction of the other project elements would still require implementation of all mitigation measures (i.e., MM-TRAF-1, MM-TRAF-2, MM-TRAF-4, and MM-TRAF-5) that would be implemented under the draft LMP. Also, implementation of the No Hunting in the Potrero Unit Alternative, and the draft LMP, would not result in a change in air traffic patterns and would not conflict with policies or plans regarding public transit, bicycle, or pedestrian facilities. Overall, short- and long-term traffic and circulation impacts would be comparable to the draft LMP, and only very marginally reduced due to the elimination of hunting opportunities in the Potrero Unit and associated daily vehicle trips. Impacts would remain unchanged from the draft LMP.

Utilities and Service Systems

Under the No Hunting in the Potrero Unit Alternative, upland or small game hunting opportunities would not be introduced to the Potrero Unit and the area would be managed similar as under existing conditions. The lack of proposed and future hunting opportunities on the Potrero Unit would have overall minor effects on utilities and service systems. All of the other components of the draft LMP would still occur under this alternative including installation of water distribution, management, and water storage systems; construction of employee residences (i.e., manufactured homes); and expanded trail/interpretive services projects and new roads. Therefore, overall, impacts to utilities and service systems under the No Hunting in the Potrero Unit Alternative would remain less than significant, the same as the draft LMP.

Energy

Under the No Hunting in the Potrero Unit Alternative impacts related to the increase in energy demand would be the same as the draft LMP because eliminating hunting on the Potrero Unit would make no difference in the severity of energy consumption. All impacts would be less than significant.

Ability to Meet Project Objectives

The No Hunting in the Potrero Unit Alternative, the same as the No Expansion of Hunting in the Davis Unit Alternative, would achieve CDFW's mission to protect and enhance plant and wildlife habitats (Objectives 1 and 2) and maintain connectivity between the SJWA and the MSHCP (Objective 3). There would still be recreational opportunities and interpretive and educational programs provided (Objectives 4 and 5), and there would be a LMP that would establish goals for operation, maintenance and personnel requirements (Objective 6). Overall this alternative would essentially achieve all of the project objectives.

9.3 SUMMARY CONCLUSIONS

Table 9-1 compares the potential significant environmental impacts associated with each alternative.

9.3.1 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states that if the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

CDFW is required to prepare a land management plan for the SJWA pursuant to Section 1019(a) of the California Fish and Wildlife Code. Therefore, the continuation of management of the SJWA in the absence of a LMP, as would be the case under the No Project Alternative, is not feasible and would not meet most of the basic objectives of the draft LMP.

The draft LMP provides a comprehensive framework for the management of resources within the SJWA consistent with the objectives set forth under Section 1019 of the Fish and Game Code. Implementation of the recommended management actions is expected to enhance all of the habitats identified to the benefit of listed species and other species managed by CDFW. In addition, mitigation measures identified would help ensure the protection of sensitive resources from ongoing management activities. The draft LMP would accommodate certain activities that could have an adverse, but less-than-significant impact on the resources of the SJWA. These activities are necessary to achieve the overall goal of protecting the natural habitats that contribute to and help sustain the overall ecosystem health. The draft LMP meets all of the objectives set forth by CDFW, while benefiting the resources of the SJWA.

Based on a review of the project alternatives, the No Expansion of Hunting ~~Hunting~~ in the Davis ~~Potrero~~ Unit Alternative ~~would eliminate the significant~~ was found to be the environmentally superior alternative (see Table 9-1) because it is feasible and ~~unavoidable impact to nesting birds~~ eliminates the construction of new waterfowl ponds, reduces the overall demand for water supply to support the new waterfowl ponds, reduces vehicle trips during the hunting season, and ~~would also result in~~ reduces impacts to special-status species and wetlands where the waterfowl ponds are proposed [San Jacinto Valley crownscale (Subunit D7 pond) and Coulter's goldfields (Subunit D4)]. Alternative 3 was found to have a slight reduction in impacts associated with construction activities and vehicle trip ~~Therefore, this alternative and would be considered the environmentally significant alternative.~~ reduction thereby reducing impacts related to air quality, biological resources, utilities, and transportation and traffic. However, Alternative 3 does not meet all of the project objectives as well as the LMP.

Table 9-1 provides a comparison of impacts associated with the project alternatives compared to impacts identified under the draft LMP.

