Initial Study of Environmental Impact

Land Management Plan
for the
Carrizo Plain Ecological Reserve

Prepared By:

California Department of Fish and Game

November 20, 2012

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Initial Study of Environmental Impact

Title and Short Description of Project: Land Management Plan for the Carrizo Plain Ecological Reserve ("CPER" or "Reserve"). The California Department of Fish and Game ("Department") proposes to adopt a land management plan for the Carrizo Plan Ecological Reserve to guide the planning and operation of the Reserve in accordance with the requirements of Section 1580 of the California Fish and Game Code. The purpose of the land management plan (LMP) is to:

- Guide the management of habitats, species, and programs described in the LMP to achieve the Department's mission to protect and enhance wildlife values;
- Serve as a guide for appropriate public uses of the CPER;
- Serve as a descriptive inventory of fish, wildlife, and native plant habitats that occur on, or use, the CPER;
- Provide an overview of the Reserve's operation and maintenance and of the personnel requirements associated with implementing management goals and
- Present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan implementation, and identify mitigation measures to avoid or lessen these impacts.

Location of Project: The CPER is an approximately 39,500-acre area located within, and adjacent to, the Carrizo Plain (Figure 2) — a large inland valley within the Inner Coast Range Mountains in southeastern San Luis Obispo County, central California.

Project Proponent: California Department of Fish and Game
Central Region
1234 E. Shaw Avenue
Fresno, CA 93710

Project Information	
1. Project Title:	Land Management Plan for the Carrizo Plain Ecological Reserve
2. Lead Agency Name and Address:	Department of Fish and Game Central Region Attn: Regional Manager 1234 E. Shaw Ave. Fresno, CA 93710
3. Contact Person and Phone Number:	Bob Stafford, Environmental Scientist California Dept. of Fish and Game P.O. Box 6360 Los Osos, CA 93412 805.528.8670
4. Project Location:	The Carrizo Plain Ecological Reserve is located within and immediately west of the Carrizo Plain—a large inland valley within the Inner Coast Range Mountains in southeastern San Luis Obispo County, central California. The approximately 50-mile long, 15-mile wide Carrizo Plain is bounded by the Temblor Range to the east and the Caliente Range to the west, while the Transverse Range separates the Carrizo Plain region from southern California. (Figure 2) The CPER is located within Ranges 18E-22E of Townships 31S and 32S of the Mount Diablo Base and Meridian, and Ranges 28W-30W of Townships S11N and S12N of the San Bernardino Base and Meridian, which occur within six United States Geological Survey (USGS) 7.5 minute quadrangles (Table 1).
5. Project Sponsor's Name and Address:	California Department of Fish and Game 1234 E. Shaw Avenue Fresno, CA 93710
6. General Plan Designation(s):	Recreation, Rural Lands
7. Zoning:	Recreation, Rural Lands

8. Description of Project: (Describe the whole action involved, including, but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	Adoption of a Land Management Plan (LMP) in accordance with Section 1580 of the California Fish and Game Code. See project description below.
9. Surrounding Land Uses and Setting: (Briefly describe the project's surroundings)	The CPER occurs within a rural region characterized primarily by large tracts of public land and medium to large private land holdings utilized primarily for cattle grazing and dry land farming (Figure 3). Rural communities in the region include California Valley in the north, with approximately 300 residents, and New Cuyama in the south, where approximately 500 people reside (2000 US Census).
10. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)	None.

Environmental Factors Potentially Affected

☒	Aesthetics	☒	Agricultural Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology/Soils
☒	Hazards & Hazardous Materials	☒	Hydrology/Water Quality	☒	Land Use/Planning
☐	Mineral Resources	☒	Noise	☐	Population/Housing
☒	Public Services	☒	Recreation	☒	Transportation/Traffic
☒	Utilities/Service Systems	☒	Mandatory Findings of Significance	☐	None

Table 1 -- Location of the CPER With Respect to USGS Quadrangles

Unit	Quadrangle	Base and Meridian	Township	Range	Section(s)
Elkhorn	Panorama Hills	Mount Diablo	32S	22E	20
Panorama	Panorama Hills	Mount Diablo	31S	21E	20, 28, 29, 32 & 33
	Panorama Hills	Mount Diablo	32S	21E	5
	Painted Rock	Mount Diablo	31S	21E	30 & 31
American	Chimineas Ranch	Mount Diablo	31S	19E	16,21-27,35 & 36
	Chimineas Ranch	Mount Diablo	32S	19E	2
	Painted Rock	Mount Diablo	31S	20E	31
Chimineas Units	Branch Mountain	Mount Diablo	31S	18E	22,26,27,34,&35
	Branch Mountain	Mount Diablo	32S	18E	3,14,15,16,22,& 23
	Chimineas Ranch	Mount Diablo	31S	18E	25 & 26
	Chimineas Ranch	Mount Diablo	31S	19E	31-34
	Chimineas Ranch	Mount Diablo	32S	18E	13
	Chimineas Ranch	Mount Diablo	32S	19E	2-11,13-18,& 20-24
	Miranda Pine Mountain	San Bernardino	12N	30W	25 & 26
	Miranda Pine Mountain	Mount Diablo	32S	18E	27
	Painted Rock	Mount Diablo	32S	20E	19
	Taylor Canyon	San Bernardino	11N	28W	5 & 6
	Taylor Canyon	San Bernardino	11N	29W	1 & 2
	Taylor Canyon	San Bernardino	12N	28W	31 & 32
	Taylor Canyon	San Bernardino	12N	29W	33-36
	Taylor Canyon	Mount Diablo	32S	18E	25 & 36
	Taylor Canyon	Mount Diablo	32S	19E	26-36

Determination

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

I find that although the proposed project **COULD** have a significant effect on the environment, there **WILL NOT** be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. **A MITIGATED NEGATIVE DECLARATION** will be prepared. ☐

I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☒

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

_____ _____

Signature Date

_____ _____

Printed Name Title

_____

Agency

Discussion Of Potential Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-Than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

6. Earlier Analysis Used. Identify and state where they are available for review.

7. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

8. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

9. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

10. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

11. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

12. The explanation of each issue should identify: the significance criteria or threshold, if any, used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance.

Introduction

This initial study ("IS") was prepared in accordance with the provisions of the California Environmental Quality Act ("CEQA") and the State CEQA Guidelines to identify and evaluate the potential environmental impacts associated with adoption of a Land Management Plan ("LMP") for the Carrizo Plain Ecological Reserve ("CPER" or "Reserve"). The CPER is an approximately 39,500-acre area managed by the California Department of Fish and Game ("Department") to protect threatened and endangered plants and animals and the important ecological communities found on the property in southeastern San Luis Obispo County (Figures 1 and 2). The CPER supports a rich mosaic of ecological communities including blue oak woodlands, coastal scrub, chaparral, grasslands, juniper woodland, desert scrub, riparian systems, and ponds. Together, these communities support a high diversity of plants and animals. To date, 535 plant and 283 animal species have been documented on the CPER, including 57 species considered endangered, threatened, sensitive, or fully protected by the Department or US Fish and Wildlife Service ("USFWS"). Limited public recreation, largely in the form of hunting and wildlife viewing, occurs to varying extents throughout the CPER.

According to the Department's *CEQA Project Documentation Procedures for Department Initiated Projects* ("CEQA Procedures") (Title 14, Subdivision 3, Chapter 4, Article 2, beginning with Section 754), the purposes of an Initial Study are to:

1. Identify environmental impacts;
2. Enable modification of a project, mitigating adverse impacts before an EIR is written:
3. Focus an EIR, if one is required, on potentially significant environmental effects;
4. Facilitate environmental assessment early in the design of a project;
5. Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment;
6. Eliminate unnecessary EIRs.

The Department's CEQA Procedures further state:

> *If a project for which Fish and Game has assumed the role of Lead Agency is subject to the requirements of CEQA, and not found to be exempt, the lead unit shall conduct an Initial Study to determine if the project may have a significant effect on the environment unless the lead unit can determine that the project will clearly have a significant effect.*
>
> *If any aspects of the project, either individually or cumulatively, may cause a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, then an EIR must be prepared.*

Figure 1 – General Vicinity Map

Figure 2 – CPER and Vicinity

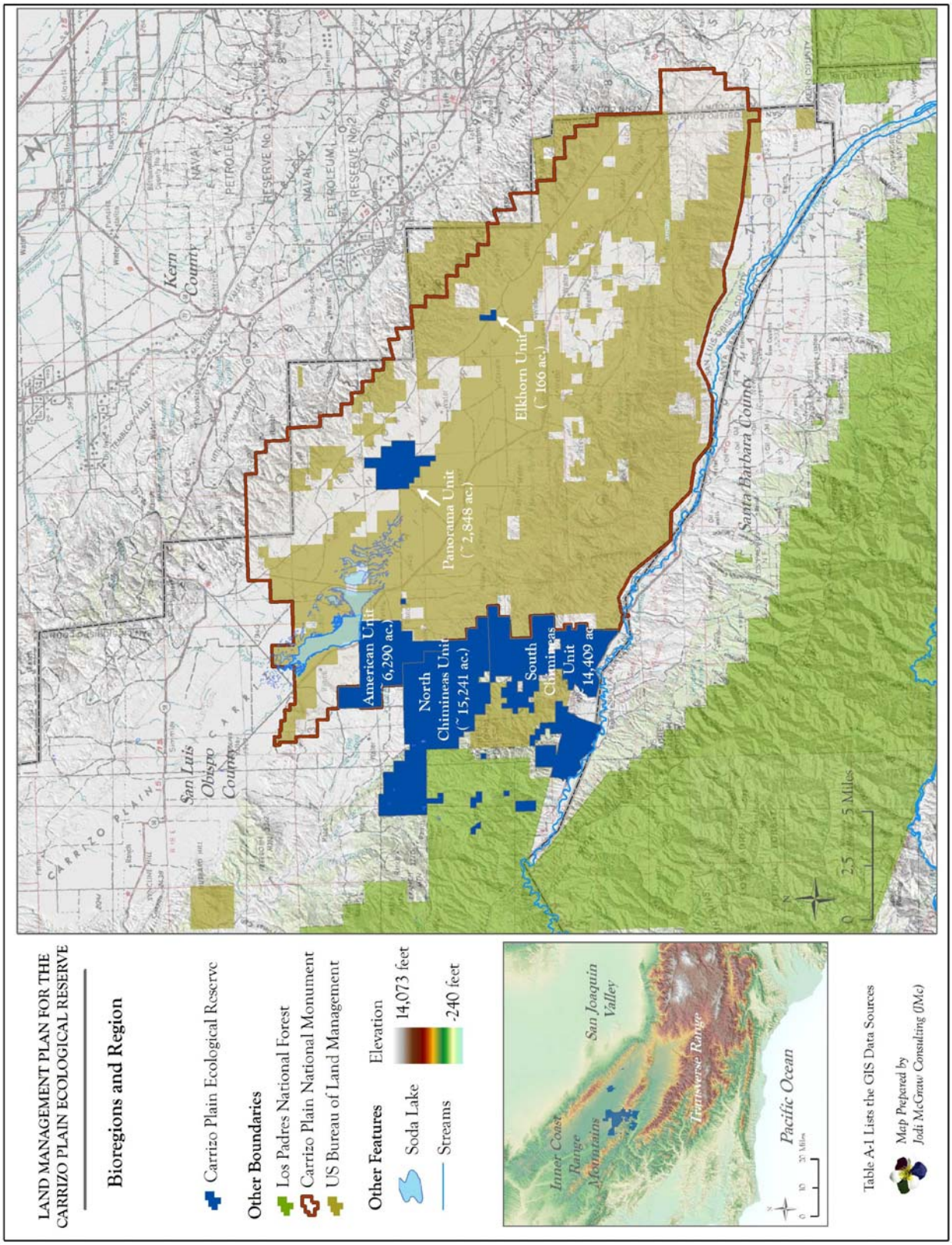
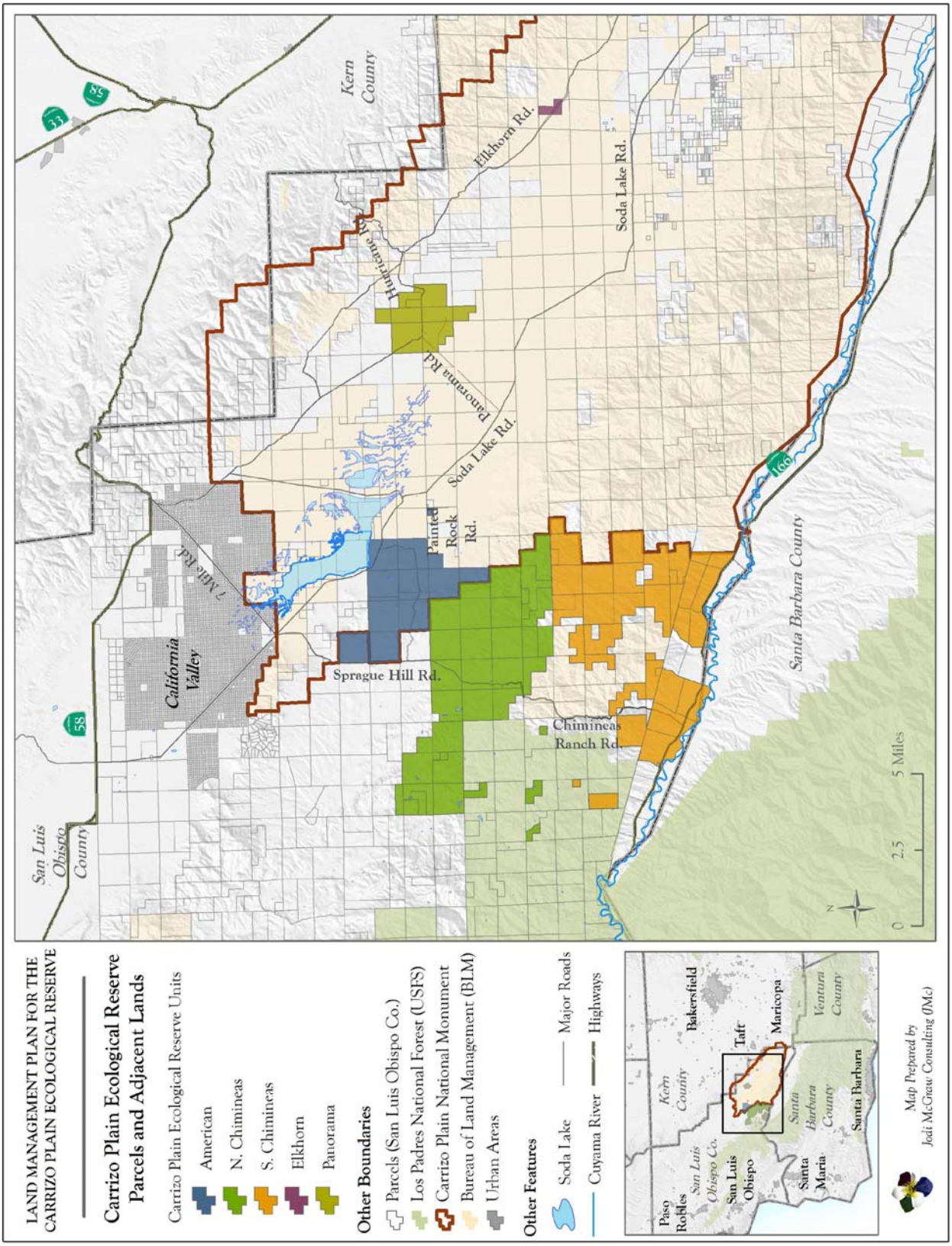


Figure 3 – Management Units of the CPER



Management actions that may result from adoption of the LMP were anticipated and potential accompanying impacts were analyzed in this Initial Study. The analysis concludes that approval and implementation of the draft LMP may have the potential to result in one or more significant adverse impacts to the environment. Accordingly, an Environmental Impact Report ("EIR") will be prepared as required by Section 15063 (b)(1) of the State CEQA Guidelines ("Guidelines"). Section 15004(b) of the Guidelines further states:

> *(b) Choosing the precise time for CEQA compliance involves a balancing of competing factors. EIRs and negative declarations should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment.*
>
> > *(1) With public projects, at the earliest feasible time, project sponsors shall incorporate environmental considerations into project conceptualization, design, and planning.*

In accordance with the direction provided by Guidelines Section 15004, above, the EIR will be prepared concurrently with development of the LMP so that impact minimization measures are incorporated wherever possible to ensure planned actions described in the LMP, including those to be implemented in the future, will not result in significant environmental impacts. However, some actions described in the LMP may require additional CEQA analysis and documentation once the specific project details are known. All projects not specifically analyzed in the EIR and that may be implemented in the future as a result of adoption of the LMP must be subjected to CEQA review according to CEQA Guidelines Section 15168 to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

Project Description and Setting

Project Location

The CPER is located within, and immediately west of, the Carrizo Plain—a large inland valley within the Inner Coast Range Mountains in southeastern San Luis Obispo County, central California. The approximately 50-mile-long, 15-mile-wide Carrizo Plain is bounded by the Temblor Range to the east and the Caliente Range to the west, while the Transverse Range separates the Carrizo Plain region from southern California. Approximately half of the CPER is located within the Carrizo Plain and adjacent Caliente Range. The other half of the reserve is located to the west along the eastern boundary of the La Panza Range and Cuyama Valley (Figure 2) .

The CPER is situated at the nexus of two of California's biogeographic regions which have been identified based largely on patterns of floristic diversity and community structure (Hickman 1993). The Elkhorn and Panorama units are located within the Carrizo Plain—a western extension of the San Joaquin Valley bioregion which supports grasslands and saltbush scrub communities (Figure 3). As a result of the rain shadow

created by the Coast Range Mountains to the west, the arid Carrizo Plain and larger San Joaquin Valley Bioregion feature elements of the Mojave Desert Bioregion, which is located just 50 miles to the east. On the western portion of the Reserve, higher rainfall within the southern La Panza Range Mountains supports coastal scrub, chaparral, and blue oak woodlands characteristic of the South Inner Coast Range Bioregion, which reflect the Reserve's location within 35 air miles of the Pacific Ocean. Located between these coastal and desert influences, the Caliente Range on the east side of the Chimineas Unit supports a unique mosaic of assemblages including desert scrub and juniper woodlands.

The CPER links federal land managed as part of the two-million-acre Los Padres National Forest, to the west, and public lands within the 250,000-acre Carrizo Plain National Monument (CPNM) to the east, which are managed by the Bureau of Land Management (BLM) in cooperation with the Department of Fish and Game and The Nature Conservancy. Lands within the CPER have been identified as part of an essential landscape linkage connecting the Coast Range Mountains to the San Joaquin Valley.

Regional access to the CPER is provided by State Route 166 which crosses the southerly portion of the Reserve and provides public access to the South Chimineas Unit via Chimineas Ranch Road, which is 36 miles east of Santa Maria (~100,000 inhabitants based on census bureau 2010 census data) in Santa Barbara County, and 50 miles west of Taft (~9,300 inhabitants) in Kern County. SR 58 traverses the northern portion of the Carrizo Plain and provides access to the Reserve, from the north from areas from SR 101 in San Luis Obispo County and Highway 5 in Kern County (Figure 3).

County roads provide the primary local access to the CPER. The main access route bringing visitors to the Carrizo Plain, Soda Lake Road connects SR 58 near California Valley to SR 166 just west of Maricopa. Soda Lake Road traverses the western portion of the Carrizo Plain and the northeast portion of the American Unit. This road provides access to the Department's Painted Rock Ranch via Painted Rock Ranch Road. From Soda Lake Road, the North Chimineas Unit and the western portion of the American Unit can be accessed via Sprague Hill Road.

On the eastern side of Carrizo Plain, Elkhorn Road, which traverses the foothills of the Temblor Range, provides access to the Elkhorn Unit from SR 58 to the north and State SR 166 from the south. Elkhorn Road also provides access to the eastern portion of the Panorama Unit, which can also be reached from Soda Lake Road to the west via Panorama Road.

