# DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

## MOSS LANDING WILDLIFE AREA BANK ENHANCEMENT PROJECT

*Pursuant to the California Environmental Quality Act, as amended*


**Prepared for** California Department of Fish and Wildlife
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# ACRONYMS AND ABBREVIATIONS

**AB**– Assembly Bill

**BMP** – Best Management Practice

**Caltrans** – California Department of Transportation

**CalEEMod** – California Emissions Estimator Model

**Cal Fire** – California Department of Forestry and Fire Protection

**CARB** – California Air Resources Board

**CCC**– California Coastal Commission

**CCR** – California Code of Regulations

**CDFW** – California Department of Fish and Wildlife

**CDP** – Coastal Development Permit

**CESA** – California Endangered Species Act

**CEQA** – California Environmental Quality Act

**CFR** – Code of Federal Regulations

**CGS** – California Geological Survey

**$CH_4$** – methane

**CNDDB** – California Natural Diversity Database

**CNPS** – California Native Plant Society

**$CO_2$** – carbon dioxide

**$CO_2e$** – carbon dioxide equivalents

**CRHR** – California Register of Historic Resources

**CWA** – Clean Water Act

**CY** – cubic yards

**dB** – decibels

**DPM** – diesel particulate matter

**DPS** – distinct population segment

**DTSC** – California Department of Toxic Substances Control

**EFH** – Essential Fish Habitat

**ESNERR** – Elkhorn Slough National Estuarine Research Reserve

**ESU** – evolutionarily significant unit

**FEMA** – Federal Emergency Management Agency

**FESA** – Federal Endangered Species Act

**FGC** – California Fish and Game Code

**FHWA** – Federal Highway Administration

**FIRM** – Flood Insurance Rate Map

**FMMP** – Farmland Mapping and Mitigation Program

**FTA** – Federal Transit Authority

**FR** – Federal Register

**GHG** – greenhouse gases

**HAPC** – Habitat Area of Particular Concern

**HPSR** – Historic Properties Significance Report

**LGP** – low ground pressure

**LSAA** – Lake or Streambed Alteration Agreement

**MBARD** – Monterey Bay Air Resources District

**MBTA** – Migratory Bird Treaty Act

**MCAP** – Municipal Climate Action Plan

**MHHW** – Mean Higher High Water

**MLHD** – Moss Landing Harbor District

**MLLW** – Mean Lower Low Water

**MMPA** – Marine Mammal Protection Act

**MMRP** – Mitigation, Monitoring, and Reporting Program

**mph** – miles per hour

**MSA** – Magnunson-Stevens Fishery Conservation Management Act

**MT** – metric tons

**NAHC** – Native American Heritage Commission

**NAVD** – North American Vertical Datum

**NCCAB** – North Central Coast Air Basin

**NCSM** – North Coast Salt Marsh

**NHPA** – Natural Historic Preservation Act

**NMFS** – National Marine Fisheries Service

**NOAA** – National Oceanic and Atmospheric Administration

**NOx** – nitrogen oxide

**NPDES** – National Pollutant Discharge Elimination System

**NRCS** – Natural Resources Conservation Service

**NRHP** – National Register of Historic Places

**NWIC** – Northwest Information Center

**$N_2O$** – nitrous oxide

**OHP** – California Office of Historic Preservation

**OSHA** – Occupational Health and Safety Administration

**$PM_{10}$** – particulate matter less than 10 microns in diameter

**$PM_{2.5}$** – particulate matter less than 2.5 microns in diameter

**ppt** – parts per thousand

**RCNM** – Roadway Construction Noise Model

**RHA** – Rivers and Harbors Act

**ROG** – reactive organic gases

**RWQCB** – Regional Water Quality Control Board

**SHPO** – California State Historic Preservation Office

**SWPPP** – Stormwater Pollution Prevention Plan

**TAC** – toxic air contaminants

**USACE** – U.S. Army Corps of Engineers

**U.S.C.** – U.S. Code

**USDOT** – U.S. Department of Transportation

**USFWS** – U.S. Fish and Wildlife Service

**USGS** – U.S. Geologic Survey

**vdB** – vibration decibel

**VMT** – vehicle miles traveled

**WDR** – Waste Discharge Requirements

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INITIAL STUDY / MITIGATED NEGATIVE DECLARATION
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# A. PROJECT INFORMATION

**1. Project title:** Moss Landing Wildlife Area Bank Enhancement Project

**2. Lead agency name and address:**
California Department of Fish and Wildlife
Central Region (4)
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Fresno, CA 93710

**3. Contact person and phone number:**
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**4. Project location:** The project is located off Highway 1 in northern Monterey County, about 9 miles south of Watsonville, California, within the Moss Landing Wildlife Area.