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
5.1 Air Quality					
AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
AQ-2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Slight reduction in construction emissions	Comparable impact	Comparable impact
AQ-3: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors)?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Slight reduction in construction emissions	Comparable impact	Comparable impact
AQ-4: Would the project expose sensitive receptors to substantial pollutant concentrations?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Slight reduction in construction emissions	Comparable impact	Comparable impact
AQ-5: Would the project create objectionable odors affecting a substantial number of people?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.2 Greenhouse Gases					
GHG-1: Would project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	LTS	LTS Baseline conditions would continue	Comparable impact; Slight reduction in construction emissions	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.3 Biological Resources					
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	~~SULTS~~LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in total impacts to habitat for sensitive plant and wildlife species	Comparable impact Reduction in total impacts to habitat for sensitive plant and wildlife species	Comparable impact Reduction in total indirect impacts to habitat for sensitive plant and wildlife species~~, would eliminate the SU impact to nesting birds on the Potrero Unit~~
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive vegetation community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in total impacts to sensitive vegetation communities	Comparable impact Reduction in total impacts to sensitive vegetation communities	Comparable impact Reduction in total indirect impacts to sensitive vegetation communities
BIO-3: Would the project result in a net loss of federally protected wetlands or state-protected wetlands on the site?	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total impacts to potentially jurisdictional resources	Comparable impact Reduction in total impacts to potentially jurisdictional resources	Comparable impact Reduction in total indirect impacts to potentially jurisdictional resources

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in total waterfowl habitat present on the SJWA	Comparable impact Reduction in total waterfowl habitat present on the SJWA	Comparable impact
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact Reduction in indirect impacts to oak dominated vegetation communities
BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	LTS	NI Baseline conditions would continue	Comparable impact Reduction in total impacts to habitat for sensitive plant and wildlife species	Comparable impact Reduction in total impacts to habitat for sensitive plant and wildlife species	Comparable impact Reduction in total indirect impacts to habitat for sensitive plant and wildlife species
5.4 Cultural Resources					
CUL-1: Implementation of the SJWA LMP could damage or destroy an archaeological resource or historic building or structure as the result of potential future project activities, including but not limited to grading, excavation, or other methods of ground-disturbance.	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
CUL-2: Implementation of the SJWA LMP could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA
CUL-3: Implementation of the SJWA LMP could damage or destroy a TCR as the result of planned project activities, including but not limited to grading, excavation, or other methods of ground-disturbance.	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA
CUL-4: Implementation of the SJWA LMP could disturb human remains, including those interred outside of formal cemeteries.	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA
CUL-5: Implementation of the SJWA LMP could result in cumulative damage to archaeological resources, historic buildings and structures, and paleontological resources.	LTS/MM	NI Baseline conditions would continue	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA	Comparable impact Reduction in total surface disturbance on the SJWA

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
5.5 Geology and Soils					
GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: a. Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. b. Strong seismic ground shaking? c. Seismic-related ground failure, including liquefaction? d. Landslides?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Eliminates need for MM to address seismic and stability considerations for the water storage reservoir	Comparable impact	Comparable impact
GEO-2: Would the project result in substantial soil erosion or the loss of topsoil?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in amount of erosion/loss of topsoil	Comparable impact	Comparable impact
GEO-3: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
GEO-4: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
GEO-5: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
5.6 Hazards and Hazardous Materials					
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS/MM	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LTS/MM	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-6: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HAZ-7: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
HAZ-8: Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	LTS/MM	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.7 Hydrology and Water Quality					
HYD-1: Would the project violate any water quality standards or waste discharge requirements?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in amount of erosion/loss of topsoil and effects on water quality	Comparable impact	Comparable impact
HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
HYD-5: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-6: Would the project otherwise substantially degrade water quality?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in amount of erosion/loss of topsoil and effects on water quality	Comparable impact	Comparable impact
HYD-7: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	NI	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-8: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-9: Would the project expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
HYD-10: Would the project result in inundation by seiche, tsunami, or mudflow?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.8 Recreation					
REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
REC-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in adverse physical effects to the environment due to the elimination of the recycled water storage facility (and related impacts to biological resources and hydrology and water quality)	Comparable impact Reduction in adverse physical effects to the environment due to the elimination of expanded hunting areas (and related impacts to biological resources and hydrology and water quality) on the Davis Unit	Comparable impact Reduction in adverse physical effects to the environment due to the elimination of hunting areas (and related impacts to biological resources and hydrology and water quality) on the Potrero Unit
5.9 Traffic and Circulation					
TRA-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in overall construction and operational trips due to elimination of the recycled water storage facility	Comparable impact Reduction in overall construction and operational trips due to elimination of the recycled water storage facility	Comparable impact Reduction in overall construction and operational trips due to elimination of the recycled water storage facility