A series of smaller roads developed for use as part of the historic ranching operations on the Reserve lands provide additional access for official use, with access limited by locked gates.

Management Units of the CPER

The CPER consists of five management units (Figures 2 and 3). The two smaller units, Elkhorn (160 acres) and Panorama (2,897 acres), are situated within the Carrizo Plain. The American Unit (6,341 acres) is in the northern foothills of the Caliente Range. The North Chimineas Unit (15,241 acres) borders the American Unit and extends southwest over the Caliente Range, and then west towards the base of the La Panza Range. Most of this unit drains into the San Juan River system. The South Chimineas Unit (14,409 acres) extends north from the Cuyama River, which separates Santa Barbara and San Luis Obispo counties, to the southern edge of the North Chimineas Unit (Figure 3).

Elkhorn Unit

The Elkhorn Unit is the easternmost unit of the Reserve, situated on relatively flat ground in the Elkhorn Plain at approximately 2,300 feet elevation (Figure 2). The hills of the Elkhorn Scarp lie to the southwest and the foothills of the Temblor Range are to the northeast; the northern part of the unit slopes gradually to the southwest. It is flat with the exception of two approximately 10 foot deep channels carved by ephemeral drainages that converge just south west of Elkhorn Road. Precipitation is sparse and this unit is expected to receive an average of 9 inches of annual rainfall (Oregon Climate Service 1998).

Panorama Unit

The Panorama Unit is bordered by CPNM lands along its southwestern boundary and its northernmost edge (Figure 2), while on its northwest and southeast sides, the unit abuts private land used primarily for cattle grazing. Elevations range from approximately 1,900 to 2,300 feet above sea level. This unit is relatively flat except where it is bisected by the San Andreas Fault. This unit is also very dry with annual precipitation predicted to be between 7 and 9 inches (Oregon Climate Service 1998).

American Unit

The American Unit is approximately seven miles due west of the Panorama Unit across the Carrizo Plain. The northeastern portion of the unit lies on the plain itself and includes southern parts of Soda Lake (Figure 2). Much of the remainder of the unit features the rolling foothills of the Caliente Range. Elevations range from roughly 1,900 feet within Soda Lake to 2,700 feet near the unit's southernmost edge where it adjoins the North Chimineas Unit. The American Unit also features the disjunct 40-acre Painted Rock Ranch parcel: this is an area of flat terrain that is located one mile to the east on the Carrizo Plain at 1,960 ft elevation. Average rainfall for this unit is between 9 to 11 inches (Oregon Climate Service 1998).

The northern and eastern edges of the American Unit are bordered by federal lands managed by the BLM as part of the CPNM while the western edge abuts two private ranches both of which are used primarily for cattle grazing. These same ranches border the North Chimineas Unit.

South Chimineas Unit

The South Chimineas Unit is the Reserve's southernmost unit and borders the North Chimineas Unit. From this shared edge, it extends south along the western slopes of the Caliente Range and down to the Cuyama River, which defines the unit's southern extent (Figure 2). The terrain of the South Chimineas Unit is generally steep and rugged. Elevations range from over 3,500 feet just south of the summit of Saltos Peak to approximately 1,500 feet along the Cuyama River . Average annual rainfall for this unit was estimated to be approximately 11 inches (Oregon Climate Service 1998).

The eastern boundary of the South Chimineas Unit borders the CPNM managed by BLM. The western boundary abuts federal lands managed by either BLM or the U.S. Forest Service (USFS) as part of the Los Padres National Forest. The southern portion of the South Chimineas Unit is adjacent to private land. This includes an approximately 160-acre private inholding which is surrounded by CPER. Immediately south of the Chimineas Unit are six private ranches ranging in size from 7 to over 1,760 acres. SR 166, which has been the source of three wildfires on the Reserve over the past 10 years, splits the southern end of this unit.

North Chimineas Unit

The North Chimineas Unit extends from the northern end of the Caliente Range to the eastern edge of the La Panza Range. It is bordered by the American Unit to the east/northeast and to the south by the South Chimineas Unit, BLM lands, and the Los Padres National Forest (Figure 3). Three private ranches border this unit to the north. Elevations range from 3,623 feet on Saltos Peak in the Caliente Range to just over 2,000 feet in the San Juan Creek drainage. Precipitation is higher and topography is less extreme compared to the South Chimineas Unit. An average range of between 9 and 13 inches of precipitation is expected to fall on this each year (Oregon Climate Service 1998).

Adjacent Federal Lands

As previously stated, the CPER borders Federal lands managed by both the USFS and BLM. In addition, approximately 812 acres of the CPER are surrounded by USFS lands and within the boundary of the Los Padres National Forest. The USFS management mission is "to sustain the health, diversity, and productivity of the nation's forest and grasslands to meet the needs of present and future generations." Management goals include "protecting and enhancing watersheds, providing world-class recreation and wilderness opportunities, and promoting use of the forest as a 'living laboratory' for ecological diversity and scientific research" (USFS 2010).

Depending upon location, the adjacent lands owned by BLM are managed based on the priorities established in the associated Resource Management Plans (RMP). Lands designated within the boundaries of the CPNM are managed under the guidance of the Resource Management Plan for the Carrizo Plain National Monument (BLM 2009). The Department as well as The Nature Conservancy (TNC) are considered managing partners for the CPNM and both partners were intimately involved in the development of the CPNM RMP. While not legally bound to the management actions described in the

CPNM RMP, the Department has worked to manage the CPER units within the CPNM boundary (Elkhorn, Panorama, and most of the American) under the general guidance of the CPNM RMP. BLM lands outside of the boundaries of the CPNM are managed under the guidance of the Caliente Resource Management Plan (BLM 1997).

Cattle grazing operations include both the lands of the CPER as well as grazing allotments on adjacent federal lands. These include the approximately 12,000-acre Chimineas Allotment managed by the USFS, and two allotments managed by the BLM: the 3,914-acre North Chimineas allotment and the 4,386-acre Chimineas South allotment. Cattle grazing under these leases has been, and are currently, used to conduct vegetation management on the Chimineas units of the CPER.

Project Purpose and Objectives

Land within the CPER was acquired by the Department of Fish and Game and designated as an ecological reserve to "*protect threatened or endangered native plants, wildlife, or aquatic organisms or specialized habitat types, both terrestrial and nonmarine aquatic, or large heterogeneous natural gene pools for the future use of mankind*" (§1580 of the Fish and Game Code). Generally speaking, the CPER acquisitions were designed to protect threatened and endangered species, and upland and grassland habitats. Specific objectives of protecting and managing the lands within the CPER included:

- Protecting habitat required by the state- and federally-listed species of the San Joaquin Valley upland habitats, including San Joaquin kit fox, giant kangaroo rat, blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin woolly-threads and others occurring in the region, including sandhill crane, and California condor.

- Preserving intact biological communities in the region including grassland, blue oak woodland, coastal scrub, chaparral, and desert scrub, which provide important habitat for numerous other special status species including burrowing owl, Pacific pond turtle, California red-legged frog , grasshopper sparrow, short-eared owl, mountain plover, and tri-colored blackbird.

- Protecting habitat utilized by tule elk and pronghorn, which the Department reintroduced to the region during the mid-1980s;

- Maintaining habitat connectivity between the federal land within the Los Padres National Forest and the Carrizo Plain National Monument;

- Providing limited, high-quality, wildlife-dependent recreational opportunities that are compatible with the biological resource protection objectives including hunting, wildlife observation, and hiking; and

- Providing interpretive and educational programs for the natural history of the region, which is a replica of the San Joaquin Valley prior to its widespread settlement.

The purpose of the draft LMP is to set forth the goals, objectives, and actions for management of the Department's lands within the Carrizo Plain Ecological Reserve consistent with the requirements of Section 1580 of the California Fish and Game Code. The primary objective of the LMP is to protect the natural habitats that contribute to, and help sustain, the overall ecosystem health of the region. The specific purposes of the Carrizo Plain Ecological Reserve LMP are:

- To guide the adaptive management of habitats, species, and programs described herein to achieve the department's mission to protect and enhance wildlife diversity values.

- To serve as a guide for appropriate public uses of the property.

- To serve as a descriptive inventory of fish, wildlife and native plant habitats which occur on or use this property.

- To provide an overview of the property's operation and maintenance, and personnel requirements to implement management goals.

- To provide a description of potential and actual environmental impacts and subsequent mitigation which may occur during management, and to provide environmental documentation to comply with state and federal statutes and regulations.

Organization of the Land Management Plan

The draft LMP will be organized as follows:

Section 1 – Introduction. Section 1 will provide a description of the current conditions and land use, which were evaluated in development of the plan, as well as the purpose of the Land Management Plan.

Section 2 – Property Description. Section 2 will discuss the abiotic (non-biological) conditions, including geology, hydrology, historic land use, cultural resources, infrastructure, and current uses of the Reserve lands.

Section 3 – Habitat and Species Description. Section 3 will discuss in detail the biological resources of the Reserve including the plant communities (i.e. vegetation), common animal species and special status species.

Section 4 – Management Goals and Environmental Impacts. This section will provide the detailed management goals for the Reserve, including the steps that

will be taken to manage the biological resources, while providing for compatible public uses and maintaining the facilities.

Section 5 -- Operations and Maintenance Summary – Section 5 will describe the resources that are required to implement the plan, including both staff time and outside costs, designed to guide work plans and budgeting for the Reserve.

References and Appendices – The references will list documents and other sources of information used to prepare the plan. The appendices will provide detailed information including plant and animal lists, a discussion of public input that informed development of the plan, and the environmental impact report (EIR).

As discussed above, the draft LMP will identify the goals and actions for management of the CPER, which are broadly designed to manage and enhance biological resources while providing for wildlife-dependent public use. Management is outlined 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 will be taken to attain the goals.

The management goals and actions will include the following topical elements:

- Biological Elements: These elements consist of species, habitats, or landscapes for which specific management goals have been developed within the plan.
- Scientific Research, Monitoring, and Adaptive Management Elements: These elements describe how scientific research and monitoring can be used as part of an adaptive management framework to promote long-term effectiveness of management at attaining the goals of the other elements.
- Vegetation Management Elements: These elements identify how fire management, managed grazing, and exotic plant management, can be used to maintain or enhance the condition of the vegetation to attain the biological goals of the plan.
- Public Use Elements: Public use elements are any recreational, scientific, or other public use activity appropriate to and compatible with the purposes for which the property was acquired.
- Cultural Resources Elements: Cultural resource elements pertain to preservation of cultural resources.
- Facility Maintenance Elements: This is a general-purpose element describing the maintenance and administrative program, which helps maintain orderly and beneficial management of the area.
- Management and Monitoring Coordination Elements: These elements include activities related to the coordination of management and monitoring in adjacent and regional open space lands.

Management Strategies of the Draft LMP

The CPER will be managed through an adaptive management framework, in which monitoring is used to evaluate the effectiveness of management, which is then adjusted as necessary to enhance the ability to achieve the goals of the Plan. Through adaptive management, monitoring is used to increase understanding of the systems, which is needed to inform effective management. By applying habitat management as an explicit experiment, in which hypotheses about the system are tested by comparing (replicating) treated areas to untreated areas, active adaptive management can be used to learn by doing management (Walters and Holling 1990). In an adaptive management framework, scientific research and other new information are also used to update management actions. In addition, management is adjusted based on changes in conditions over time. The overall goal of management within the CPER is to maintain or enhance the biodiversity of the site and protect and recover populations of rare, endangered, threatened, or other special status species. The specific biological goals and actions are organized within elements that address three levels at which management is designed to achieve the overall goal:

> *Landscape*: maintain or promote diversity at the landscape level, by addressing the diversity of communities or habitats, and their context within the landscape, including their connectivity;
>
> > *Habitats*: maintain or enhance the structure and species composition of the various communities (i.e., vegetation types or communities)
> >
> > > *Species*: address specific management needs of species including rare and managed populations for which landscape and community-level management alone may not be sufficient.

Since the Department's current management objectives are ecosystem or multi-species oriented (DFG 2007), the goals emphasize a habitat approach to management.

To achieve the biological goals outlined above, the elements of the draft LMP will set forth an integrated adaptive management approach focusing on the following management tools:

Vegetation Management Using Fire and Grazing

Fire promotes establishment of many plants and creates and maintains habitat required by many animals. Fire can also have deleterious effects, particularly in systems where frequent fire is not a part of the disturbance regime, such that vegetation management is required to protect these communities from fire.

Within the CPER, fire plays an important role in creating the diverse mosaic of communities of various successional (seral) stages, and thus greatly contributes to the Reserve's native species diversity. Fire is a major component of the natural disturbance regime of many of the Reserve's communities, including the chaparral and oak woodlands, and creates and maintains habitat for many native species, including mule

deer. As a result, fire can be an effective landscape-level vegetation management tool for attaining the biological goals of the Reserve.

At the same time, several of the Reserve's plant communities (e.g. juniper woodland) and species, can be harmed by fire. Even in fire-adapted communities, fire can promote the invasion and spread of non-native plants, which can in turn facilitate too-frequent fires that has the potential to convert shrublands and woodlands. Unnatural fire ignitions associated with human activities, particularly along SR 166 and other roads, may be negatively impacting the biological systems, cultural resources, and facilities of the Reserve, as well as threatening public safety and property.

Due to the proximity to human development, and thus posing a threat to lives and property, fire protection agencies responsible for land within the CPER will likely continue to actively suppress wildfires. Given the complex nature of the landscape-scale process and the uncertainties regarding fire effects, adaptive management will be essential to the effective use of fire to attain the goals for the Reserve. Prescribed fires on the Reserve will be guided by project specific burn plans developed based on the biological and vegetation management goals outlined in the LMP, by biologists and fire practitioners familiar with regional experience, and in coordination with fire protection agencies and with input from adjacent landowners.

Like fire, managed livestock grazing is an important landscape-scale vegetation management tool for attaining the biological goals for the Reserve. Ungulate grazing is an important natural process in grassland ecosystems (McNauthon et al. 1989), and is well-recognized as an effective tool in herbaceous-dominated communities, including grasslands and oak woodlands, to manipulate plant community structure and species composition, decrease fuels and reduce the risk of fire, control exotic plant species, and create and maintain habitat for native animals (Huntsinger et al. 2007). When managed improperly, grazing can also harm biological systems, degrade water quality, and cause soil erosion and loss (Painter and Belksy 1993, Fleischner 1994, Freilich et al 2003).

As outlined in the respective habitat elements and described in greater detail in the habitat descriptions, grazing management within the CPER will be used to create and maintain areas of short-structured grassland required by several native species, enhance native plant cover and richness in grasslands, blue oak woodlands, and coastal scrub, and control non-native herbaceous plant species to reduce their competitive effects on native plants and the potential for type conversion of shrublands to grassland via the grass-fire cycle. The Department currently uses grazing management within the Chimineas units of the CPER to maintain habitat conditions required by, or conducive to, several focal management species, including those that require short-statured grasslands. As with other components of vegetation management, managed grazing will be conducted within an adaptive management framework based on the goals outlined in the LMP.

Removal and Control of Exotic and Invasive Species

Exotic plants negatively impact the Reserve through a variety of mechanisms including by outcompeting native plants, changing the structure of the communities and degrading habitat for native animals, altering the hydrology of ponds and streams, and promoting fire in non-fire adapted systems. As elsewhere, the invasion and spread of non-native species is ongoing and new, potentially more detrimental, species will likely invade the Reserve during the period of management covered by the draft LMP.

The draft LMP will include the development of exotic plant management strategies in consideration of the ecology of the exotic species (or guilds of species, such as annual grasses) and the systems in which they occur. Given the size of the Reserve and the current extent of exotic species, their occurrence within sensitive habitat supporting special status species, their response to disturbance including fire, and their ability to spread from adjacent properties, exotic plant management will be strategic and conducted in coordination with other vegetation management components and, where feasible, adjacent landowners. As with other aspects of management, exotic plant management will be conducted within an adaptive management framework to enhance long-term effectiveness.

Research and Monitoring

Much scientific research has been conducted on the biological systems and species found within the Reserve, including some studies conducted on site or in the Carrizo Plain region. This body of research forms the cornerstone of the adaptive management strategies to be utilized in managing the resources of the CPER. However, future monitoring and research will be necessary to close the loop on the adaptive management process and to determine the effectiveness of various management actions. Studies conducted by academic and other research institutions can help bridge the gap between the list of desired studies to inform management and the Department's resources for monitoring.

Specific Actions of the LMP

The following is a summary of actions that may be proposed in the LMP. The summary is provided by topical element as a way to better understand the project. The overall objective will be to maintain the existing biodiversity of the CPER over the life of the LMP.

Biological Elements

The LMP will base management objectives on maintaining and enhancing the biological resources in eight different coarse-scale vegetation types:

- grassland
- oak woodland
- juniper woodland
- coastal scrub
- chaparral

- desert scrub
- riparian, and
- wetlands/ponds.

A list of focal species to be monitored will be developed for the above vegetation types. Species chosen for these monitoring efforts will meet the following criteria:

1. are characteristic of the vegetation type,
2. reflect overall habitat conditions in that vegetation type
3. have a sufficient population size for monitoring; and
4. can be effectively and efficiently monitored over the life of the LMP

The LMP will propose that wildlife water sources be maintained or established within every square mile around the western units (North Chimineas, South Chimineas, American). Many water sources already exist in the form of springs, creeks, ponds, and water troughs.

Scientific Research, Monitoring, and Adaptive Management Elements
These elements describe how scientific research and monitoring can be used as part of an adaptive management framework to promote long-term effectiveness of management at attaining the goals of the other elements.

Overall, perennial, woody vegetation can be monitored at 10 year intervals via satellite imagery. However, this type of monitoring alone may not reflect the health of each system. Therefore, monitoring of focal species as indicators of habitat quality will be necessary. The preliminary list of focal species being considered for monitoring in each vegetation type includes:

Grasslands – Giant kangaroo rat, San Joaquin kit fox, burrowing owl, showy madia, and San Joaquin woolly-threads for short-statured grasslands; and tule elk and grasshopper sparrow for tall-statured grasslands.

Coastal Scrub – Blainville's horned lizard, Lemmon's jewelflower, La Panza mariposa lily, Costa's hummingbird

Desert Scrub – Pale yellow layia, blunt-nosed leopard lizard, LeConte's thrasher

Chaparral – Wrentit, California thrasher, western spotted skunk

Juniper Woodland – Long-eared owl, phainopepla, Bewick's wren

Oak Woodland – Mule deer, lark sparrow, yellow-billed magpie, blue oak recruitment

Riparian – Yellow warbler, red bat

Ponds/Wetlands – Pacific pond turtle, western spadefoot toad, tricolored blackbird, Yuma myotis

Vegetation Management

These elements identify how fire management, mechanical vegetation treatments, managed grazing, and exotic plant management may be used to maintain or enhance the condition of the vegetation to attain the biological goals of the plan.

Fire, and mechanical vegetation management treatments which mimic the beneficial effects of fire, may be used to increase the diversity of successional stages of vegetation as well as to prevent catastrophic fires from destroying fire-sensitive communities such as juniper woodland and desert scrub. Potential prescribed burns will be guided towards the fire adapted chaparral communities, some of which have not burned in almost 100 years. The proposed goal will be to burn at least 625 acres of the chaparral community (~ 50 percent) over the next 25 years. This goal may be accomplished either by prescribed burn or wildfire. On the opposite end of the scale, the proposed goal for fire sensitive communities (desert scrub, juniper woodland) will be to prevent or limit the extent of wildfires.