**5. Project sponsor's name and address:** California Department of Fish and Wildlife

**6. General Plan Designation:** Wetlands and Coastal Strand

**7. Zoning:** Resource Conservation (Coastal Zone)

## PROJECT DESCRIPTION

### Existing Conditions

The Moss Landing Wildlife Area (Wildlife Area) was purchased by the State of California from the Western Salt Works Company in 1984 for habitat conservation. The Wildlife Area is located adjacent to the Elkhorn Slough Estuary, which is situated 90 miles south of San Francisco and 20 miles north of Monterey on the Moss Landing U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1). Currently, the Wildlife Area consists of 872 acres of tidally influenced land and retired salt evaporation ponds owned and managed by California Department of Fish and (CDFW) as wildlife habitat and for wildlife-oriented public recreational uses (Figure 2). The 158.4-acre project area is contained within the larger Wildlife Area (Figure 3). Existing habitats within the project area include 130.6 acres of managed ponds, which are the former salt ponds. These ponds provide nesting habitat for western snowy plover (*Charadrius nivosus nivosus*) in spring and summer (when dry) and wintering habitat for brown pelicans (*Pelecanus occidentalis*) and other waterfowl in the fall and winter (when flooded). Other habitats within the project area include 6.8 acres of north coast salt marsh or pickleweed (*Salicornia virginica*) habitat, 1.7 acres of slough habitat and 19.3 acres of levees, parking area and other

uplands. The remaining lands within the larger Wildlife Area are managed under a muted tidal regime due to continuously eroding levees and are a mosaic of salt marsh habitats.

Limited public access is encouraged in the project area, where a parking lot, interpretive signs, a levee trail and raised viewing platforms are available for public use. In addition to wildlife viewing and walking, fishing along Elkhorn Slough has become increasingly popular among visitors to the project area. After implementation of the proposed project, the project area would continue to function as wildlife habitat and open space with public access.

## Project Purpose and Need

The purposes of the project are to: (1) preserve habitat for western snowy plover; (2) reduce ongoing erosion of the bank of Elkhorn Slough along the southern boundary of the project area; (3) provide continued safe and sustainable public recreational access within the project area; and (4) implement targeted maintenance actions aimed at improving plover habitat and water management capabilities within the project area.

The former salt ponds within the project area are particularly important to the Monterey Bay breeding population of western snowy plover. They provide low disturbance nesting habitat throughout the breeding season, with the unique advantage of also being protected from high tide events (Eyster pers. comm. 2017). In years where weather and storm events result in severe beach erosion, such as 2017 and 2020, the project area serves as one of a few early season nesting locations available to plover. The clutch hatch rate for nests in the project area during 2019 was 50 percent, whereas the clutch hatch rate throughout the entire Monterey Bay region was 40 percent (Neuman et al. 2020). Coordinated survey data show the number of breeding adult plovers counted in the project area between 2013 and 2017 ranged from 4.7 percent to 19.6 percent of the Monterey Bay regions total; the average number of breeding adult plovers counted in the project area during that period was 11 percent (Eyster pers. comm. 2017; USFWS 2017). In 2019, 26 breeding adult plovers, or 9 percent of the breeding adults in Monterey Bay region, were counted in the project area (USFWS 2019). Figure 4 depicts nest site locations in the former salt ponds from 2003 to 2019.