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
TRA-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	LTS/MM	LTS Baseline conditions would continue	Comparable impact Reduction in overall construction and operational trips due to elimination of the recycled water storage facility	Comparable impact Reduction in overall construction and operational trips due to elimination expanded hunting opportunities in the Davis Unit	Comparable impact Reduction in overall operational trips due to elimination of hunting opportunities in the Potrero Unit
TRA-3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
TRA-4: Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
TRA-5: Would the project result in inadequate emergency access?	LTS/MM	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
TRA-6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.10 Utilities and Service Systems					
UTL-1: Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
UTL-2: Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
UTL-3: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
UTL-4: Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	LTS/MM	LTS Baseline conditions would continue	Comparable impact	Comparable impact Reduction in water demand due to removal of new waterfowl ponds	Comparable impact
UTL-5: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
UTL-6: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
UTL-7: Would the project comply with federal, state, and local statutes and regulations related to solid waste disposal needs?	LTS	LTS Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
5.11 Energy					
ENE-1: Would the proposed project result in the wasteful, inefficient, and unnecessary consumption of energy?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Table 9-1

Comparison of Alternatives by Impact Area

Environmental Impact	Draft LMP	No Project Alternative	No Recycled Water Storage Facility Alternative	No Expansion of Hunting in the Davis Unit Alternative	No Hunting in Potrero Unit Alternative
ENE-2: Would the project conflict with existing energy standards and regulations?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact
ENE-3: Would the project adversely affect local and regional energy resources or require additional supply, the provision of which could have a substantial impact on the environment?	LTS	NI Baseline conditions would continue	Comparable impact	Comparable impact	Comparable impact

Notes: SU = Significant and Unavoidable LTS/MM = Less than Significant with Mitigation NI = No impact LTS = Less than Significant

9.4 REFERENCES

CDFW (California Department of Fish and Wildlife). 2015. *California Waterfowl, Upland Game Hunting, and Public Use of Department Lands Regulations.*

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CHAPTER 10
LIST OF PREPARERS

Preparer, Certification	Title	Primary EIR Responsibility	Years of Experience
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Scott Sewell	Senior Fish Wildlife Habitat Supervisor~~II~~	CDFW SJWA Land Manager	19
Stefan Awender	Environmental Scientist	CDFW Staff Review	9
Heather Pert	Senior Environmental Scientist	CDFW Project Review	10
Nick Peterson	Environmental Scientist	CDFW Project Review	10
Richard Kim	Environmental Scientist	CDFW Staff Review	5
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Christine Kronenberg, AICP	Senior Project Manager	Project Oversight	20
Michele Webb	Environmental Analyst	Cumulative Impacts/Methodology and Effects Found Not to be Significant Assessments	4
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Ian McIntire	Air Quality Specialist	Air Quality and Greenhouse Gas Assessments	3
Matthew Morales	Air Quality Specialist	Air Quality and Greenhouse Gas Assessments	12
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Megan Enright	Senior Biologist	Biological Resources Assessment	18
Britney Strittmater	Biologist	Biological Resources Assessment	9
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Adriane Dorrler	Archaeologist	Cultural Resources Assessment	16
Sarah Siren	Paleontologist	Paleontological Resources Assessment	17
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Brad Comeau	Archaeologist	Cultural and Paleontological Resources Assessment	10
Dylan Duvergé, PG, QSD	Hydrogeologist	Hydrology, Geology, and Hazards Assessments	10
Josh Saunders, AICP	Environmental Analyst	Environmental Setting, Recreation, Traffic and Circulation, Utilities and Service Systems, Significant Irreversible Environmental Changes, and Growth Inducement Assessments	11
Curtis Battle	GIS Technician	Graphics/Figures	5

Preparer, Certification	Title	Primary EIR Responsibility	Years of Experience
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David Mueller	Publications Specialist	Formatting	3
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