Livestock grazing will be proposed on portions of the CPER to maintain or enhance biological resources by creating appropriate vegetative structure, limiting competition from non-native plants, and reducing fire hazards in non fire adapted communities. The proposed management strategies for the various vegetative communities are as follows:

Grasslands – Maintain between 3,000 and 5,000 acres of short-statured grasslands (less than or equal to 4”) for giant kangaroo rat, San Joaquin kit fox, burrowing owl, blunt-nosed leopard lizard, mountain plover and other short grass dependant species. In areas where giant kangaroo rats are present (approximately 2,500 acres), use of livestock will not be necessary except under extreme circumstances (several back to back years of heavy rainfall, precipitous declines in giant kangaroo rat numbers). Maintain between 8,000 and 10,000 acres of tall grasslands (greater than or equal to 12”) for tule elk, grasshopper sparrows, and other tall grass dependant species. The proposed management action in these areas will be to restrict livestock from these areas through existing fencing.

Oak Woodlands – Maintain current blue oak recruitment levels and the diversity of native plant species in the understory through light to moderate intensity livestock grazing. Future prescriptions may change if monitoring detects significant declines in blue oak recruitment levels.

Juniper Woodlands – Maintain a mosaic of herbaceous cover within the juniper woodlands to reduce the chances for stand replacing wildfires. Shorter herbaceous cover will be maintained by grazing 1,400 to 1,600 acres within the juniper woodlands. Taller annual vegetation will be maintained by restricting livestock grazing from 1,400 to 1,600 acres.

Desert Scrub – Maintain the extent of desert scrub by reducing the chances for stand-replacing fires, especially along SR 166 which is the primary ignition source for fires in this area. Allow periodic grazing on between 700 to 1,500 acres in this community (~33%) depending upon fuel loads. Restrict grazing from the remaining two-thirds of the desert scrub.

Coastal Scrub – Maintain a mosaic of herbaceous plant cover within this community to enhance overall biodiversity and to reduce the chances for stand replacing fire events. Livestock would be used to remove annual vegetation on between 2,000 to 3,000 acres while livestock would be restricted from between 2,000 to 3,000 acres.

Chaparral – Maintain a variety of successional stages within this community. This will primarily be accomplished through fire (see above).

Riparian – Enhance riparian vegetation by restricting livestock access to riparian systems. The primary activity associated with this action will be to install livestock fencing around the remaining unfenced riparian corridors.

Wetlands/Ponds – Enhance wetland/pond resources by maintaining and enhancing the physical conditions that promote the special status resources at each location. In most cases, this will entail restricting livestock use from an area. However, some ponds have specific resources (western spadefoot toad, several bat species, tricolored blackbird colonies) that benefit from the reduction of vegetation around the water source. If native species (tule elk) are not reducing the vegetation around these ponds, periodic livestock use may be necessary to maintain these conditions. Lastly, while livestock have been excluded from most of the ponds with Pacific pond turtles, the pond with the best pond turtle recruitment rates has been, and is currently, accessible to livestock. Monitoring of pond turtle populations will be used to inform future management strategies for this species.

The LMP will also propose to restore riparian habitats and portions of the previously tilled grasslands through native seeding/planting. The creation of up to 10 vernal pools may also be proposed in these areas.

The LMP will propose the use of herbicides to control or eliminate populations of invasive plants, particularly yellow-star thistle and tamarisk. All herbicide application will be conducted by licensed individuals in accordance with all applicable regulations.

Public Use

Public use elements are any recreational, scientific, or other public use activity appropriate to and compatible with the purposes for which the property was acquired. General public recreational access will continue to be directed towards restricted wildlife-dependant recreation (hunting, bird watching, nature study). Additional emphasis will be to encourage scientific research by universities and associated

entities. The primary proposed future activity will be to increase biological educational opportunities.

Cultural Resources
Cultural resource elements pertain to the preservation of cultural resources. The primary activities associated with this element will be conducting further assessments of cultural resources and restricting public access in the vicinity of these resources. Additional potential activities include capping of sites which are vulnerable to erosion and fencing of cultural sites from livestock.

Facility Maintenance
This is a general-purpose element describing the maintenance and administrative program, which helps maintain orderly and beneficial management of the area. Facility maintenance will include the upkeep of the various existing housing and educational facilities. It will also include maintaining the existing dirt road infrastructure, fences, water sources and distribution lines and power sources. No new roads are proposed. Regarding power, the proposed long-term goal will be for the CPER to use small scale, renewable energy for all of its electrical needs.

Management and Monitoring Coordination
These elements include activities related to the coordination of management and monitoring efforts in adjacent and regional open space lands. The proposed actions in the LMP will include continuing coordination with the managing partners of the CPNM, continuing resource monitoring on BLM and USFS lands and exchanging pertinent data with these agencies, coordinating monitoring efforts on newly acquired Department lands associated with the Topaz solar farm, and coordinating monitoring efforts with the owners of the Sunpower mitigation lands.

Environmental Baseline Conditions

The assessment of potential adverse environmental impacts provided in this initial study is based on environmental conditions existing within the CPER in November, 2012, consistent with Section 15125(a) of the State CEQA Guidelines and guidance provided by the Courts[1]. The baseline conditions are described in greater detail below.

Current and Previous Uses of the Management Units

Livestock grazing was the primary land use on land that currently comprises the CPER for over one hundred years. Cultivation of dryland crops was also practiced on the flatter portions of land within the Reserve. Aspects of livestock grazing have created and maintained habitat for many plants and animals, including several of the special-status species of the Reserve.

[1] In *Communities for a Better Environment v. South Coast Air Quality Management District* (No. S161190, March 15, 2010) the California Supreme Court ruled that the analytical baseline against which project effects are measured should generally be the physical conditions existing at the time of the analysis.

Chimineas Units

The North and South Chimineas Units of the CPER are part of a former cattle ranch (the Chimineas Ranch) which was acquired by the Department for purposes of establishing an Ecological Reserve in accordance with Title 14 California Code of Regulations and the California Fish and Game Code.

Land within much of the Chimineas units was operated as a cattle ranch for well over 100 years prior to acquisition by the Department. Federal property until 1883, land within the unit was part of a 20,000-acre purchase by J. H. Hollister and Frederick Adams that created the Chimineas Ranch, which was named for the remains of an old hearth and chimney located at the ranch headquarters (Mike Post pers com). By 1888 the Chimineas Adobe, which is part of the present-day Chimineas Unit Headquarters house, was erected. In the late 1800s, the Reis family acquired the Chimineas Ranch and held it until the 1930s, when it was purchased by Claude Arnold. The Arnold family expanded the ranch until 1972 when it was sold to the Robertson family from Texas. In 1999 the Robertson family sold the Chimineas Ranch to Dr. Neil Dow, who renovated the ranch house and operated the cattle ranch.

Livestock grazing has been one of the primary land uses on the Chimineas Ranch since at least the 1860s. Exact figures on the number of cattle using the ranch are unavailable for the early years. However, beginning in the 1940s and up until 1995, the base operation was reported to be between 1,000 and 1,200 cattle year round (Ross Nyswonger pers com). These estimates of the historic size of the base herd appear to be conservative since records for the entire 55,000 acre Chimineas Ranch and associated documents from the 1940s through 1970 indicate from 1,150 to “several thousand” head of cattle were kept on the ranch each year during this period (Mike Post pers com). Additionally, the ranch was advertised as being able to carry 1,500 cows on an average year when it sold in 1998. Most recently, the current lessee, Dr. Neil Dow, had a herd of around 600 animals prior to acquisition of the two portions of the ranch by the Department in 1999 and 2004

Since acquiring the Chimineas units beginning in 2002 (southern 14,314 acres) and 2004 (northern 15,882 acres), the Department has continued to graze those portions of the Chimineas units which were utilized by livestock at the time of DFG acquisition in order to maintain habitat conditions that support several rare and endangered species for which the property was acquired, including San Joaquin kit fox and burrowing owl. The Department has installed fences to exclude cattle from sensitive communities, including the riparian systems and ponds within the San Juan Creek drainage. The Department has also conducted a suite of other management activities to promote wildlife including installation of additional water sources (e.g. ponds and troughs) that support wildlife including tule elk and deer.

Grazing management within the CPER is designed to achieve many of the biological goals and objectives of the LMP, as described in a November 2011 lease agreement which was subject to environmental review and approved following a mitigated negative declaration by the Department. The current lease allows a base herd of 350 head of

livestock (assuming federal grazing leases remain in good standing) and a maximum of 450 head of livestock to be on the leased area at any given time. This represents less intensive grazing compared to prior leases between the Department and lessee, Dr. Dow, which permitted between 460 and 590 (average 536) cattle to graze the property between 2005 and 2011.

The maximum number of animal unit months (AUM) to be available on an annual basis from the leased area (California Department of Fish and Game 2011) was designed to achieve conservative to moderate intensity grazing based on the carrying capacity of the premises derived from the work of Mr. Keith Gunther, a certified range manager, who prepared high and low estimates for individual management units in 2006. Mr. Gunther has extensive experience evaluating rangelands in this area. In deriving high and low estimates of the carrying capacity for each management unit on the areas to be grazed, Mr. Gunther utilized a combination of factors consistent with accepted range management practices, including:

- goals for vegetation management
- distance to water
- management ability
- livestock class/type to be grazed
- condition of the range
- percentage of area within each vegetation type
- slope of unit
- estimates of historic livestock numbers on the premises

The standard for the maximum number of AUMs (3,600) available on the property was the mid-point between the low and high estimates for those management units to be grazed as part of the lease. Mr. Gunther further concluded that his estimates, which were based on the goal for vegetation management, were 20-50% below what could be supported by the forage available. He also indicated that the number of AUMs would need to be increased for those units to be managed for burrowing owl habitat. Limitations on the number of livestock and the maximum number of AUM's included in the Lease Agreement were chosen to best achieve the goals of avoiding impacts to sensitive plants and animals from grazing.

Standards for biomass and residual dry matter (RDM) set forth in the lease agreement were derived from the habitat types present in a particular management unit and the specific management objectives for those habitats as described in Table 2 of Exhibit B of the draft Lease Agreement. As required by Section 7 of the draft Lease Agreement, livestock will be used to maintain or improve habitat on a subset of management units. As discussed in Exhibit B, specific resources to be managed include short grasslands, upland game, and blue oak and juniper woodlands. In order to maintain a diversity of habitat structure within each vegetative community, only a portion of the lands within any particular community type will be grazed.

South Chimineas Unit. Historically, the lands within the South Chimineas Unit have been grazed for at least the last 100 years. Grazing has continued to be used in approximately 30 percent of the unit to promote native, late season annual vegetation (turkey mullein, doveweed) for upland game.

Given the large size, complex assemblage of vegetation, and relative abundance of non-fire adapted plant communities in this unit, the primary management objective is to maintain the existing mosaic of habitat conditions to conserve the overall biodiversity of the unit. Vegetation management was geared towards reducing the chances for catastrophic fires, especially along SR 166.

General public vehicle access through the South Chimineas Unit is only available under special conditions when Department employees are present. However, walk-on access from SR 166 is allowed with a free permit. Over the past 10 years, public use of this unit has been approximately 350 user days per year. Hunting has been the most popular recreational pursuit by far. Hunting is allowed on the South Chimineas Unit approximately 75 days each year.

North Chimineas Unit. Dry land farming for grain (wheat and barley) occurred on the flat and rolling hills in the northern part of this unit. As mapped by the BLM, an estimated 6,585 acres of this unit were in cultivation in the 1980s. Cultivation on some of these lands ceased in 1987, when over one half of the previously farmed lands were enrolled in the federal Conservation Reserve Program (CRP). Cultivation ceased on the remaining portions of the ranch in the mid-1990s. The CRP lands have not been utilized for grazing since their enrollment in the program.

The North Chimineas Unit has been continually grazed by livestock for at least the last 120 years. With several small exceptions, grazing continued on this unit in those areas being actively grazed by livestock at the time of the Department acquired the land. The primary objectives for grazing these lands are to provide habitat for short grass dependant wildlife species, maintain blue oak recruitment which has occurred under the prior grazing regimes, and to reduce the potential for catastrophic fires by reducing fine fuel loads in habitat types which are not adapted to fire (juniper woodlands). The Department excluded livestock from most of San Juan Creek and several ponds to enhance riparian vegetation after the acquisition of the property. Vegetation is managed by livestock on approximately 75 percent of the North Chimineas Unit.

Public access on the North Chimineas Unit has been limited to Department sponsored research projects and professional biological workshops. There are also tightly controlled hunting opportunities for upland game, wild pigs, deer, and elk. In total, these activities account for approximately 250 user days per year. Approximately 75 percent of this use is associated with research and workshops while the remaining 25 percent is associated with hunting. All public access outside of these events, including access by vehicles, bicycles, horses, or pedestrians, has been prohibited since the lands were first acquired. Hunting is allowed on this unit approximately 49 days each year.

Elkhorn Unit

There is no available information about the historic use of the Elkhorn Unit, which was acquired by the Department of Fish and Game in 1983. Based on the historic pattern of land use in the area, it was likely grazed by livestock including cattle and sheep as part of the wide-ranging livestock operations in the 19th and 20th centuries. There is no evidence of recent cultivation, such as infrastructure or furrows indicating tillage.

Since acquired by the Department, the Elkhorn Unit has been used primarily for scientific research and to a lesser extent, upland game hunting. The Department fenced the property to exclude cattle that graze the adjacent land managed by the BLM. As a result, the Elkhorn Unit has served as a control (ungrazed) site for regional studies examining the effects of grazing on the populations of the endangered San Joaquin Valley upland species. This unit is open to unrestricted public access.

The primary management objective for the Elkhorn Unit has been to provide habitat for the suite of San Joaquin Valley species (giant kangaroo rat, blunt-nosed leopard lizard, San Joaquin kit fox, and San Joaquin antelope squirrel). Given the low productivity of vegetation within this unit, vegetation management has not been necessary to maintain or enhance habitat for these resources.

Panorama Unit

When acquired by TNC, land within the Panorama Unit was under cultivation. BLM mapping indicates that 2,390 acres of the 2,840-acre unit was being cultivated in the 1980s. The approximately 84% of the unit in cultivation excluded the southwestern portion where saline soils of the Chicote complex occur. Irrigation line left in the shed suggests that the cultivated land was also irrigated.

Prior to cultivation, land within the Panorama Unit was likely grazed by livestock which ranged throughout much of the region. Following acquisition of the Panorama Unit in July 1989, cattle were excluded from moving onto the property from the BLM's adjacent KCL and North Temblor allotments and the private cattle operation through existing fencing. The Panorama Unit has been used for research, wildlife viewing, and some upland game hunting. This unit is open to unrestricted public access.

The primary management objective for the Panorama Unit has been to provide habitat for the suite of San Joaquin Valley species as well as mountain plover. Low precipitation combined with a very dense population of giant kangaroo rats has thus far made vegetation management unnecessary in this unit.

American Unit

Land within the American Unit was formerly part of the privately owned American Ranch. Little detailed information is available about its history. However, the site was in cultivation for dry-land barley when it began to be acquired by The Nature Conservancy in 1988. BLM mapping indicates that 4,300 acres of the 6,341-acre unit was in cultivation in the 1980s. The estimated 68% of the unit that was cultivated excludes the central area around the historic ranch headquarters, and the southernmost portion of

the unit which is in steep terrain. Livestock grazing, particularly by cattle, likely occurred on the land within the American Unit since the 1800s.

As land within the American Unit was incorporated into the CPER between 1988 and 2003, it was taken out of cultivation and remained ungrazed by livestock. In the 2000s, the Department enhanced habitat for wildlife by removing the interior fencing to facilitate movement and creating ponds to supply water. The American Unit is used for both upland game and big game hunting (i.e. tule elk, wild pig, and deer). In general, this unit is open to unrestricted public access. However, almost all of the roads in this unit are closed to vehicular traffic.

The primary management objective for this unit has been to provide habitat for tall grass species, particularly tule elk and grasshopper sparrows. Based upon the scientific knowledge of these resources, vegetation management was best accomplished by excluding livestock from this unit.

Facility Use

The CPER contains facilities at two locations, which are used to enhance effectiveness of the Department's management of the Reserve and public use opportunities: Painted Rock Ranch Headquarters (American Unit), near the Goodwin Nature Center within Carrizo Plain, and the Chimineas Unit Headquarters, which is in the North Chimineas Unit.

The Painted Rock Headquarters, which features a small mobile home and associated buildings, is primarily used by one to three individuals, typically Department staff, when working within the American, Elkhorn, and Panorama units. However, larger groups (researchers, law enforcement) of up to 8 people may occupy this facility on a daily basis for 10 days each year.

The facilities of the Chimineas Unit Headquarters, which are more expansive and can accommodate larger groups (up to 40 people), are used not only to facilitate management of the Chimineas units, but also to host Department programs. Owing to its remote location (i.e. the Reserve is more than a 45-minute drive from the nearest accommodations in Maricopa), over-night stays are often required of staff and members of the public who are visiting the Reserve. Use of the headquarters building has averaged about 556 user nights annually since 2005 and has increased significantly since 2006.

In addition, the headquarters building on the North Chimineas Unit plays host to several special events, meetings and other activities associated with the Reserve. These events average about six per year and have about 30 attendees each.

Staffing and Other Users of the CPER

Current staffing of the CPER includes Department biologists, game wardens, scientific aides and technicians. These staff are supplemented by volunteers from the Chimineas Ranch Foundation (CRF), a non-profit organization with the mission **"**to protect and

enhance the ecological values of the Chimineas Unit of the Carrizo Plain Ecological Reserve and to help provide opportunities for wildlife dependent recreation, education, and research activities that are compatible with conserving the biological integrity of the reserve." Additional volunteer assistance is provided by a number of other non-profit organizations including California Deer Association, Rocky Mountain Elk Foundation, California Native Plant Society, Audubon Society, Arroyo Grande Sportsmen's Association and Santa Maria Valley Sportsmen's Association. Lastly, ongoing research is conducted by scientists from a variety of institutions and organizations. Total staffing, research, maintenance, and recreation use averages about 14 persons per day.

Previous and Ongoing Management Activities

Previous and ongoing management activities relating to biological resources are summarized in Section 4, Biological Resources. These activities include:

- Installation of fencing along creeks and around springs and ponds;
- Ongoing research of various species;
- Efforts to control and eradicate exotic species; and
- Managed grazing.

Previous Approvals and Environmental Review

Grazing Lease 2011 - 2014

As discussed in the Environmental Baseline Conditions, in November, 2011, the Department adopted a Mitigated Negative Declaration ("MND") and approved a Lease Agreement authorizing continued managed grazing on about 12,000 acres of the North and South Chimineas units. Under the terms of the Lease, grazing activities are subject to a range of restrictions, standards, monitoring and remediation activities. The Lease Agreement sets specific standards for biomass and residual dry matter to be maintained in all areas to be grazed. These standards have been established to ensure that grazing activities are sustainable over the term of the lease and so that habitat for special status animal species is enhanced and maintained.

The Lease Agreement establishes a maximum number of animal unit months ("AUM") to be available on an annual basis on the lease premises. The AUM standard is based on the carrying capacity of the premises derived from the work of Mr. Keith Gunther, a certified range manager with extensive experience evaluating rangelands in the project area.

Under the terms of the Lease Agreement, grazing activities will be subject to ongoing monitoring to ensure that these standards are achieved and maintained. Exhibit B of the Lease Agreement describes the methodologies to be used for such monitoring and for reporting the results to the Department (California Department of Fish and Game 2011). In the event monitoring reveals that the standards for residual dry matter may not be achieved, remedial actions are required. The 2011 Grazing Lease is discussed in greater detail in the Environmental Baseline Conditions.

Lastly, in 1999, the Department conducted CEQA review and signed off on the management plan for the Carrizo Plain Natural Area (CPNA). The CPNA plan was a cooperative management strategy among the managing partners (BLM, DFG, TNC) for the Carrizo Plain and covered CPER lands on the Elkhorn, Panorama, and all but 640 acres of the American Units. In 2001, the lands owned by BLM within the planning area for the CPNA were designated as the Carrizo Plain National Monument (CPNM) and a new planning process for the federal lands was initiated. The RMP for the CPNM, which was adopted in 2010, only covered BLM lands within the monument boundary.