Review of historical aerial photography indicates erosion in lower Elkhorn Slough is generally extensive; the project area, however, is particularly vulnerable to erosion due to its proximity to the artificial mouth of the slough and the combined effects of ocean waves and increased tidal prism, which results from ongoing tidal scour and the loss of tidal marsh (see Appendix A for photos of bank). About 850 feet of the bank along Elkhorn Slough is eroding north into the project area at an average rate of approximately 2 feet per year.[1] At the current rate of erosion, the existing perimeter levee will fail (i.e., breach or be otherwise compromised) within 7-10 years; tidal inundation of the managed salt ponds resulting from a failure of this levee would dramatically compromise the ability for western snowy plover to successfully breed in the project area. Erosion along the

[1] Erosion rate approximated from review of historic Google Earth imagery.

bank also contributes sediments to the slough, which affects water quality and may affect downstream navigability by redistributing fine silt and sediments towards the harbor mouth.

Sea level rise is also a consideration. The current mean sea level in the Monterey Bay area is 3.0 feet NAVD88,[2] mean higher high water (MHHW) is 5.5 feet, and the highest recorded tide is 8.0 feet.[3] The most recent (2018) sea level rise projections provided by the California Natural Resources Agency and California Ocean Protection Council indicate that under a conservative emissions scenario, sea levels near the project area may rise between 0.5 and 1.1 feet by 2050; between 1.5 and 3.3 feet by 2100; and between 2.6 and 5.7 feet by 2150 (CNRA and OPC 2018).[4] Using these projections and assuming the tide range remains constant and the levee is not otherwise breached, the existing perimeter levee around the project area (which has a top-elevation of about 10 feet) would be regularly overtopped within approximately 80 years. Periodic inundation during high tide events, coupled with higher low water levels, would lead to infiltration of the salt ponds resulting in much wetter conditions. Left unchecked, these conditions would reduce (and eventually eliminate) the suitability of the ponds as plover nesting habitat in a much shorter timeframe than without project implementation.

With respect to public access, a trail along the perimeter levee leads to two viewing platforms adjacent to Elkhorn Slough. Bank erosion in the vicinity of the western-most viewing platform is encroaching towards the footings of the platform (see photos in Appendix A). Based on the current rate of erosion, it is estimated these footings would be exposed with the next 1 to 2 years which would make public access to the platform unsafe. Informal dispersed use by the public along the bank along Elkhorn Slough is also contributing to bank erosion and degradation of marsh vegetation. The footings of the visitor kiosk in the parking area are also currently inundated during high tide events, making it inaccessible to the public during significant portions of the year.

Finally, the proposed project includes a series of maintenance-related activities (e.g., cleaning culverts) to improve plover habitat and water management capabilities. These targeted habitat maintenance activities reflect the results of salinity and revegetation studies completed in 2018 aimed at identifying optimal successful nesting conditions for western snowy plover (CCR 2018).

## Project Background

CDFW and other project partners, including Ducks Unlimited and the Wildlife Conservation Board, completed two previous phases of restoration work at the project area. In 2006, Phase 1 of the Moss Landing Habitat Enhancement Project reconfigured derelict salt ponds to improve breeding and foraging habitat for western snowy plover and to provide roosting areas for brown pelicans and migratory waterfowl. Phase 2 restoration

[2] All elevations in this document are referenced to the North American Vertical Datum of 1988 [NAVD88] unless otherwise specified.

[3] Tide data derived from the NOAA Monterey, CA tide station (9413450), 1983-2001 tidal epoch.

[4] A "conservative emissions" scenario reflects data for Intergovernmental Panel on Climate Change representative concentration pathway 8.5 at the Monterey tide gauge (CNRA and OPC 2018). Increases in sea level are relative to the 1991-2009 baseline. Sea level rise projections reflect the "likely range" or the range that has a 67 percent change of containing the correct value.

work, which was completed in 2012, included topographic and vegetative improvements within four ponds to provide conditions more favorable to western snowy plover; repair and augmentation of degraded water control infrastructure; select levee improvements; installation of new and modified viewing platforms; and improvements to the parking area. The current project represents the third phase of enhancement work in the project area.