1. Aesthetics/Visual Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

The various units of the CPER were acquired by the Department because of their unique natural resources and their potential for preserving and improving the diversity of natural communities in southeastern San Luis Obispo County and the region. Accordingly, the visual qualities of the Reserve reflect the largely natural conditions of the landscape.

However, historic human uses of the CPER have altered these natural conditions which in turn have become part of the visual landscape. Specifically, agricultural operations on the flat and rolling terrain altered the natural vegetation by design and introduced non-native plants to the area. Development of ranch infrastructure such as roads and buildings has also altered the visual character of the area, along with the past harvesting of trees for fences and fuel.

Conclusions

a), c), Potentially Significant Impact. The management actions that may be recommended by the draft LMP will be aimed at preserving the natural, rural character of the CPER through the management and enhancement of biological habitats and associated physical features, the protection of cultural and historic resources, through the maintenance of existing facilities, and by the removal of trash and dilapidated structures. Specific management actions aimed at improving the visual qualities of the CPER may include:

- Removal of grain storage tanks, sheds and trailer on the American and Panorama units;
- Removal of unnecessary fences, including cross fencing;
- Removal of abandoned and unused wells;

Accordingly, the draft LMP is expected to have a net beneficial impact on the visual quality of the CPER.
However, the draft LMP may include management actions that could adversely impact the visual qualities of the CPER either temporarily or permanently. These actions include:

- *The construction of trails, wildlife viewing platforms, and parking areas, and the installation of signage and other features to facilitate public use and enjoyment of the Reserve*;

Additional parking areas could be established along SR 166 which would result in a minor alteration to the visual character of the landscape visible to passing motorists. New parking areas would likely consist of un-paved areas with signage and an entry gate, comparable in design to those existing at present. It should be noted that SR 166 is not a designated Scenic Highway. New parking areas established on the interior of the Reserve, such as near the headquarters building on the Chimineas Unit, would not be visible from a public vantage but would nonetheless result in a minor alteration of the visual character of the Reserve.

The construction of trails would emphasize the use of existing roadways within the Reserve to minimize construction-related impacts, which in turn would minimize visual impacts. The placement of signs and interpretive displays would also result in minor alterations of the visual character of the landscape.

Lastly, wildlife viewing platforms and other facilities to facilitate public enjoyment of the Reserve may be constructed in strategic locations where wildlife congregate. These areas occur largely on the interior of the Reserve and are not visible from a public vantage, but would be visible to visitors. However, viewing platforms could be constructed in areas visible to travelers on SR 166. The placement of new structures could have an adverse impact on the visual qualities of the Reserve if not located or designed to minimize visual impacts. Viewing platforms would be few in number,

located on the interior of the Reserve, and designed to compliment the qualities of the Reserve.

- *The installation of fencing*;

The Chimineas, Panorama and Elkhorn units contain a combined 134 miles of existing barbed-wire fencing. The eastern and western boundaries of the Chimineas units are not fenced, and neither are the boundaries of inholdings (disjunct parcels) within the Los Padres National Forest. New fencing could be installed along the eastern and western boundaries of the Chimineas units and around sensitive resources within the Reserve to exclude cows. Such fencing would likely consist of barbed wire supported by metal posts, consistent with existing fencing. New fencing placed along the boundaries of the Reserve would be visible where the boundaries adjoin a public vantage, such as along SR 166; fencing on the interior of the Reserve would be visible to DFG personnel, researchers and visitors.

Additional fencing of sensitive biological resources, such as riparian areas, would result in both positive and negative visual impacts – there would be additional visual intrusions from the fencing, but also an enhancement of the characteristic vegetation in the riparian zone. Excluding livestock from riparian corridors and surface water bodies, combined with the other management actions recommended by the draft LMP aimed at enhancing the biological resources of the Reserve, is expected to have a beneficial impact on visual resources.

- *Alteration of the landscape associated vegetation management*;

Vegetation management will include activities designed to establish and expand habitat for special status species, such as San Joaquin kit fox and burrowing owls, and to control the spread of exotic plant species. Such activities will include managed grazing and prescribed burning and actions to control exotic plants. As discussed in the project description, grazing is currently practiced on the Chimineas units as a vegetation management tool to establish the short grass structure favored by special status wildlife species. Grazing can adversely impact the visual qualities of the environment by reducing the size and extent of vegetation when compared to areas without grazing. Visual impacts are most pronounced when overgrazing occurs.

- *Prescribed burning*;

Prescribed burning is another vegetation management tool that may be recommended by the draft LMP. The Reserve has a long history of wildfires which are a natural and necessary component of the natural ecosystem. Wildfire burning and the chance of a large fire would continue the present level of visual impacts associated with fires. Although fire scars are natural, they are seen as a major impact to visual resources by many viewers.

- *Cultural resources management*;

As described in the Project description, the Reserve contains significant cultural resources. Implementation of management actions that may be recommended by the draft LMP could result in the discovery of previously undiscovered resources which in turn would necessitate actions to protect these resources. These actions may include the realignment of road segments, closure, or capping of roads and the addition of interpretation at Native American sites which could result in adverse but less than significant impacts to visual resources. Road realignment, closure or capping could cause a minor impact depending on the location of the new alignment. Additional interpretation would cause a negligible impact on visual resources as displays could be designed in a way that would be small scale and low in profile.

- *Construction of water tanks;*

The draft LMP may recommend the placement of water tanks for wildlife watering throughout the Chimineas and American units. A typical water tank holds 5,000 gallons and is about 10 feet tall and about 10 feet wide. Water tanks can be constructed of metal or plastic; plastic tanks can be acquired in a variety of colors such as dark green. If water tanks are placed on the Chimineas and American units they would likely be placed on average about one tank per square mile. The placement of water tanks would alter the scenic qualities of the Reserve and could be visible from public vantages.

Impacts associated with these management activities will be further addressed in the EIR.

b) No Impact. No portion of the CPER lies within the viewshed of a State-designated scenic highway. According to the Department of Transportation (Caltrans) list of designated Scenic Highways (http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm) there are no Scenic Highways in the vicinity of the CPER. State Route 166 has not been designated as a scenic highway.

d) Less Than Significant Impact. Day time glare results from the reflection of sunlight from walls, windows and other reflective surfaces. Construction of additional parking areas, signage, maintenance facilities and amenities for visitors could include new sources of lighting on the Reserve. In addition, events held at the Chimineas headquarters will result in additional sources of light and glare on the vicinity of the ranch house and from motor vehicles attending such events where nighttime light levels would increase over current conditions.

All of the existing and potential new sources of light would be located on the interior of the Reserve where it will be screened from view off-site by topography and vegetation. New light sources would only be visible in the immediate area of the source by workers on the Reserve and by attendees of special events. Light-related impacts to surrounding properties would be minimal. For these reasons, impacts associated with new sources of light and glare are considered less than significant.

2. Agricultural Resources

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**Agricultural Resources.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a)	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?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c)	Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☒	☐

Discussion

Agriculture is an important component of the economy of San Luis Obispo County, which is a major producer of wine grapes, strawberries and cattle. On the Carrizo Plain, limitations to agricultural operations include a limited water supply, alkaline soils and

hot, dry summers. Accordingly, dry farming and cattle grazing have been the dominant forms of agricultural pursuits.

The South Chimineas Unit of the CPER extends to the south to the floor of the Cuyama Valley which is extensively farmed. Irrigated agriculture is the dominant land use, with 20,000-25,000[2] acres devoted to active farming in any given year. Current agriculture consists primarily of row crops rotated between root vegetables, alfalfa, and grains. The largest crop by acreage is carrots, with an estimated 6,000 acres cultivated in 2008.

Previous and ongoing agricultural uses of the Reserve are described in the project description. As summarized on Table 2 crop cultivation ceased on all units of the CPER at least since 1990. Grazing continues on a 13,500 acre portion of the Chimineas units under a lease agreement executed in November, 2011.

Table 2 -- Status of Agricultural Operations On The CPER

CPER Management Unit	Past Agricultural Use	Status of Agricultural Operations In 2012
Chimineas units	Grazing, dry land farming	Cultivation ceased in the late 1990s; grazing continues under a grazing lease executed on November 21, 2011 and covers about 13,500 acres.
American Unit	Grazing and dry farmed crops	No grazing or other agricultural use since 1990
Panorama Unit	Probably grazing and irrigated crops	No grazing or other agricultural use at least since 1990.
Elkhorn Unit	Probably grazing	No grazing or other agricultural use at least since 1983

Source: Jodi McGraw Consulting, 2012

Conclusions

a) c) No Impact. As discussed in the Project Description, and as summarized above in Table 2, crop cultivation occurred on the American, Panorama and Chimineas units as

[2] Conservation Assessment for the Cuyama Valley, Current Conditions and Planning Scenarios, 2009

recently as the 1980s. However, as these properties were incorporated into the Reserve they were taken out of cultivation and managed for their habitat value.

The California Division of Land Resource Protection defines Prime farmland and Farmland of Statewide Importance as follows:

> (1) **Prime Farmland** has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
>
> (2) **Farmland of Statewide Importance** is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

None of the units of the Reserve contain farmland that satisfy the criteria for Prime Farmland or Farmland of Statewide Importance as set forth by the State of California. Specifically, 1) none have been under cultivation for the past four years, and 2) they lack a developed, reliable water supply for irrigation. Accordingly, although portions of the CPER contain productive soils that could support cultivation if irrigated, none of these areas meet the definition of Prime Farmland or Farmland of Statewide Importance. Accordingly, management actions recommended by the draft LMP would not result in the permanent conversion of prime (or non-prime) farmland to a non-agricultural use, nor preclude the use of portions of the Reserve for agricultural production, consistent with the main objectives of the draft LMP.

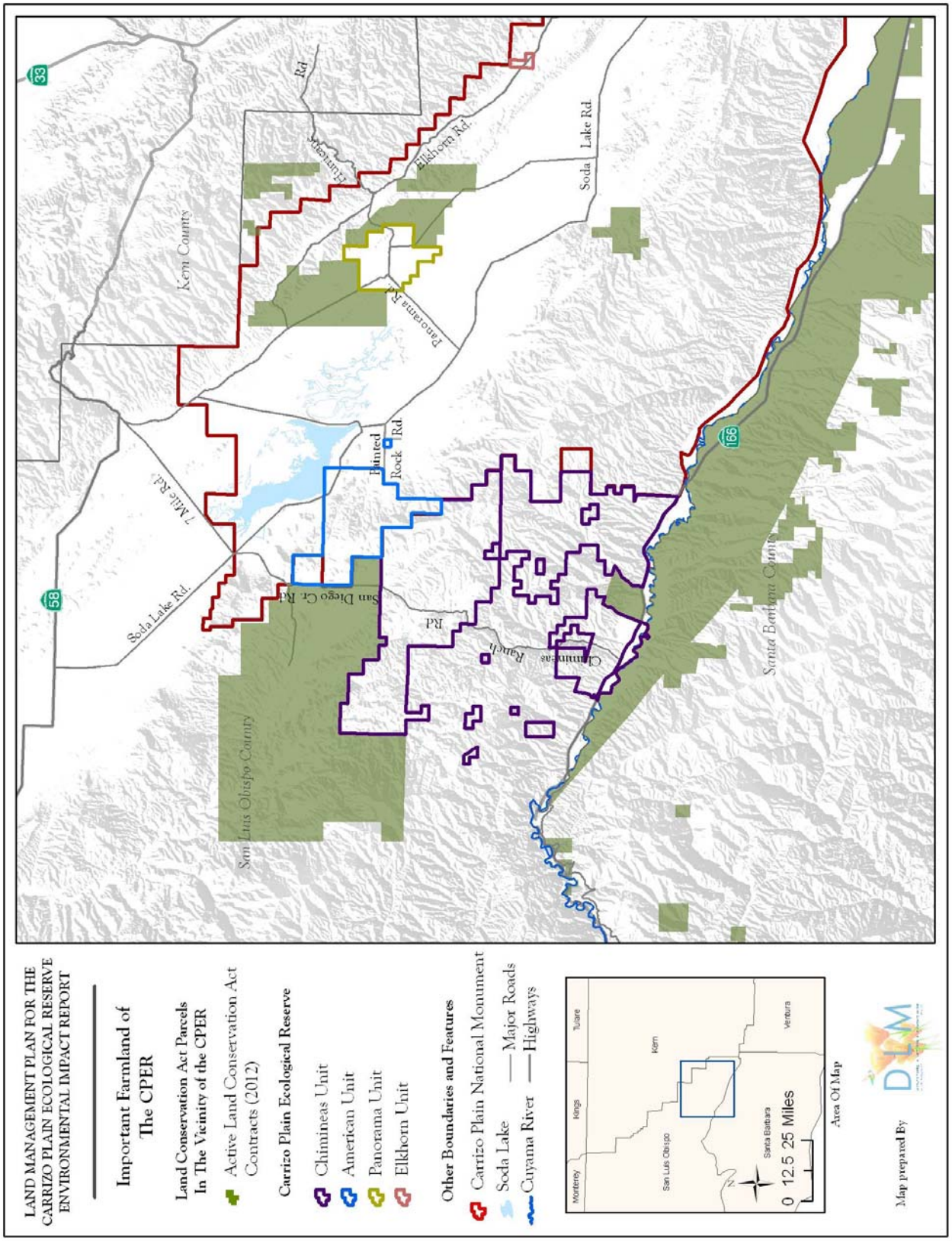
b) No Impact. The existing zoning and General Plan designations for the CPER are *Rural Lands* and *Recreation.* Grazing is the only agricultural use contemplated as part of the draft LMP and is a use allowed by right in this zoning district. However, properties owned and managed by the State of California are not subject to local land use regulations.

The California Land Conservation Act of 1965 (Williamson Act, Government Code, Section 51200 et seq.) encourages the conservation of agricultural lands by providing a property tax incentive to owners who restrict land uses to agriculture and compatible uses. It is a voluntary program administered through local governments, which are responsible for contracting with landowners. Properties subject to Williamson Act contracts must remain in agricultural use for the duration of the contract, a minimum of 10 years. The contracts are self-renewing unless the property owner or a city or county has filed a Notice of Non-renewal. Filing a Notice of Non-renewal initiates an approximately nine-year period, after which the contract expires.

Because the properties that comprise the CPER are under public ownership, they are not eligible for the property tax advantages afforded by the Williamson Act. However, as

seen on Figure 4, there are many properties in the vicinity of the CPER under active Williamson Act contracts. Managing the CPER for its habitat value will have no effect on the agricultural zoning or the status of LCA contracts on properties surrounding the CPER.

Figure 4 -- Properties With Current Land Conservation Act Contracts



3. Air Quality

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**Air Quality.**				
	Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
	Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

The CPER lies entirely within the South Central Coast Air Basin (SCCAB) which includes all of San Luis Obispo, Santa Barbara, and Ventura counties. The climate of the San Luis Obispo County area and all of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high pressure cell in the northeastern Pacific.

Federal and state standards have been established for six criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM10 and PM2.5), and lead (Pb). California air quality standards are identical to, or more strict than, federal standards for all criteria pollutants.

According to the San Luis Obispo Air Pollution Control District, CEQA Air Quality Handbook (page 3-4) diesel particulate matter (DPM) is seldom emitted from individual projects in quantities which lead to local or regional air quality attainment violations. DPM is, however, a toxic air contaminant and carcinogen, and exposure to DPM may lead to increased cancer risk and respiratory problems. Certain industrial and commercial projects may emit substantial quantities of DPM through the use of stationary and mobile on-site diesel-powered equipment as well as diesel trucks and other vehicles that serve the project.

Lastly, the APCD regulates prescribed burns in the County through the issuance of a burn permit in accordance with Rule 502 of the APCD Rules and Procedures. Under Rule 502, a burn permit is required for agricultural burning which includes “Wildland Vegetation Management Burning” and “Range Improvement Burning” of the type that may be proposed to be conducted within the Reserve.

A prescribed burn covering more than 250 acres is subject to the District’s Smoke Management Plan requirements which set forth the actions to be taken to minimize smoke impacts on sensitive receptors and compliance with clean air regulations. For burns done primarily for improvement of land for wildlife and game habitat, the permit applicant must file with the District a statement from the Department of Fish and Game certifying that the burn is desirable and proper. The Department of Fish and Game may specify the amount of brush treatment required, along with any other conditions it deems appropriate. Alternatively, the Air Pollution Control Officer may accept a wildlife biologist opinion contained in a land management plan approved by the appropriate State or Federal authority or certifications by the US Fish and Wildlife Service.

The California Department of Forestry (CDF) also requires a permit for certain types of burning.

Greenhouse Gas Emissions

The phenomenon known as the greenhouse effect keeps the Earth’s atmosphere near the surface warmer than it would be otherwise, allowing for successful habitation by humans and other forms of life. Greenhouse gases (“GHGs”) present in the Earth’s lower atmosphere play a critical role in maintaining the Earth’s temperature by trapping some of the longwave infrared radiation emitted from the Earth’s surface which otherwise would have escaped to space.

There are no “attainment” concentration standards established by the federal or state government for greenhouse gases. In fact, GHGs are not generally thought of as

traditional air pollutants because greenhouse gases, and their impacts, are global in nature, while air pollutants affect the health of people and other living things at ground level, in the general region of their release to the atmosphere.

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that the average global temperature rise between the years 2000 and 2100 could range from 1.1°C, with no increase in GHG emissions above year 2000 levels, to 6.4°C, with substantial increase in GHG emissions[3]. Large increases in global temperatures could have deleterious impacts on natural and human environments.

In July, 2009 the County of San Luis Obispo adopted a inventory of greenhouse gas emissions to establish the baseline for calculating compliance with the greenhouse gas reduction targets outlined above. The GHG Inventory concludes that the County emitted approximately 1,506,163 metric tons of CO_2e[4] (Carbon dioxide equivalent) in the baseline year, 2006. As shown in Table 3, the transportation sector was by far the largest contributor to emissions (64.8%), producing approximately 976,585 metric tons of CO_2e in 2006. Emissions from the residential, commercial, and industrial sectors accounted for a combined 23.4% of the total, while emissions from the waste sector accounted for 2.0% of emissions and other sources, including livestock and agricultural equipment, comprised 9.7% of the total.

The majority of emissions from the transportation sector were the result of gasoline consumption in private vehicles traveling on local roads, state highways, and US 101. GHG figures from the waste sector are the estimated future emissions that will result from the decomposition of waste generated by county residents and businesses in the base year 2006, with a weighted average methane capture factor of 58%.

[3] IPCC, 2007, Climate Change 2007: Synthesis Report, Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A.(eds.)], IPCC, Geneva, Switzerland.

[4] The IPCC[4] defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO2e), which compares the gas in question to that of the same mass of CO_2. CO_2 has a GWP of 1 by definition. Generally, GHG emissions are quantified in terms of metric tons of CO_2 emitted per year.

Table 3 -- Community-Wide Greenhouse Gas Emissions Inventory

San Luis Obispo County

Source Category	Metric Tons CO2e[1]	Percent of Total
Transportation	976,585	64.8%
Commercial/Industrial	215,976	14.3
Residential	136,367	9.1
Other	146,695	9.7
Waste	30,540	2.0
Total:	1,506,163	

Source: County of San Luis Obispo General Plan Community-Wide and County Government Operations Baseline Greenhouse Gas Emissions Inventory, April 2006

Notes

1. The IPCC[5] defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO2e), which compares the gas in question to that of the same mass of CO_2. CO_2 has a GWP of 1 by definition. Generally, GHG emissions are quantified in terms of metric tons of CO_2 emitted per year.

In early 2011 San Luis Obispo County prepared the Draft EnergyWise Plan which "…*demonstrates the County's continued commitment to addressing the challenges of climate change by reducing local GHG emissions and preparing the county to adapt to a changing climate*." The Plan outlines the County's approach to reducing GHG emissions through a number of goals, measures, and actions that provide a road map to achieving the County's GHG reduction target of 15% below baseline levels by 2020. To achieve the community-wide GHG emissions reduction target of 15% below 2006 baseline levels by 2020, the County will need to implement a variety of GHG reduction measures. Reduction measure topic areas include Energy Conservation, Renewable Energy, Solid Waste, Land Use and Transportation, Water Conservation, and Agriculture.