**Proposed Project Hydraulic Modeling**

In March 2017, CDFW in coordination with Ducks Unlimited hosted an interagency meeting to discuss the CEQA and permitting process for the project. Based in part on feedback provided at that meeting CDFW contracted with a private consulting firm to develop a hydraulic model to analyze the potential impacts of several alternatives on water flow in Elkhorn Slough (AECOM 2019). Four scenarios—Existing Conditions, No Action, Articulated Concrete Mat Alternative, and Setback Levee Alternative—were simulated in the model and used to assess potential changes in water velocity and rates or locations of scour in and adjacent to the project area. The model also considered three sea level conditions—Present Day, 50-year time horizon, and 100-year time horizon—to assess the potential effects of sea level rise on the alternatives. In summary, the model did not indicate a significant change in velocity in Elkhorn Slough adjacent to the project area under any of the project alternatives, including downstream at the abutments to the Highway 1 bridge. It did indicate a slight increase in the tidal prism (less than 2 percent) under the No Action and Setback Levee Alternatives, which was attributed to the slight increase in channel width associated with assumed continued erosion along the bank of Elkhorn Slough. The model also indicated there would be no significant difference between the alternatives under the sea level scenarios modeled (i.e., the ponds would be adversely affected by sea level rise after about 80 years under all alternatives) (AECOM 2019).

## Purpose of Initial Study/Mitigated Negative Declaration

Pursuant to § 15063 of the State of California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations (CCR) § 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the Lead Agency as a basis for determining whether an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration is required for a project. The State CEQA Guidelines require that the Initial Study contain a project description; a location map; a description of environmental setting; identification of environmental effects by checklist or other similar form; an explanation of environmental effects; and a discussion of mitigation for potentially significant environmental effects.

The purpose of this Initial Study is to inform decision-makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental impacts associated with implementation of the proposed project. This CEQA document analyzes impacts associated with reconfiguring the perimeter levee adjacent to Elkhorn Slough, implementing bank stabilization activities and targeted maintenance actions, and ongoing management of the project area as wildlife habitat and for wildlife-oriented public uses. This Initial Study has been prepared in compliance with the 1970 CEQA (as amended), codified in California Public Resources Code § 21000 et seq., and the CEQA Guidelines.

## Regional and Project Setting

### Regional Setting

The Wildlife Area is located on the southwestern edge of the Pajaro Valley near the northern margin of Elkhorn Slough. Elkhorn Slough has an average depth of 4.6 feet, and is deepest at the Highway 1 bridge overcrossing where it measures 25 feet deep at Mean Lower Low Water (MLLW). The main channel in Elkhorn Slough becomes narrower and shallower as it winds inland. Like many estuaries, Elkhorn Slough consists of a complex mix of channels, mudflats, marshes, and small tidal creeks. Surrounding Elkhorn Slough are the hilly uplands and marine terraces that lie between the Pajaro and Salinas Valleys. Land uses in the vicinity consist of open space, agriculture (primarily strawberries and other row crops), cattle grazing, rural residences and recreation.

### Project Setting

The 158.4-acre project area, located within the larger Wildlife Area, is bound by Highway 1 to the west, Elkhorn Slough to the south, Elkhorn Ranch (an upland area) to the east, and Bennet Slough to the north. Both Elkhorn Slough and Bennet Slough are connected to Monterey Bay, the latter via a culvert under Highway 1. Sensitive habitats and wildlife species inhabit the Wildlife Area and adjacent protected lands. Federally-protected eelgrass (*Zostera marina*) beds are located approximately 50 feet from the bank in Elkhorn Slough and provide habitat for the southern sea otter (*Enhydra lutris nereis*), a federally threatened species. In addition, harbor seals (*Phoca vitulina richardsi*) numbering in the hundreds, are year-round residents in Elkhorn Slough, occurring individually or in small groups in the main channel and hauling out on shores in and around the Wildlife Area (Figure 5).

Limited public access is provided along the perimeter levee of the former salt ponds, and at two viewing platforms at the east and west sides of the project area. Informally, much of the bank along Elkhorn Slough is used by the public for dispersed uses, such as fishing.

Within the project area is a 1-acre inholding within a developed 3-acre parcel that was leased by CDFW to a private party. Within this parcel is a house and boat storage/workshop that once served as the office headquarters for the Western Salt Company's salt evaporation ponds. The last tenant formerly operated a boat building business from approximately the late 1970s or early 1980s until 2020. Construction vehicles and equipment will use the 3 acres of developed land and gravel roads to access the project footprint.

## Project Design

The proposed project would construct a new setback levee within the project area to protect plover habitat from tidal inundation and sea level rise; recontour an approximate 850-linear-foot section of the bank along Elkhorn Slough that is actively eroding; plant eelgrass in aquatic habitat south of the bank; improve public access and amenities; and implement managed salt pond and infrastructure maintenance and repair activities.