Conclusions

a) Potentially Significant Impact. The project is adoption of a Land Management Plan for the CPER. The SLOAPCD CEQA Air Quality Handbook requires that an EIR assess the air quality impacts associated with adoption of a plan or policy in terms of

[5] IPCC, 2007, Climate Change 2007: The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt,M. Tignor and H.L. Miller (eds.)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

consistency with the adopted Clean Air Plan. Accordingly, an analysis of consistency will be included in the EIR.

b) Potentially Significant Impact. Fire management may play an important role in the management of vegetation of the Reserve. Prescribed burning used as a vegetation management tool would generate smoke and particulates that could temporarily exceed adopted air quality standards and contribute to air quality impacts relating to particulate matter. Potential air quality impacts associated with prescribed burning will be analyzed in the EIR.

c), d) Potentially Significant Impact. Management tasks recommended by the draft LMP could involve the use of motor vehicles for the maintenance of facilities, ongoing monitoring and scientific activities, habitat management and restoration activities, and for transporting animals among the grazing units and from the CPER to offsite locations. In addition, the Department authorizes periodic use of the ranch house on the North Chimineas Unit for events and other gatherings. Lastly, continued recreation activities, such as hunting and hiking, generate motor vehicle trips to and from the CPER. These vehicles will generate emissions of reactive organic gases, nitrogen oxides, and carbon monoxide.

As discussed in Section 15, Transportation/Traffic, current average daily traffic associated with the CPER is estimated at about 14 trips per day from all sources except special events. Special events, which are expected to occur once per month, will accommodate an average of 30 attendees. The net increase in motor vehicle trips associated with adoption of the draft LMP over baseline is likely to be about 10 trips on a typical day and is largely associated with an increase in research activities and a slight increase in trips associated with recreation.

Operational emissions from the increase in motor vehicle trips could exceed the District's threshold of significance for fugitive particulate matter (PM10). Because of the distance traveled on unpaved roads to reach the headquarters building/special events venue, special events represent a potentially significant source of particulate matter that may exceed District thresholds of significance. Operational impacts associated with the draft LMP will be further analyzed in the EIR.

Greenhouse Gases

The San Luis Obispo Air Pollution Control District has not adopted thresholds of significance for the emission of greenhouse gases. The District's April 2012 Guide for Assessing the Air Quality Impacts of For Projects Subject to CEQA Review, states that a CEQA document should evaluate greenhouse gas emissions along with "…appropriate mitigation."

The emission of greenhouse gases associated with grazing activities, construction and resource management could result in the cumulative emission of greenhouse gases resulting in a cumulative adverse impact.

e) Less Than Significant. Continued grazing activities on a portion of the Reserve may result in the emission of odors associated with livestock congregating at watering areas and/or in holding areas. However, none of the watering or holding areas are located in proximity to permanent residents or other sensitive receptors. For these reasons, impacts associated with the emission of odors are considered less than significant.

4. Biological Resources

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**Biological Resources. Would the project:**				
a)	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 the U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.	☒	☐	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources.	☐	☐	☒	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan	☐	☐	☐	☒

Discussion

Regulatory Setting

Federal and state endangered species legislation gives special status to several plant and animal species known to occur on or in the vicinity of the CPER. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified as sensitive numerous species occurring in the vicinity of the CPER. Such species are referred to collectively as *special-status species* and include the following: plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act ("ESA") or the California ESA; animals listed as "fully protected" under the California Fish and Game Code; animals designated as "Species of Special Concern" by the Department; and plants listed as rare or endangered by the California Native Plant Society (CNPS).

Wetlands are specially protected habitats and are governed by section 404 of the Clean Water Act and other laws. Section 404 of the Clean Water Act (33 U.S.C. § et seq.) provides regulatory protection for water resources throughout the United States falls under the jurisdiction of the US Army Corps of Engineers ("ACOE"). Section 404 of the Clean Water Act ("CWA") prohibits the discharge of dredged or fill material into waters of the U.S. without a permit from the ACOE. Waters of the U.S. (often called "jurisdictional waters") include navigable waters, waters flowing into navigable waters, and adjacent wetlands. The Section 404 permitting process includes consultation with the USFWS concerning federally protected species. Federal policy mandates that projects requiring Section 404 permits result in no net loss of wetland resources. Under Section 404, actions in waters of the U.S. may require an individual permit, may be covered by a nationwide or general permit, or may be exempt from regulatory requirements.

Overview of Ongoing and Previous Management and Monitoring Activities

In 2003, the Department began a Resource Assessment Program ("RAP"), starting with an inventory and investigation of several specific management issues in southern California and the Sierra. In 2004, the program expanded, with assignment of biologists throughout the state to the program. A statewide project to inventory resources on Department lands was coordinated, with specific inventory needs identified by each Region. Statewide goals were to:

1. Start with an inventory of wildlife resources and habitats;
2. As inventory progressed, develop long-term monitoring of "indicator" species to help assess changes in habitat condition; and
3. If further resources were available, develop research projects to explore specific management questions.

The objective was to inventory Department lands in a landscape context, so work was envisioned to extend beyond Department property as access and funding were available.

In the Department's Central Region, which includes the CPER, biologists decided to emphasize the inventory of special-status species, as well as non-native invasive species related to land management. Initially, high priority was given to sensitive resources that may be impacted by planned activities on the Department's lands, and as needed for completion of management plans. Surveys were initiated to determine presence, and in some cases distribution, of special status species; to establish an index of population trend of "indicator" species; and to assess habitat. Again, the objective was to assess sensitive species in a broader ecosystem context, so inventories have been designed to include incidental detections of other fauna, inventory of vegetation, presence of potential predator and prey species, and presence and distribution of non-native invasive species.

The Department commenced with biological inventories of the Chimineas units of the CPER in 2002. Initial efforts, which included small mammal trapping, rare plant surveys, bird surveys, reptile and amphibian surveys, were opportunistic in that specific methodologies and sampling were not yet developed. However, over the past 10 years systematic sampling procedures have been developed for all of these resources. Locations of any sensitive species observed during these efforts, or observed incidentally to other activities, were recorded with a Global Positioning System ("GPS") and entered into a database.

Plant Communities of the CPER

The Carrizo Plain Ecological Reserve features a diversity of plant communities (vegetation) which reflect the Reserve's variable soils, topography and microclimate, hydrology, disturbance, and land use history. The communities differ in plant species composition, animal assemblages, disturbance ecology (e.g. fire ecology), and occurrences of invasive plants, among other factors. Management of this large, landscape-scale ecological Reserve will focus on maintaining or enhancing the condition of the diverse mosaic of communities in order to promote the viability of the plant, animal, and other species that they support.

The Department conducted a site-specific vegetation classification and mapping project for the entire CPER as part of the Vegetation Classification and Mapping Program (VegCAMP). Working with the California Native Plant Society as well as other Department staff including biologists with the Resource Assessment Program, VegCAMP biologists collected data at 379 sites located throughout the CPER between 2005 and 2008. Data were collected following the Rapid Assessment Protocol utilized for floristic-based vegetation classification.

To inform management as part of the LMP, the 57 mapped vegetation types were categorized into ten elements (Table 4). These groups include systems that support similar animal species assemblages, and will generally require similar management and respond similarly to management, owing to similarities in the ecology of the plant species and disturbance ecology. These vegetation elements were created to facilitate

the design of ecosystem and multi-species oriented management objectives used for the Department's lands including ecological reserves.

Table 4 -- Vegetation Elements of the CPER (acres)

Element	American	North Chimineas	South Chimineas	Elkhorn	Panorama	Total	Percent
Grassland	5,962	7,413	5,334	119	2,478	21,306	54.70%
Desert Scrub	123	785	3,456	45	363	4,772	12.25%
Coastal Scrub	103	1,522	2,992	1	7	4,625	11.87%
Oak Woodland		2,772	775			3,547	9.11%
Juniper Woodland	2	1,550	1,484			3,037	7.80%
Chaparral		1,133	117			1,250	3.21%
Riparian and Riverine	1	28	230			259	0.66%
Wetland	85	15	6			106	0.27%
Cliffs and Rocks	7	2	1			10	0.03%
Ponds		7				7	0.02%
Other	7	14	12			32	<1%
Grand Total	**6,290**	**15,241**	**14,409**	**166**	**2,848**	**38,953**	**100.0%**

Source: Jodi McGraw Consulting, 2012

Animal Species

The CPER supports a diverse assemblage of native animal species, which reflects the Reserve's biogeography as well as the diversity and relative intact nature of the habitat conditions it features. As of September, 2012, the Reserve is known to support at least 287 species of vertebrates, including 7 fish, 6 amphibians, 25 reptiles, 194 birds, and 55 mammals (R. Stafford, unpublished data). Though less information is available about invertebrate species, their richness likely reflects the diversity of biogeographic influences, plant species, and communities within the Reserve.

To facilitate the design and implementation of effective management of this large landscape-level reserve, the Department's wildlife biologists ranked the abundance of vertebrate species within each of the ten vegetation elements of the Reserve. For each element, a list of characteristic animal species was identified by multiplying the species relative abundance within that element (the score within the element divided by the total score for all elements) by the score within the element. This approach identified species

that are both common within a community and for which the community represents an important habitat type for them. These species can serve as indicators for monitoring conditions of the habitat types and evaluation of management effects.

Special-Status Plant and Animal Species

The CPER supports occurrences of numerous rare plant and animal species. These include species that have been listed as threatened, endangered, or of other special status under one or more of the following:

- **Federal Endangered Species Act**: listed or proposed for listing as threatened or endangered
- **California Endangered Species Act**: listed or candidates for listing
- **Fully Protected Species**: listed under California Fish and Game Code
- **Species of Special Concern**: species of special concern on the special animals list (DFG 2012)
- **Species of Conservation Concern**: species identified by the UFWS as being of conservation concern.
- **CNPS**: plants that are rare, threatened or endangered in California (Lists 1B and 2);
- **Western Bat Working Group**: species ranked as 'high' on the Regional Priority Matrix.
- **CEQA**: other species that meet the definition of rare or endangered under CEQA, including those are not listed but known to be very rare or declining.

A complete listing will be included as part of the environmental setting for biological resources provided in the EIR.

Livestock Grazing

As discussed in the Environmental Baseline Conditions section of this initial study, land within much of the Chimineas units was operated as a cattle ranch for well over 100 years prior to acquisition by the Department. Land within the unit was Federal property until 1883 when it was part of a 20,000-acre purchase by J. H. Hollister and Frederick Adams that created the Chimineas Ranch. The ranch was named for the remains of an old hearth and chimney located at the ranch headquarters (Mike Post pers com). By 1888 the Chimineas Adobe, which is part of the present-day Chimineas Unit Headquarters house, was erected. In the late 1800s, the Reis family acquired the Chimineas Ranch and held it until the 1930s, when it was purchased by Claude Arnold. The Arnold family expanded the ranch until 1972 when it was sold to the Robertson family from Texas. In 1999 the Robertson family sold the Chimineas Ranch to Dr. Neil Dow, who renovated the ranch house and operated the cattle ranch.

Livestock grazing has been one of the primary land uses on the Chimineas Ranch since at least the 1860s. Exact figures on the number of cattle using the ranch are unavailable for the early years. However, beginning in the 1940s and up until 1995, the base operation was reported to be between 1,000 and 1,200 cattle year round (Ross Nyswonger pers com). These estimates of the historic size of the base herd appear to be conservative since records for the entire 55,000 acre Chimineas Ranch and associated documents from the 1940s through 1970 indicate from 1,150 to "several thousand" head of cattle were kept on the ranch each year during this period (Mike Post pers com). Additionally, the ranch was advertised as being able to carry 1,500 cows on an average year when it sold in 1998. Most recently, the current lessee, Dr. Neil Dow, had a herd of around 600 animals prior to acquisition of the two portions of the ranch by the Department in 1999 and 2004

Since acquiring the Chimineas units beginning in 2002 (southern 14,314 acres) and 2004 (northern 15,882 acres), the Department has continued to graze those portions of the Chimineas units which were utilized by livestock at the time of DFG acquisition in order to maintain habitat conditions that support several rare and endangered species for which the property was acquired, including San Joaquin kit fox and burrowing owl. The Department has installed fences to exclude cattle from sensitive communities, including the riparian systems and ponds within the San Juan Creek drainage. The Department has also conducted a suite of other management activities to promote wildlife including installation of additional water sources (e.g. ponds and troughs) that support wildlife including tule elk and deer.

Grazing management within the CPER is designed to achieve many of the biological goals and objectives of the LMP, as described in a November 2011 lease agreement which was subject to environmental review and approved following a mitigated negative declaration by the Department. The current lease allows a base herd of 350 head of livestock (assuming federal grazing leases remain in good standing) and a maximum of 450 head of livestock to be on the leased area at any given time. This represents less intensive grazing compared to prior leases between the Department and lessee, Dr. Dow, which permitted between 460 and 590 (average 536) cattle to graze the property between 2005 and 2011.

The maximum number of animal unit months ("AUM") to be available on an annual basis from the leased area (California Department of Fish and Game 2011) was designed to achieve conservative to moderate intensity grazing based on the carrying capacity of the premises derived from the work of Mr. Keith Gunther, a certified range manager, who prepared high and low estimates for individual management units in 2006. Mr. Gunther has extensive experience evaluating rangelands in this area. In deriving high and low estimates of the carrying capacity for each management unit on the areas to be grazed, Mr. Gunther utilized a combination of factors consistent with accepted range management practices, including:

- goal for vegetation management
- distance to water
- management ability
- livestock class/type to be grazed
- condition of the range
- percentage of area within each vegetation type
- slope of unit
- estimates of historic livestock numbers on the premises

The standard for the maximum number of AUMs (3,600) available on the property was the mid-point between the low and high estimates for those management units to be grazed as part of the lease. Mr. Gunther further concluded that his estimates, which were based on the goal for vegetation management, were 20-50% below what could be supported by the forage available. He also indicated that the number of AUMs would need to be increased for those units to be managed for burrowing owl habitat. Limitations on the number of livestock and the maximum number of Animal Unit Months included in the Lease Agreement were chosen to best achieve the goals of avoiding impacts to sensitive plants and animals from grazing.

Standards for biomass and residual dry matter ("RDM") set forth in the lease agreement were derived from the habitat types present in a particular management unit and the specific management objectives for those habitats as described in Table 2 of Exhibit B of the draft Lease Agreement. As required by Section 7 of the draft Lease Agreement, livestock will be used to maintain or improve habitat on a subset of management units. As discussed in Exhibit B, specific resources to be managed include short grasslands, upland game, and blue oak and juniper woodlands. In order to maintain a diversity of habitat structure within each vegetative community, only a portion of the lands within any particular community type will be grazed.

Conclusions

a), b) Potentially Significant Impact. The recommended management actions of the draft LMP are expected to have a beneficial impact on plants, animals, and natural communities. As described in the Project description, the draft LMP management strategies are being developed based upon the principles of conservation biology and previous and ongoing research, and will be implemented through an adaptive management framework, which together are designed to promote their effectiveness at protecting the biological resources.

Management actions in the draft LMP could recommend that the Department evaluate the reintroduction of native species where doing so will promote their populations. The reintroduction or augmentation of native plants and animals is expected to have a beneficial impact by helping to achieve and maintain a more robust assemblage of native species.

The recommended management actions of the draft LMP are expected to result in beneficial impacts to the species listed in the *Recovery Plan for the San Joaquin Valley Upland Species*, which include San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat and others found on the CPER. In addition, implementation of these actions would provide beneficial impacts to many other wildlife and plant species that inhabit open upland habitats typical of the San Joaquin Valley. Lastly, the management actions recommended by the LMP are expected to benefit pond and wetland habitats on the CPER which support many special-status species. Management objectives aimed at maintaining viable populations, improving habitat, protecting and maintaining habitat structural diversity, protecting riparian habitat, and the conduct of research are expected to have major beneficial impacts to many wildlife species within the CPER.

Vegetation Management

Livestock Grazing

Grazing is expected to benefit native plant communities by helping to remove competition associated with non-native species. The preparation of a grazing management plan, as may be recommended by the draft LMP, will result in the more precise use of grazing as a vegetation management tool, thus minimizing the impacts of grazing on native vegetation.

Potential impacts to wildlife from grazing activities are both direct and indirect. In general, cattle impact wildlife indirectly by modifying the habitat on which wildlife depends for food, shelter, and cover. In areas where livestock congregate, cattle may modify habitat by disrupting soils and soil crusts, or by damaging vegetation at water sources. Soils may be impacted through hoof shearing and by soil compaction. Vegetation may be removed by trampling, overgrazing, and by literally being pulled out of the ground. There is also soil compaction along cattle trails.

In addition, grazing activities may adversely impact sensitive plant species by livestock directly feeding on the plants or by mechanically damaging them with their hooves as they move through an area. Sensitive plants are most sensitive to these impacts when they are in flower or fruit (i.e. producing seeds). The impact of cattle grazing on biological resources within the reserve will be assessed in the EIR.

Fire Management

The CPER contains plant communities that are fire tolerant as well as those that are fire intolerant. Since the effects of fire on wildlife depends on the food and cover requirements of a particular species, the effects of wildfire on biological resources can be both beneficial and adverse.

The application of prescribed fire is anticipated to have long-term benefits for communities since it will be designed and implemented to attain specific objectives to promote the populations and communities of the CPER. Fire management may be used to control nonnative grass cover or to create a more diverse assemblage of seral (successional) stages.

Nonetheless, prescribed burns have the potential to adversely impact sensitive species and their habitat and will be evaluated further in the EIR.

Control of Exotic Species

The control of non-native species by hand or mechanical methods would have negligible affects on native plant and animal species. Projects would be designed and timed to avoid direct impacts during nesting/reproduction when possible. Important habitat features would be avoided to the maximum extent practicable. Some individual native and/or special status plants may be killed by restoration pre-treatment actions involving the continued use of herbicides, but overall there is expected to be an increase in native plant populations.

Recreation Activities

The installation of signage, trails and wildlife viewing platforms would have negligible impacts on wildlife and native plants. Direct impacts would be localized and positioned to avoid impacts to sensitive resources and are therefore unlikely to adversely impact plant or animal populations. Greater recreational activities near upgraded facilities would have wider-reaching indirect effects, such as additional noise; however, these are not anticipated to affect wildlife populations.

With regard to hunting, after July 2008, the use of lead ammunition for hunting large animals, coyotes and ground squirrels has been prohibited by the Ridley-Tree Condor Preservation Act. Therefore, the risk of lead exposure from hunting activities is expected to be minor.

Management actions that may be recommended by the draft LMP aimed at fostering an appreciation of the natural resources of the Reserve are anticipated to benefit vegetation, as would education to combat destructive human behavior. Potential visitor impacts to vegetation generally include trampling, picking, or other destruction of vegetation. Establishing trails should help protect vegetation by directing visitor impacts away from sensitive resources. Access to areas sometimes invites illegal activities such as off-road vehicular travel.

c) Potentially Significant Impact. The CPER contains wetlands as defined by Section 404 of the Clean Water Act as well as riparian resources. The majority of these areas have been fenced to exclude livestock grazing, while allowing access by native species. However, certain surface water sources in areas subject to grazing have been left un-fenced to allow access by wildlife including tule elk, and to maintain open conditions desired by native species including western spadefoot toad and many bats. These areas may be adversely impacted by grazing and will be evaluated further in the EIR.

d) Less Than Significant Impact. The control of exotic species and other management activities that may be recommended by the draft LMP are expected to have a beneficial impact on resident or migratory species. Impacts on surface water quality are discussed

in Section 8., Hydrology and Water Quality. All fences throughout the Reserve are designed to be permeable to wildlife; therefore, movement through the CPER is not impeded.

e) Less Than Significant Impact. Consistency with adopted plans and policies relating to the management of sensitive species is discussed in Section 9., Land Use and Planning.

f) No Impact. There are no adopted habitat conservation plans governing the CPER. However, consistency with the Recovery Plan for the San Joaquin Valley Upland Species is discussed in Section 9, Land Use and Planning.

5. Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion

The CPER has not been systematically surveyed for archaeological sites and other historical resources. A limited amount of systematic surveying has occurred within the American Unit as a result of studies on the Carrizo Plain National Monument. In 2008, the California State University, Bakersfield, Center for Archaeological Research (CAR) conducted a reconnaissance of the Chimineas units, primarily focused on recording known historical locales (Orfila and Draucker 2008). ASM Affiliates, Inc., conducted a second reconnaissance of the Chimineas units in 2009, emphasizing additional known but unrecorded prehistoric sites (Whitley 2010). These data were used to develop a predictive model for site locations, which identified areas of relative archaeological sensitivity. The intent was for this analysis to be used for advanced planning purposes.

No archaeological sites are known on the Panorama and Elkhorn units. No archaeological surveys have been conducted on the Panorama or Elkhorn units, and no sites have been previously recorded in either unit. Systematic surveys of surrounding areas within the CPNM have failed to result in the discovery of sites (Whitley 2003, 2004, 2007) however, suggesting that archaeological sensitivity in these areas is low.

Twenty-two archaeological sites are known within the Chimineas units. These include 12 prehistoric villages, camps, pictographs, and lithic workshops, five bedrock mortar (BRM) stations, and one isolated artifact, as well as five historical sites/site components. Some of the sites include both prehistoric and historical components. All but two sites appear to be in good condition. The draft Lease Agreement specifically excludes areas to be grazed where significant archaeological sites have been found or are discovered in the future.

No built environment or structures inventory has been completed for any of the units within the CPER, and it is not known whether any buildings that would qualify as historical resources are present. The main house at the Chimineas Unit Headquarters has apparently been built around a nineteenth century adobe, but the architectural fabric of that historical structure is now entirely masked by the extensive remodeling and upgrades that occurred in the 1990s, prior to the Department's acquisition.

Conclusions

a) b), Potentially Significant Impact. The draft LMP may recommend a range of adaptive management strategies that include vegetation management, managed grazing, fire management, actions to remove exotic and invasive species and restoration activities which have the potential to adversely impact cultural resources. In addition, the construction of additional facilities, such as the extension of water lines, the placement of water tanks, the construction of trails, and wildlife corridors, each have the potential to adversely impact cultural resources. Lastly, routine and ongoing maintenance activities, such as road maintenance and fire fighting, have the potential to adversely impact cultural resources.

According to a survey of cultural and historic resources prepared for the Chimineas units, the existing ranch house has been so significantly altered over the years as to preclude its inclusion on the Register of Historic Places.

c) Potentially Significant Impact. Although no previously identified unique paleontological resources or sites or unique geological features have been identified on the Reserve, paleo deposits do exist at several locations. Management activities associated with the draft LMP could adversely impact these resources.

d) Potentially Significant Impact. Previous archaeological investigations of the CPER (Whitley 2010) suggest the potential for human remains to be discovered in at least one previously-documented site on the CPER. Management actions recommended by the draft LMP could adversely impact previously undiscovered human remains.

6. Geology And Soils

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. 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 California Geological Survey Special Publication 42.)	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) 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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) 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?	☐	☐	☐	☒

Conclusions

Soils of the Carrizo Plain and surrounding regions are highly variable due in part the distinctly different parent materials brought together at the confluence of the Pacific and North American plates (BLM 2010). Soils within the CPER were classified and mapped as part of three separate soil surveys:

1. Eastern San Luis Obispo County (Oster and Vinso 2003): covers 33,818 acres (85.4%) of the CPER including all of the American, Panorama, and Elkhorn units and all but the southern and western portions of the Chimineas units.

2. Northern Santa Barbara Area (Shipman 1972): covers 12% of the CPER in the South Chimineas Unit.

3. Los Padres National Forest (O'Hare and Hallock 1980): covers 2.6% of the CPER, on the western side of the Chimineas units.

Following the organizational scheme used in a soil survey conducted in and around the Carrizo Plain (Oster and Vinso 2003), soils of the CPER can be classified into three general soil map units: soils on the valley floor, soils on alluvial flats, alluvial fans, flood plains, and terraces, and soils on hills and mountains. Soils on the valley floor account for about 529 acres or just over 1% of the total area of the CPER. They account for 13% of the Panorama Unit, 2% of the American Unit, and are essentially unrepresented in the Elkhorn and Chimineas units. Soils on alluvial flats, alluvial fans, flood plains, and terraces account for roughly 7,188 acres, or 18% of the CPER, and cover 93% of the Elkhorn Unit, 78% of the Panorama Unit, 23% of the American Unit, and 11% of the Chimineas units. Soils on hills and mountains account for 30,372 acres or just under 77% of the total area of the CPER. These soils make up the vast majority of the area within the Chimineas (84%) and American (75%) units but represent. only about 10% of both the Elkhorn and Panorama units (Table 5).

According to the US Department of Agriculture, Natural Resource Conservation Service, soils on the CPER have a low to moderate susceptibility to erosion as summarized on Table 7.

Table 5 -- Dominant Soil Types of the Carrizo Plain Ecological Reserve										
Soil Type	**America**		**Chimineas Units**		**Elkhorn**		**Panorama**		**CPER (Total)**	
	Acres	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
Alluvial Soils	1,468.5	23.2	3,319.2	11.0	149.3	93.0	2,251.6	77.7	7,188.6	18.2
Bolson Floor	136.0	2.1	8.3	0.0			384.4	13.3	528.6	1.3
Hills and Mountains	4,736.5	74.7	25,363.3	84.0	11.3	7.0	261.7	9.0	30,372.8	76.7
Subtotal Unclassified			1,506.7	5.0					1,506.7	3.8
Total	**6,341.0**		**30,197.5**		**160.6**		**2,897.7**		**39,596.8**	**100.0**
Source: Jodi McGraw Consulting, 2012										

Table 6 -- Dominant Soils Of The CPER And Their Susceptibility to Erosion

Soils	Acres	Percent Of CPER	Characteristics	Susceptibility to Erosion	
				K Factor[4]	Susceptibility
Beam-Panoza-Hillbrick complex	7,295.3	18.4%	Fine, sandy loam soils derived from the weathering of soft, calcareous shale, conglomerate, or sandstone	0.28	Low/Moderate
Seaback-Panoza-Jenks complex	3,653.9	9.2%	Loam soils	0.28	Low/Moderate
Tajea-Saltos	2,854	7.2%	Very shallow to moderately deep, well drained, loam, clay loam and sandy clay loam soils found on moderate to very steep slopes	0.21	Low/Moderate
San Timoteo-San Andreas-Bellyspring	2,561	6.5%	Moderately deep, well drained sandy loam soils formed from weathered sedimentary rocks	0.26	Low/Moderate
Panoza-Beam complex	2,307	5.8%	Well drained residuum weathered from sandstone, shale, or conglomerate	0.24	Low/Moderate
Shedd silty clay loam	1,749.3	4.4%		0.28	Low/Moderate
Gaviota-Saltos-Rock outcrop	1,461	3.7%	Well drained residuum weathered from sandstone, shale, or conglomerate	0.28	Low/Moderate
Aido clay	1,454.3	3.7	Well drained residuum weathered from calcareous shale or fine-grained sandstone	0.17	Low
Padres sand loam	1,314.1	3.3%	Very deep, well drained alluvial material from sedimentary rocks	0.28	Low/Moderate
Polonio clay loam	1,197.7	3.0%	Very deep, well drained alluvial material from calcareous sedimentary rocks	0.24	Low/Moderate
Chicote complex	466.2	1.2%	Moderately well drained alluvium derived from sedimentary rocks and lacustrine sediments	0.43	Moderate/High
Sub-Total:	26,314	62.7%			
Various[5]	13,186	37.3%	Various		
Total:	39,500	100%			

Source:

1. Eastern San Luis Obispo County (Oster and Vinso 2003): covers 33,818 acres (85.4%) of the CPER including all of the American, Panorama, and Elkhorn units and all but the southern and western portions of the Chimineas units.
2. Northern Santa Barbara Area (Shipman 1972): covers 12% of the CPER in the South Chimineas Unit.
3. Los Padres National Forest (O'Hare and Hallock 1980): covers 2.6% of the CPER, on the western side of the Chimineas Unit.
4. Natural Resources Conservation Service, Soil Survey of San Luis Obispo County Carrizo Plain Area, Table 16. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.
5. Various soils comprising less than 1% of the CPER.

a) c), d), e) No Impact. It is unlikely that the draft LMP will authorize the construction of structures which in turn would result in the exposure of people or property to an increased risk from seismic activity, landslides or unstable or expansive soils**.** No additional septic tanks or wastewater disposal facilities are required to implement the draft LMP. Future development will be subject to prior approval of the Department and consistent with applicable building and fire codes which will reduce potential impacts associated with seismic risk to a less than significant level.

b) Potentially Significant Impact. Certain management actions may have short-term, localized effects involving some erosion and/or soil loss or loss of soil productivity. For example, management actions that reduce vegetative cover may expose soil to localized short-term erosion in the treated area, and, if heavy equipment is used, soil would undergo some localized compaction which could slow vegetation re-growth and lead to longer-term erosion.

Certain secondary effects of management actions could result in adverse impacts on soils. For example, encouraging giant kangaroo rat populations to thrive could also promote the soil disturbance from vegetation clipping in which they naturally engage.

Fire, especially wildfire, has the potential to create major, widespread, long-term negative impacts to soils. It can impact physical, chemical, hydrological, and microbial properties of soil, expose soil to accelerated erosion by destroying soil-holding vegetation in the short term, and change or destroy fire intolerant plant communities in the long term. Fire suppression activities such as construction of fire lines (removing a swath of vegetation to limit the spread of a wildfire) can also impact soils via exposure to erosion, disturbance, and compaction if heavy equipment is used.

Potential impacts of livestock grazing on soil health include effects of reducing vegetative cover that helps protect soil from erosion; and effects of trampling that can result if domestic livestock are heavier, more numerous, and/or differently distributed than animals native to the ecosystem, including soil compaction, breakdown of sensitive landforms such as stream banks, and destruction of biological soil crusts.

Recreation use levels are currently relatively low and are not expected to increase substantially over current levels through the timeframe of the draft LMP. Recreational uses allowed in the CPER, such as hiking and travel on designated roads, have the potential to create negligible to moderate localized disturbance and compaction impacts to soils and biological soil crusts.

Impacts associated with soil erosion will be further analyzed in the EIR.

7. Hazards And Hazardous Materials

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**Hazards and Hazardous Materials. Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	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?	☐	☐	☐	☒
e)	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?	☐	☐	☐	☒
f)	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?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) 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?	☒	☐	☐	☐

Discussion

No landfills or other hazardous waste sites are known to occur on public lands in the CPER. Currently, the volume of hazardous waste generated in the CPER does not exceed the threshold allowed for a conditionally exempt small quantity generator[6]. The small volume of hazardous waste that is generated at the CPER will be recycled or disposed through San Luis Obispo County's or Kern County's Small Quantity Generator Program. The hazardous waste stream consists of used motor oil and occasional expired or obsolete hazardous materials such as paint, solvents, pesticides and herbicides.

Emergency response responsibilities for the CPER are shared among the Department, San Luis Obispo County Sheriff and County Fire, the State of California (Highway Patrol and Division of Forestry), and the federal government (Bureau of Land Management and US Forest Service).

Conclusions

a), b) Less Than Significant Impact. Some of the management activities that may be recommended by the draft LMP, such as vegetation management and routine maintenance of CPER facilities, could involve the use, transport and storage of small amounts of hazardous materials such as gasoline, paint, solvents, batteries, and lubricants, as well as pesticides and herbicides.

The use of hazardous materials is regulated by the Department of Toxic Substances Control (DTSC) (22 Cal. Code of Regulations Section 66001, et seq.). The use, storage, and transport of hazardous materials on the CPER is required to be in compliance with local, state, and federal regulations. The use of hazardous materials on the CPER may

[6] Small Quantity Generators (SQG) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

require the issuance of one ore more permits and compliance with appropriate regulatory agency standards designed to avoid hazardous waste releases. The small quantity of hazardous materials used and stored on the CPER, along with compliance with the relevant permitting requirements of federal, state and local agencies, will ensure that impacts associated with an accidental release of hazardous materials are less than significant.

c) No Impact. There are no schools within the CPER and none are proposed.

d) No Impact. The State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by state and local agencies and developers to comply with the siting requirements prescribed by federal, State, and local regulations relating to hazardous materials sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal-EPA) to annually update the Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list. DTSC's Site Mitigation and Brownfields Reuse Program EnviroStor database provides DTSC's component of Cortese List data by identifying State Response and/or Federal Superfund and backlog sites listed under Health and Safety Code Section 25356. In addition, DTSC's Cortese List includes Certified with Operation and Maintenance sites. A search of the Cortese database conducted in August, 2012 revealed no active sites within the CPER.

e), f) No Impact. There are no public or private airports within two miles of the CPER. The nearest airport to the CPER is the New Cuyama Airport located about one mile south of SR 166 in the unincorporated community of New Cuyama. New Cuyama Airport is privately owned and operated but open to the public. Based on the project description, the adoption of the draft LMP would have no impact on the safety of the airport or the safety of persons residing or working on the CPER.

g) Less Than Significant Impact. The 2008 San Luis Obispo County Emergency Operations Plan (EOP) outlines the responsibilities of federal, State and local governments in the event of an emergency in the County. The EOP identifies the Department as a supporting agency with respect to emergency response. There are no other emergency response plans governing lands within the CPER or surrounding land. The draft LMP is being prepared to be consistent with, and to complement, the EOP.

h) Potentially Significant Impact. The CPER is located in a region where wildfires have occurred periodically. Due to the proximity to human development and thus threat to lives and property, fire protection agencies responsible for land within the CPER will continue to actively suppress wildfires.

Within the CPER, fire plays an important role in creating the diverse mosaic of communities of various successional (seral) stages, and thus greatly contributes to the Reserve's native species diversity. Accordingly, the draft LMP may recommend the use

of prescribed burning to promote the growth of native vegetation, to control the spread of non-native vegetation and to help manage the fire fuel load on the Reserve. Although prescribed burning can be an effective landscape-level vegetation management tool, the inherent uncertainties associated with predicting the weather and the behavior of fire behavior result in a prescribed burn spreading beyond the boundaries of the Reserve posing a risk to people and property.

In addition, certain management activities (e.g. installation of fencing and signage, vegetation management) that involve the use of mechanical equipment would have the potential for increasing wildfire hazard.

Potential safety impacts associated with wildfires and prescribed burning will be further analyzed in the EIR.

8. Hydrology And Water Quality

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**Hydrology and Water Quality. Would the project:**				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b)	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 that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	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 on- or off-site erosion or siltation?	☒	☐	☐	☐
d)	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 on- or off-site flooding?	☒	☐	☐	☐
e)	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?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☒	☐	☐	☐

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) 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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion/Conclusions

a) No Impact. The draft LMP is unlikely to authorize the construction of new or expanded wastewater disposal systems and would therefore have no impact relating to wastewater discharge requirements.

b) Less Than Significant. As discussed in the Project Description, the draft LMP is unlikely to authorize irrigated agricultural or other water-intensive activities or additional structures or facilities that would substantially increase water demand. No new or expanded wells are proposed. Section 16, Utilities and Services Systems, discusses potential impacts related to groundwater and water supplies and concludes that project impacts will be less than significant.

c) Potentially Significant Impact. The CPER contains more than 100 miles of drainages including two perennial streams, the Cuyama River and San Juan Creek, which currently support 259 acres of riparian communities. Riparian and riverine communities within the CPER have been impacted by previous hydrologic modifications, including the installation of dams; historic land uses including farming and grazing; the invasion and spread of non-native plants such as tamarisk; and the impacts of non-native animals, including predatory fish and wild pigs. As discussed in Section 6, Geology and Soils, certain actions that may be recommended by the draft LMP could result in significant impacts relating to erosion, which in turn could adversely impact water quality. Potential impacts to surface water quality will be further analyzed in the EIR.

d) No Impact. The draft LMP is unlikely to recommend management actions that would substantially alter the existing drainage pattern of any of the drainages of the CPER or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding.

e) Less Than Significant Impact. Adoption of the draft LMP is not likely to authorize the development of facilities or other improvements that would significantly increase the volume or velocity of surface runoff affecting local drainages. All weather surfaces for roads would be permeable. Future construction would be subject to applicable building codes as well as project-specific environmental review.

f) Potentially Significant Impact. As discussed in Section 6, Geology and Soils, soils associated with the CPER have low to moderate susceptibility to erosion. Nonetheless, managed livestock grazing has the potential to result in soil erosion, which in turn could adversely impact surface water quality in areas where cattle congregate.

As described in the Project Description, most surface water bodies within the CPER have been fenced to exclude livestock. Where and when livestock have access to surface water, potential impacts on water resources include fecal contamination; reducing vegetative cover that helps protect soil from erosion into the water source; soil compaction that can impact hydrologic function, including absorption of water and timely recharge of springs and streams; and direct breakdown of spring or stream banks by trampling. Similar but less direct impacts can affect water via runoff from nearby uplands.

Soil erosion and associated surface water quality degradation could be exacerbated if overgrazing occurs in one or more of the grazing management units.

Fire has the potential to create generally short-term negative impacts to water quality when ash, eroded soil from newly-exposed lands, and other materials enter surface water.

Potential impacts to surface water quality will be further analyzed in the EIR.

g), h), i), j), No impact. Based on the Project description and the setting discussed above, the draft LMP is not likely to authorize any activities that would:

- Place housing within a 100-year floodplain;
- Place structures within a 100-year flood area that would impede or redirect flood flows;
- Expose people or property to risks associated with flooding or dam failure; or
- Result in inundation by seche, tsunami or mudflow.

9. Land Use And Planning

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion/Conclusions

a), No impact. As discussed in the Project description, the draft LMP does not have the potential to physically divide a community.

b), Less Than Significant Impact. The San Luis Obispo County General Plan designates the CPER as *Recreation* and *Rural Lands*. Management actions such as those that may be recommended by the draft LMP are allowed in these land use categories. However, properties owned and managed by the State of California are not subject to local land use regulations.

The draft LMP is being developed through careful consideration of local, state, and federal provisions and management plans, including relevant provisions of the California Fish and Game Code, the California Wildlife Action Plan, the Management Plan for the Carrizo National Monument, the Land Management Plan for the Los Padres National Forest, the Caliente Resource Area Resource Management Plan and the Recovery Plan for Upland Species of the San Joaquin Valley, California. Accordingly, the draft LMP will be consistent with the provisions in these plans and policies.

c), No impact. There are no adopted habitat conservation plans or natural community conservation plans governing lands within the CPER.

10. Mineral Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Mineral Resources. Would the project:				
a) 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?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒

Discussion/Conclusion

a), b) No Impact. Based on the Project description, the draft LMP will not result in the loss of known mineral resources or the loss of locally important mineral resources. Accordingly, adoption of the draft LMP will have no impact on existing mineral resources.

11. Noise

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**Noise. Would the project:**				
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☒	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e)	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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion/Conclusions

a), b), c) d), Less Than Significant Impact. Management actions that may be recommended by the draft LMP could result in the temporary generation of increased noise levels and vibration in areas where construction tools and/or machinery are being

used and where hunting is allowed. These impacts would be temporary, localized and (in the case of hunting) seasonal in nature. Considering the absence of sensitive receptors such as housing, schools, and hospitals within the CPER, temporary impacts associated with implementation of management actions is considered less than significant.

As discussed in the project description, research and recreation activities are expected to increase slightly over present levels following adoption of the draft LMP which in turn will permanently increase ambient noise levels on the Reserve. However, the slight increase in activities on the Reserve is not expected to adversely impact the currently very low ambient noise levels.

According to the Noise Pollution Clearinghouse, sources of noise that have the potential to effect wildlife include aircraft overflights, recreational activities such as hunting, automobile traffic, and heavy machinery and equipment. These or other temporary localized noise associated with management activities could result in a temporary adverse impact to wildlife. However, given the localized and temporary nature of these impacts, their effect on wildlife is expected to be less than significant. In addition, future construction activities will in turn be subject to project-specific environmental review in which site-specific analysis will determine the effects of noise on wildlife.

e), f) No Impact. There are no airstrips on the CPER; the nearest airstrip is the New Cuyama Airport located about one mile south of SR 166 in the community of New Cuyama, which is more than two miles outside the CPER boundary. The Santa Barbara County Airport Land Use Plan does not cover the New Cuyama Airport.

12. Population And Housing

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Population, and Housing. Would the project:				
a) Induce substantial population growth in an area?	☐	☐	☐	☒
b) Displace substantial numbers of existing homes?	☐	☐	☐	☒
c) Displace substantial numbers of people?	☐	☐	☐	☒

Discussion/Conclusions

a), b), c) No impact. Based on the project description, adoption and implementation of the draft LMP would not involve the construction of additional housing, nor would it induce growth by the provision of new infrastructure or by the removal of any barriers to growth. Implementation of some of the management actions may require a minimal addition of staff hours, but this would not require the construction of new housing or the relocation of personnel. Accordingly, adoption and implementation of the draft LMP would have no impact on population or housing.

13. Public Services

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Public Services Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☒	☐	☐	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☐

a) Less Than Significant Impact -- Police Protection. As discussed in the Project Description, public use of the Reserve is expected to increase slightly in part as a response to implementation of the actions that may be recommended by the draft LMP. Increased public use, along with increased management activities will result in a slight increase in the demand for medical emergencies and law enforcement. Given the small incremental increase in the use of the Reserve, the increased demand for police protection and emergency services is expected to be correspondingly slight and less than significant. The hazards posed by wildfire are discussed in Section 7. Hazards and Hazardous Materials.

All new construction associated with implementation of the draft LMP will be subject to the access, construction and fire suppression requirements of the California Fire Code.

The increase in traffic (see Section 15, Transportation/Traffic) and visitation to the Reserve is not expected to require law enforcement staffing or equipment beyond current levels.

a) Potentially Significant Impact – Fire Protection. The draft LMP may recommend the use of prescribed burning as a vegetation management tool. Prescribed burning by definition involves setting controlled fires that are designed and managed by fire fighting/fire management professionals. The use of prescribed burning on the Reserve could result in an increase in the demand for fire protection services. The potential increased demand for fire protection services will be analyzed in the EIR. The risk/hazard associated with wildfires is discussed under Section 7 Hazards and Hazardous Materials.

a.) No Impact – Schools and Parks. Based on the project description, the draft LMP will not authorize the construction of additional residences that would generate increased demand for public schools or neighborhood or regional parks. (See also Section 14., Recreation.)

14. Recreation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐

Discussion/Conclusions

a) b) Less Than Significant Impact. One of the main objectives of the CPER is to provide for wildlife-dependent public access that is compatible with the other management goals for the Reserve. The draft LMP may recommend management actions to facilitate recreational use of the Reserve for hunting, hiking, and other allowable day-use activities consistent with the objectives for the protection and enhancement of biological resources. Accordingly, adoption of the draft LMP is expected to have a positive impact on recreational opportunities locally and regionally. Public use will be managed to complement the management objectives for the Reserve.

As discussed in the project description, adoption of the draft LMP is expected to result in a slight increase in recreation visitation which in turn could result in a correspondingly slight increase in vandalism, nuisance abatement such as trash removal, and the harassment of wildlife. Given the low number of visitors at present and the slight increase expected following adoption of the draft LMP, these impacts are expected to be less than significant.

15. Transportation/Traffic

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**Transportation/Traffic. Would the project:**				
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b)	Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c)	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?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e)	Result in inadequate emergency access?		☐	☒	☐
f)	Result in inadequate parking capacity?	☐	☐	☒	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion/Conclusions

a), b) Less Than Significant Impact. Table 7 provides a summary of existing traffic volumes and level of service (a measure of traffic volume to capacity, with LOS A being free flow conditions and LOS F being gridlock) for roadways serving the CPER. As shown in Table 8, all of the roadway segments serving the CPER are operating at Level of Service A, free-flow conditions.

The County of San Luis Obispo level of service (LOS) standard is LOS D or better in urban areas and LOS C or better in rural areas. All County maintained roads are subject to County LOS standards. Significant impacts to San Luis Obispo County roadways are defined to occur when: a) The addition of project traffic causes roadway operations to degrade from an acceptable level to an unacceptable level, or b) if project-related traffic is added to a roadway operating at an unacceptable level (i.e., LOS D or worse in rural areas, LOS E or worse in urban areas).

With regard to State highways, as stated in the Caltrans 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 166 and 58. The Transportation Concept Report (TCR) for SR 58 indicates that LOS D or better is considered acceptable for the segment from Pozo Road to the San Luis Obispo/Kern County Line and that LOS C or better is considered acceptable within Kern County. Based on these criteria, except for SR 58 between Pozo Road and the San Luis Obispo/Kern County Line, if a rural roadway or intersection operates at LOS D, E, or F, it is considered unacceptable.

Table 7 -- Existing Roadway Traffic Volumes and Levels of Service (LOS)

Roadway Segment	Configuration	Annual Average Daily Traffic	Peak Hour Volume	Level of Service
Highway 58: West of Shell Creek Road[1]	Two-lane Rural Highway	440	60	A
Soda Lake Road South of SR 58[2]	Two-Lane Rural County Road	202	25	A
SR 166 at Bell Road[3]	Two-Lane Rural Highway	3,600	620	A

Sources:

1. Wood Rogers, 2010, Table C.14-1, Final Environmental Impact Report for the Topaz Solar Project
2. San Luis Obispo County Traffic Counts, August 2008, http://www.slocounty.ca.gov/PW/Traffic/Traffic_Counts.htm
3. Caltrans, 2008

Current (2010) Levels of Service have been calculated for the roadway segments serving the CPER using methods documented in the Transportation Research Board (TRB) Publication Highway Capacity Manual, Fourth Edition, 2000 (HCM 2000). The average daily traffic (ADT) roadway segment LOS thresholds based on HCM 2000 methodologies are shown in Table 8.

Table 8 -- Level of Service Criteria for Roadway Segments

Roadway Segment	LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Rural Highway	2,400	4,800	7,900	13,500	22,900
2-Lane Expressway	12,000	14,000	16,000	18,000	20,000
4-Lane Expressway	24,000	28,000	32,000	36,000	40,000
2-Lane Arterial (no left turn lanes)	9,000	10,500	12,000	13,500	15,000
2-Lane Collector/Local Street	6,000	7,500	9,000	10,500	12,000

Source: Highway Capacity Manual, Fourth Edition, 2000

Table 9 provides a summary of the trip generation associated with the CPER at present (2012) and in the year 2032. Trips are seasonal (recreation, hunting, special events and grazing) and vary during the day. In addition, the headquarters building on the North Chimineas Unit hosts special events throughout the year for activities that include scientific seminars and meetings.

Table 9 assumes each of these activities is occurring simultaneously on a given day, and that no adjustments are made for overnight stays in which the trips are spread over two days. In practice, it would be rare for all of these trips to occur on a single day. As a result, the actual average daily trips are expected to be much lower for the Reserve on a typical day.

Table 9 -- Average Daily Trip Generation for the CPER		
Staffing/Use	**Estimated Average Daily Trips[1]**	
	2012	**2032**
DFG staff	5	5
Researchers	4	11
Grazing	1	2
Volunteers	2	3
Average Daily Recreation Use	2	3
Sub-Total Staffing, Maintenance and Recreation Use[1]	14	24
Special Events	30	30
Total Maximum ADT:	44	54
Source: DFG, 2012		

Following adoption of the draft LMP, average daily trip generation associated with the CPER is expected to increase as recreation and research activities increase over the timeframe of the draft LMP. The additional vehicle trips associated with adoption of the draft LMP are estimated to be about 10 trips per day. The distribution of trips is assumed to be 80 percent to the north through Soda Lake Road and SR 58, and 20 percent to the south to SR 166. Table 10 provides a summary of the resulting ADT for each of these roadway segments following adoption of the draft LMP.

Table 10 -- Future Average Daily Traffic and Levels of Service (LOS)					
Roadway Segment	**2010 Annual ADT[1,2,3]**	**2010 LOS [1,3]**	**Added ADT [4]**	**Resulting Annual ADT**	**Resulting LOS**
SR 58: West of Shell Creek Road[1]	440	A	8	448	A
Soda Lake Road South of SR 58[2]	202	A	8	210	A
SR 166 at Bell Road[3]	3,600	A	2	3,602	A

Sources:

1. Wood Rogers, 2010, Table C.14-1, Final Environmental Impact Report for the Topaz Solar Project
2. San Luis Obispo County Traffic Counts, August 2008, http://www.slocounty.ca.gov/PW/Traffic/Traffic_Counts.htm
3. Caltrans, 2008
4. A total of 10 trips divided 80% to the north and 20% to the south.

As Table 10 shows, the additional trips associated with the draft LMP would increase ADT on surrounding roadways by a fraction and the resulting LOS for each roadway will remain at LOS A. The very small number of additional trips are expected to have a less than significant impact on roadways and a less than cumulatively considerable impact on surrounding roadways.

Table 11 summarizes the resulting ADT for area roadways on days when a special event is being held. It should be noted that special events of 30 persons or more are currently being held at the Reserve about six times per year. However, following adoption of the LMP these events are expected to be held about once per month on a weekend. For purposes of providing a worse-case analysis, Table 12 assumes that all of the other activities associated with the Reserve that generate on-road motor vehicle trips (Table 10) are occurring. In addition, for purposes of this analysis, all of the special events trips are assumed to travel to the north of the headquarters building to Soda Lake Road and SR 58.

Table 11 -- Future Average Daily Traffic and Levels of Service (LOS) On Days With A Special Event

Roadway Segment	2010 Annual ADT[1,2,3]	2010 LOS [1,3]	Added ADT [4]	Resulting Annual ADT	Resulting LOS
SR 58: West of Shell Creek Road[1]	440	A	38	478	A
Soda Lake Road South of SR 58[2]	202	A	38	240	A
SR 166 at Bell Road[3]	3,600	A	32	3,632	A

Sources:

1. Wood Rogers, 2010, Table C.14-1, Final Environmental Impact Report for the Topaz Solar Project
2. San Luis Obispo County Traffic Counts, August 2008, http://www.slocounty.ca.gov/PW/Traffic/Traffic_Counts.htm
3. Caltrans, 2008
4. A total of 8 trips divided 80% to the north and 20% to the south, and 30 special event trips with 100% traveling to the north.

Tables 11 and 12 suggest that impacts to roadways are expected to continue to operate at LOS A following adoption of the draft LMP.

d) No Impact. The draft LMP is not likely to authorize the design or construction of new roadways that could result in safety hazards to the public.

e) Less Than Significant Impact. Emergency access to portions of the Reserve is restricted by the nature of the roadways. Emergency access to the Reserve is provided by State and County roadways; within the Reserve the roadways are unpaved and the terrain is difficult to access by fire-fighting and other emergency response vehicles. However, the draft LMP is not likely to recommend management actions that would adversely impact vehicular access for firefighting or other emergencies.

f) Less Than Significant Impact. Management activities associated with the draft LMP could generate an additional demand for parking by as many as 18 spaces per day. This additional demand can easily be accommodated by any unit of the Reserve. Parking associated with public access, interpretive displays or trails will be the subject of additional environmental review as needed.

16. Utilities And Service Systems

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**Utilities and Service Systems Would the project:**				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b)	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?	☐	☐	☒	☐
c)	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?	☐	☐	☐	☒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Wastewater and Solid Waste

The existing residences within the CPER are served by on-site septic systems. No additional wastewater facilities are proposed or necessary to implement the draft LMP.

Solid waste is collected by the Marburg Disposal Company and taken by truck to one of the three landfills in the County.

Water Supply

Potable water supply for the CPER is provided by groundwater. There are three groundwater basins underlying portions of the CPER as described below.

Carrizo Plain Groundwater Basin. The Carrizo Plain Groundwater Basin (Figure 5) is identified in California's Groundwater Bulletin 118 as Groundwater Basin Number 3-19 (DWR, 2003). The basin is 173,000 acres (270 square miles) in size and is situated between the Temblor Range to the east and the Caliente Range and San Juan Hills to the west. The basin has internal drainage to Soda Lake. The basin is also transected by the San Andreas fault. Annual precipitation in the basin ranges from 7 to 9 inches. Published hydrogeologic information for this basin is compiled from older reports and may not be representative of current conditions.

The groundwater storage capacity is estimated to be 400,000 AF, however the actual amount in groundwater storage is unknown. There is one small public water system serving the local school (part of the Atascadero Unified School District). All other pumping in the basin is for agricultural and residential purposes by overlying users.

Taking into consideration the methodologies used in previous studies, historical groundwater levels, and water quality, the safe yield of the basin to base planning decisions on is 8,000 – 11,000 AFY (SunPower - California Valley Solar Ranch Environmental Impact Report (EIR), Topaz Solar Farm (First Solar/Optisolar) Draft Environmental Impact Report, 2010).

Groundwater samples from 79 wells collected from 1957 to 1985 show total dissolved solids concentration ranging from 161 to 94,750 mg/l (DWR, 2003). Groundwater in the lower alluvium and upper Paso Robles Formation that both underlie Soda Lake are highly mineralized. Groundwater deeper in the confined Paso Robles Formation is of higher quality. Groundwater in the Morales Formation is likely to be brackish.

Constraints on water availability in the basin include physical limitations and water quality issues. The small basin yield of the Carrizo Plain Groundwater Basin relative to its large size and the naturally high levels of total dissolved solids in areas (e.g., Soda Lake) suggest that water availability in the region is limited. Other than water quality issues associated with the internal drainage structure of the basin, other constraints are not well defined.

Big Springs Groundwater Basin. Published hydrogeologic information for this basin is very limited. According to Bulletin 118, the main water-bearing unit in the basin is Quaternary age alluvium (DWR, 2003). No additional information is available describing the basin hydrogeology. There are no municipal or public water purveyors in the basin. All pumping in the basin is for agricultural purposes and by overlying users. No information is available describing basin yield. No information is available describing water quality in the basin.

Constraints on water availability in the Big Spring basin are primarily based on physical limitations. Shallow alluvial deposits are typically limited by available storage capacity and are therefore susceptible to drought impacts. In the Big Spring area, the alluvial aquifer also overlies and recharges the underlying consolidated rock formations. Water availability in the consolidated rock reservoirs is highly variable, depending on the local structure, available storage capacity, and access to source of recharge.

Cuyama Valley Basin. According to the California Groundwater Bulletin 118, the Cuyama Valley Groundwater Basin underlies an east-trending valley bounded on the north by the Caliente Range and on the southwest by the Sierra Madre Mountains. The valley is drained by the Cuyama River. Average annual precipitation ranges from 7 inches to 15 inches per year.

In the mid-1940s, water levels in the central portion of the basin were very shallow whereas water levels in the southern and eastern part of the basin were several hundred feet deep (SBCWA 1996). Water levels dropped from 2 to 8 feet per year between 1947 and 1996 (Singer 1970). Hydrographs show that groundwater levels have dropped about 150 feet in the west-central during the last 40 to 50 years (DWR 1998). Groundwater movement is to the northwest, parallel to the Cuyama River.

The total storage capacity is estimated at 259,000 af for the portion of the basin within the boundaries of Ventura County (Ventura County 2001). The total storage capacity is estimated at 2,100,000 af (DWR 1975). The total useable storage capacity is estimated at 400,000 af (DWR 1975).

No groundwater management plan has been initiated.

Figure 5 – Groundwater Basins In the Vicinity of the CPER

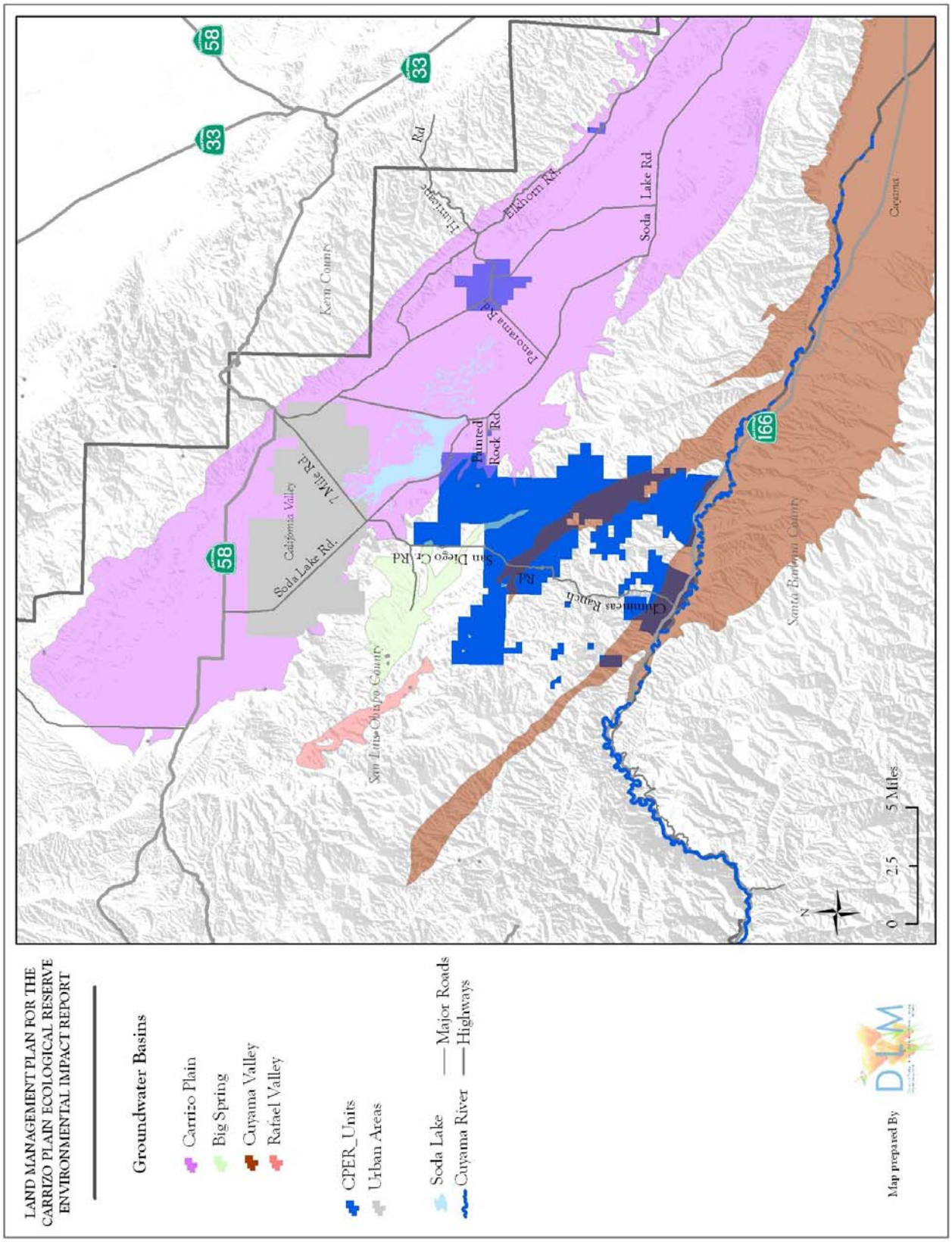
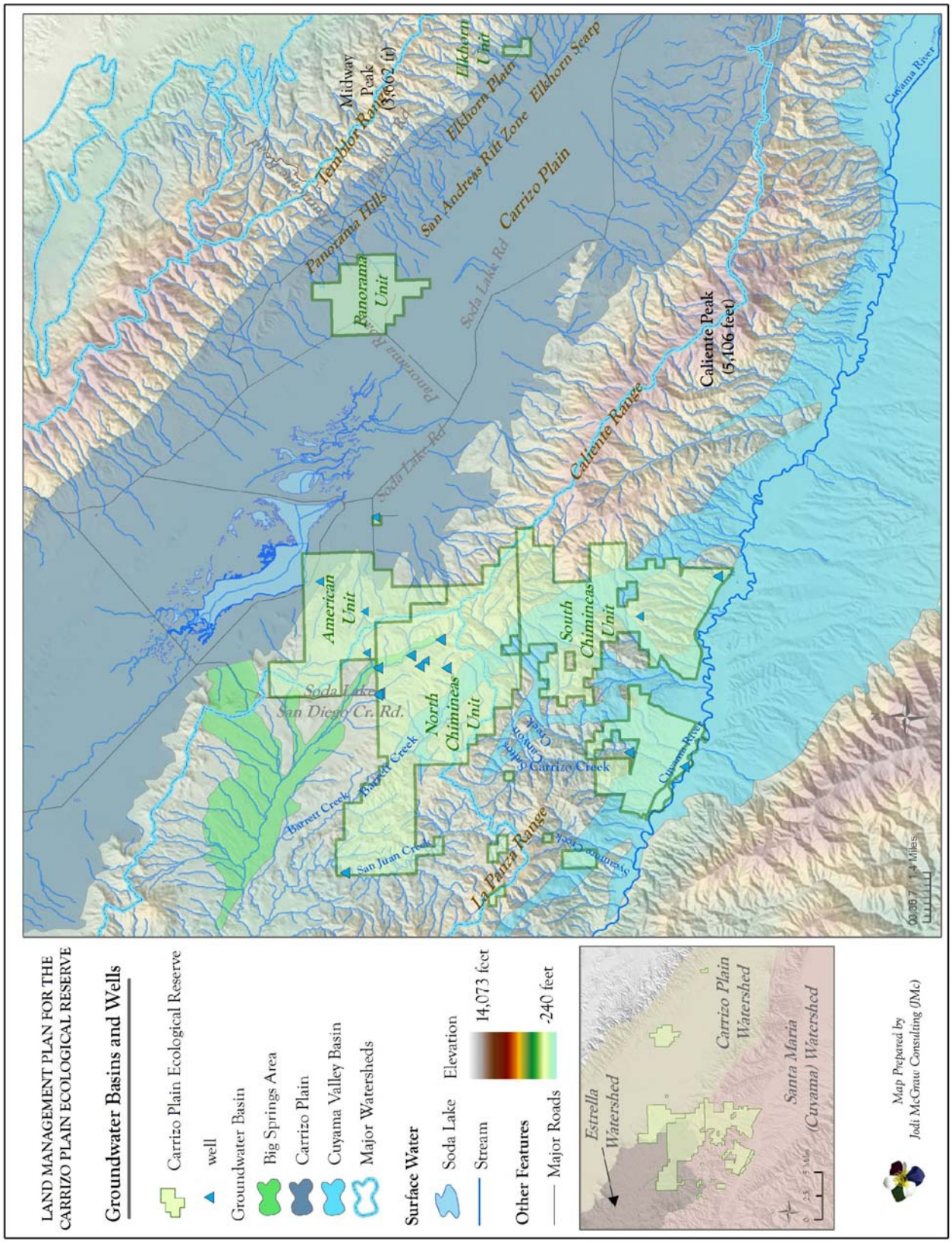


Figure 6 – Well Locations Within the CPER



Conclusions

a), c), e), No impact. Based on the Project description, implementation of the draft LMP will not require new or expanded wastewater treatment or stormwater facilities.

b) Less Than Significant Impact. Present (2012) and estimated future (2032) water demand for the CPER is summarized on Table 12. Assuming 80 gallons per person per day of potable water use and average daily use of the Reserve of about 14 persons per day (including staffing, research, grazing management, volunteers and recreation), six overnight events per year with 30 people attending for two days, 40 gallons per day for wildlife watering, 50 gallons per day per head of livestock during the summer months, and 25 gallons per day per head in the winter months, average water demand on the CPER is about 5.8 milliion gallons per year, or about 17.8 acre-feet per year. Peak demand occurs during special events which occur about six times per year with about 30 total attendees. Future demand is expected to increase slightly as a result of additional recreation users, scientific researchers, wildlife watering and special events. Water demand associated with livestock grazing is expected to be equal or less than current demand. The expected increase in water demand associated with the draft LMP is: 18.53 AFY – 17.8 AFY = 0.73 AFY.

The well serving the headquarters building provides water for staff and special events. This well draws water from the Big Springs Area groundwater basins described above. Although no data are available regarding the safe yield of the basin, pumping data from the wells located within the Reserve indicate that groundwater levels have remained stable over time, which suggests that historic use has not adversely affected the yield of the groundwater basin.

Historically, livestock operations have relied on groundwater supplies conveyed to water troughs located around the grazing area and fed by pipes from wells. The Lease Agreement executed in November, 2011 authorizes grazing activities on a portion of the Chimineas units. As described in the Project Description, the number of animal units authorized by the lease is less than the number allowed by the previous lease and is not likely to be increased by the draft LMP. Thus, the water demand associated with livestock grazing is expected to be equal to or less than historic demand. However, additional watering facilities are expected to be established to serve wildlife. As illustrated by Table 12, the additional water demand is expected to be slight.

Table 12 -- Present (2012) and Future (2032) Estimated Water Demand					
Source	**Persons/Livestock Per Day[1]**	**Water Demand (gallons per person per day)**	**Days Per Year**	**Total Water Demand Per Year (gallons per year)**	**Total Water Demand Per Year (acre-feet per year)**
2012					
Staff/Research/Recreation/Volunteers	14	80[2]	260	291,200	0.89
Special Events	30	80	12	28,800	0.08
Wildlife Watering	1	40	260	10,400	0.03
Livestock Watering -- Summer	350	50	260	4,550,000	13.96
Livestock Watering -- Winter	350	25	105	918,750	2.81
Total:				6,717,900	17.79
2032					
Staff/Research/Recreation/Volunteers	24	80	260	499,200	1.53
Special Events	30	80	24	51,600	0.17
Livestock/Wildlife watering	1	50	260	13,000	0.04
Livestock Watering -- Summer	350	50	260	4,550,000	13.96
Livestock Watering -- Winter	350	25	105	918,750	2.81
Total:				6,038,550	18.53
Increased Water Demand Associated With the draft LMP					**0.73**

Sources:

1. DFG, 2012
2. State of California Department of Water Resources, 2005

The stability of the groundwater levels, as well as the isolation of the wells serving the Reserve with respect to wells on surrounding properties as shown on Figure 6, suggests that the increase in groundwater pumping associated with the draft LMP is not expected to adversely impact either the groundwater basin or surrounding wells.

Nonetheless, monitoring of the groundwater level in the supply well for the headquarters building will likely be recommended in the LMP to ensure demand does not exceed the available supply.

The slight increase in water demand associated with adoption of the draft LMP is expected to have a less than significant impact on water supplies within the CPER and surrounding areas.

d) Less Than Significant Impact. As discussed under item c) above**,** the increased water demand associated with enhancing water availability for animals, special events, research and other management is not expected to adversely impact the groundwater basin serving the Reserve.

f), g) Less Than Significant Impact. Current solid waste generation from the Reserve is associated with the ranch manager's residence on the North Chimineas Unit, ongoing monitoring and research activities, recreation use, and periodic special events. The total amount generated by all of these activities in a given day is estimated to average about 12.23 pounds per person per day. Table 13 provides a summary of existing (2012) solid waste generation and an estimate of future waste generation in the year 2032.

Table 13 -- Solid Waste Generation For the CPER

Source	Persons Per Day	Pounds Per Day Per Person	Total Days Per Year	Total Solid Waste Generated (Tons Per Year)
2012				
Staff/Research/Recreation/Volunteers	14	12.23	260	22.2
Special Events	30	12.23	12	2.2
			Sub-Total:	24.4
Staff/Research/Recreation/Volunteers	24	12.23	260	38.1
Special Events	44	12.23	24	6.4
			Sub-Total:	44.5
			Total Increase In Tons Per Year:	20.1
			Total Additional Waste Generated For 20 Years:	403.1

Source: CalRecycle, July, 2012, http://www.calrecycle.ca.gov/wastechar/wastegenrates/Residential.htm

Table 13 suggests that solid waste generation would increase by as much as 16.9 tons per year for a total waste generation of: 20.1 x 20 years = 403.1 tons over the next 20 years. It should be noted that this total does not account for recycling efforts mandated by State and federal law which are expected to reduce to reduce the total solid waste disposed of in landfills by diverting a portion of the waste stream to recycling.

Table 14 provides a summary of remaining landfill capacity for landfills serving San Luis Obispo County.

Table 14 -- Remaining Landfill Capacity				
Landfill	**Total Capacity (cubic yards)**	**Remaining Capacity (cubic yards)**	**Remaining Capacity (tons)**	**Estimated Closure Date**
Cold Canyon	10,900,000	2,800,000	1,120,000	2012[1]
Chicago Grade	8,950,220	8,329,699	3,331,880	2042
Paso Robles	6,495,000	5,327,500	2,131,000	2051

Source: CalRecycle, July, 2012, http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=San+Luis+Obispo

Notes:

1. A conditional use permit authorizing expansion of the Cold Canyon Landfill was approved by the San Luis Obispo County Planning Commission on August 9, 2012.

Table 16 compares the total solid waste generated by the CPER over the timeframe of the plan with the remaining landfill capacity serving the County. As Table 16 shows, the increase in solid waste generation associated with the draft LMP with the remaining capacity of each landfill serving the CPER.

Table 15 -- Comparison of Future Solid Waste Generation With Remaining Landfill Capacity					
Landfill	**Total Capacity (cubic yards)**	**Remaining Capacity (cubic yards)**	**Remaining Capacity (tons)[1]**	**Total Solid Waste Generated Over The Life of the Draft LMP (tons)[2]**	**Percentage of Remaining Landfill Capacity**
Cold Canyon	10,900,000	2,800,000	1,120,000	403.1	0.03
Chicago Grade	8,950,220	8,329,699	3,331,880	403.1	0.01
Paso Robles	6,495,000	5,327,500	2,131,000	403.1	0.01

Source: CalRecycle, July, 2012 http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=San+Luis+Obispo

Notes:

1. Based on 800 lbs per cubic yard.
2. From Table 13, above.

Table 15 suggests that the total solid waste that may be generated over the life of the draft LMP will consume a small fraction of the remaining landfill capacity available in the County. For this reason, impacts associated with solid waste are considered less than significant.

In addition, prior to the implementation of any projects that are consistent with the draft Lease Agreement, the Department would subject them to CEQA review according to CEQA Guidelines Section 15168, in light of the information in this document, to determine if additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on CEQA Guidelines Sections 15162–15164.

17. Mandatory Findings Of Significance

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Mandatory Findings of Significance:				
a) Does the project have the potential to substantially degrade the quality of the environment?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited but cumulatively considerable?	☒	☐	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings?	☐	☐	☒	☐

Authority: Public Resources Code Sections 21083 and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

Discussion/Conclusion

a) Does the project have the potential to substantially degrade the quality of the environment?

As discussed in the resource-specific impact discussions, the project may result in potentially significant effects on the environment. An EIR will be prepared for the project, focusing analysis on the following factors that may be affected by significant adverse impacts:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology

- Water Quality

b) Does the project have impacts that are individually limited but cumulatively considerable?

The project may have impacts that are individually limited but cumulatively considerable. These issues will be analyzed in the EIR. A tentative list of projects and resource management plans that could affect the analysis of cumulative impacts is provided in Table 16 and shown on Figure 7.

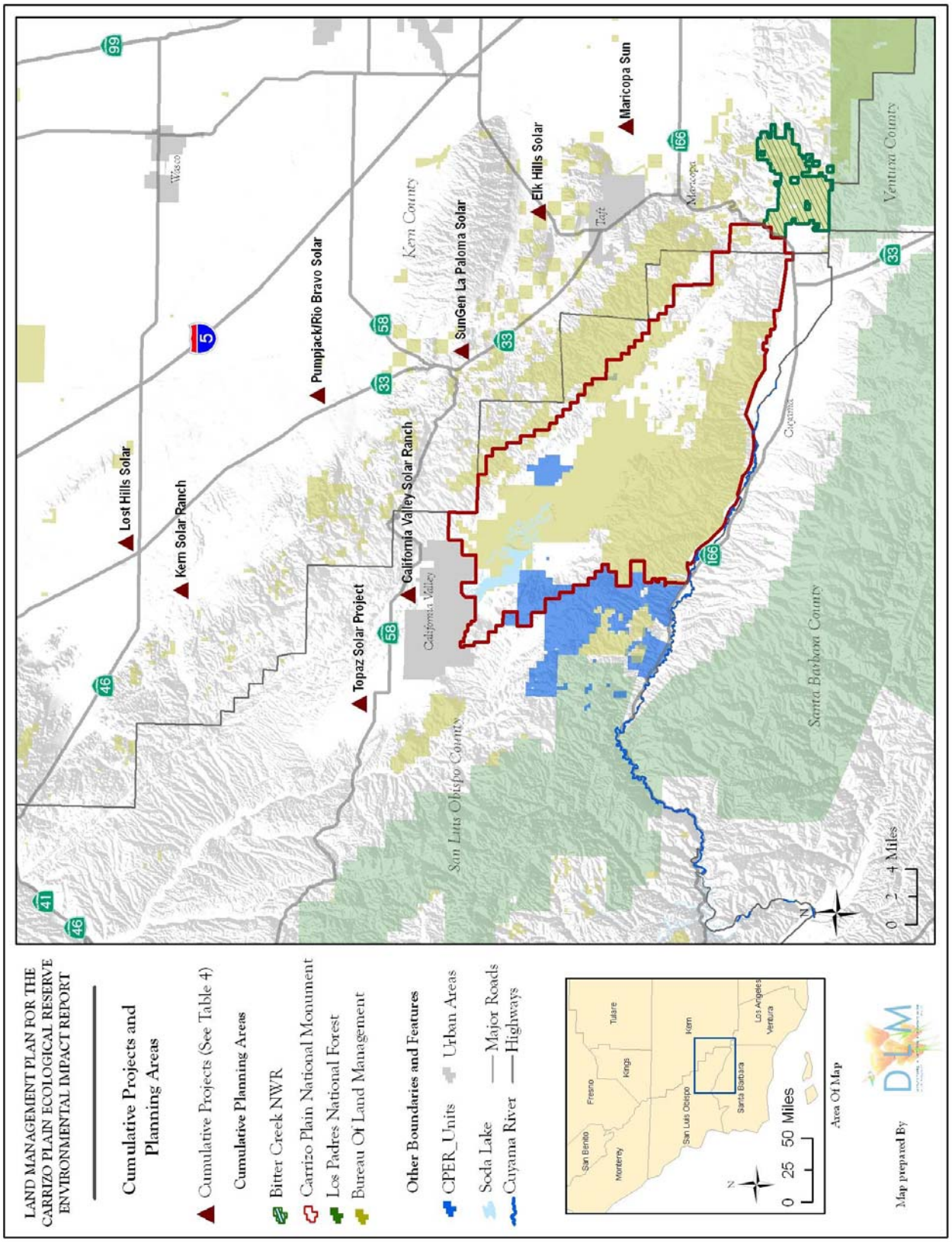
Table 16 – Tentative List of Cumulative Projects

Project	Description	Jurisdiction	Acres	Status
Resource Management Plan for the Carrizo Plain National Monument	Resource management plan	US Department of Interior, Bureau of Land Management	246,817[1]	Adopted April, 2010[1]
Caliente Resource Area Resource Management Plan -- Coast Management Unit	Resource management plan	US Department of Agriculture, US Forest Service	20,400[2]	Approved May, 1997[2]
Topaz Solar Farm	550 megawatt photovoltaic solar power plant.	San Luis Obispo County	4,100[3]	Under construction. [3]
California Valley Solar Farm (Sunpower)	250 megawatt solar generating plant, electric sub-station, maintenance facilities and 2.8 mile transmission line.	San Luis Obispo County	2,000[4]	Under construction[4]
Land Management Plan for the Los Padres National Forest	Land management plan	US Department of Agriculture, US Forest Service	1.78 million	Adopted April, 2006[5]
Maricopa Sun Solar Complex	700 megawatt photovoltaic solar power plant.	Kern County	6,046	Approved March, 2011[6]
Lost Hills Solar	33 megawatt photovoltaic solar power plant.	Kern County	307	Approved October 2010[6]
Elk Hills Solar	7 megawatt photovoltaic solar power plant.	Kern County	47	Approved December 2011[6]
Pumpjack & Rio Bravo	125 megawatt photovoltaic solar power plant.	Kern County	125	Approved for Processing March 2011[6]
SunGen Solar	398 megawatt photovoltaic solar power plant.	Kern County	31	Approved for processing April 2011[6]
Kern Solar Ranch	1,000 megawatt photovoltaic solar power plant	Kern County	6,100	Approved for Processing September 2012[6]
Shandon Community Plan	Community plan for the unincorporated community of Shandon	San Luis Obispo County	2,081	Approved by San Luis Obispo County in April, 2012[7]

Sources:

1. US Department of Interior, Bureau of Land Management, Carrizo Plain National Monument Approved Resource Management Plan and Record of Decision, April 2010. http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/bakersfield/carrizo.Par.8414.File.dat/CarrizoPlainNationalMonumentApprovedROD.pdf
2. US Department of Interior, Bureau of Land Management, Caliente Resource Area Resource Management Plan, May 1997 http://www.blm.gov/ca/st/en/fo/bakersfield/Programs/planning/rmpcontents.html
3. San Luis Obispo County Department of Planning and Building, Final Environmental Impact Report for the First Solar/Optisolar Conditional Use Permit DRC2008-00009, July 2011. http://www.slocounty.ca.gov/planning/environmental/EnvironmentalNotices/optisoloar.htm
4. San Luis Obispo County Department of Planning and Building, Final Environmental Impact Report for the California Valley Solar Ranch Conditional Use Permit (DRC2008-00097, DRC 2009-0004), http://www.sloplanning.org/EIRs/CaliforniaValleySolarRanch/index.htm
5. US Department of Agriculture, Forest Service Record of Decision, Los Padres National Forest Land Management Plan, April 2006, http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_033985.pdf
6. Kern County Planning Department, 2012, http://www.co.kern.ca.us/planning/pdfs/renewable/solar_projects.pdf
7. San Luis Obispo County Department of Planning and Building, 2012 http://www.slocounty.ca.gov/Assets/PL/Draft+Plans/Shandon+Community+Plan+Draft+-+March+2012/Executive+Summary.pdf

Figure 7 – Location of Potential Cumulative Projects and Plan Areas



According to the environmental compliance documents prepared for development projects in the region, such as those associated with energy development (Table 16), these projects will result in cumulatively considerable impacts to biological resources, the permanent conversion of agricultural land to a non-agricultural use and impacts to cultural resources. Although implementation of the management actions that may be recommended by the draft LMP, together with the management plans of other agencies in the region (listed on Table 16) are expected to have a beneficial impact on the biological resources of the region, the net effect from the cumulative loss of habitat is considered a potentially cumulatively considerable impact. In addition, the project has the potential to result in cumulatively considerable adverse impacts relating to air quality from the generation of respirable particulate matter (PM_{10}) and the generation of greenhouse gases.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings?

The preceding analysis concludes that adoption of the draft LMP would not result in environmental effects that would cause substantial adverse effects on human beings.

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