### *Setback Levee*

Under the proposed project, a new 920-foot-long setback levee would be constructed along the southern edge of Pond 1. The new levee would be located about 150 feet north of the current levee alignment (Figure 6). The purpose of the setback levee is to protect the salt ponds from tidal inundation as the bank and existing perimeter levee continue to erode north into the Wildlife Area. The new setback levee would tie into the existing levee near the public access path on the west side of Pond 1, and near the confluence of Elkhorn Slough

and Bennet Slough in Pond 6 on the east. It would be built to have a top width of 14 feet (to facilitate public access) and broad (10:1) side slopes.

Material to construct the new setback levee would be derived from the existing perimeter levee, the recontoured bank of Elkhorn Slough, and imported from an off-site source. Most of the 22,000 cubic yards (CY) of sediment needed to construct the setback levee would come from off-site sources. Soil acquired from off-site sources would be brought to the site from a 50-mile radius of the project area and certified free of exotic vegetation before being relocated. Due to irregular availability of sediment, the contractor may choose to temporarily stockpile sediment within the project area prior to beginning construction activities. Stockpiled sediment would be placed in previously disturbed areas, in coordination with project biologist, and outside any sensitive habitat areas, to the extent possible.

After the new setback levee is constructed, approximately 520 feet of the existing perimeter levee that currently separates Elkhorn Slough from the project area would be removed and the footprint restored to high marsh elevation. The remaining portion of the existing levee (about 550 feet) would be incorporated into the public trail system (see Public Access Improvements below). Portions of Pond 1 south of the new setback levee (and not incorporated into the public trail system) would be filled to high marsh elevation and contoured to slope from the toe of the new levee towards the slough.

***Recontour Bank***

The vertical slope of Elkhorn Slough along the 850-foot length where it is actively eroding would be recontoured (laid back) to a 10:1 slope to reduce ongoing erosion and sluffing. Stabilizing the slope of the bank along the slough edge by contouring the vertical face to a more gradual angle of repose would reduce erosion potential and downstream sediment delivery relative to current conditions. Reduced sediment delivery would improve water quality, and could benefit marine mammals and other aquatic species that may be adversely impacted by increased turbidity in waterways and that are known to occur in Elkhorn Slough near the project area. Contouring work would occur intermittently on low tide to minimize sediment delivery to Elkhorn Slough and the construction contractor would install coir logs along the top of the recontoured bank to limit sediment delivery to Elkhorn Slough from disturbed work area. In-water sediment fencing would not be employed to avoid the potential for entanglement of marine mammals during construction. After recontouring is complete, the area between Elkhorn Slough and the new setback levee (outside of the trail alignments) would be restored as high marsh. Vegetation establishment in the high marsh area would be through natural recruitment and active planting (as funding allows).

***Eelgrass Planting***

After the recontouring work is complete, eelgrass would be transplanted into Elkhorn Slough, adjacent to the project area, where existing stands of eelgrass are presently fragmented and patchy (Figure 3 depicts the location of eelgrass beds from a 2018 survey). The eelgrass would be transplanted from upstream donor beds that meet certain parameters. This action would expand the fringing beds alongside the reconstructed bank and hasten the recovery of eelgrass within Elkhorn Slough by filling in the gaps with transplanted shoots and extending the bed offshore. Scientists conducting the transplanting activities expect over 70% plot survival at this location (Beheshti, K. pers. comm. 2020).

***Public Access Improvements***

Public access improvements would include improving the parking area and access road, providing a trail along the top of the setback levee; constructing a new loop trail in the location of the existing perimeter levee and installing near-shore, fishing areas adjacent to Elkhorn Slough (Figure 6). The eastern viewing platform would be maintained in place, with minor repairs (e.g., replace rotting board) implanted to restore the integrity of the existing structure. Signage and symbolic fencing would be installed around the trails to limit recreational use to designated areas. Trails would be surfaced with small rock and/or decomposed granite (quarry fines) to clearly identify public access ways and deter plant growth within the trail alignment. Relocating the western viewing platform and reconfiguring the trail system to provide fishing areas closer to the slough would improve the recreational experience of the public (e.g., more accessible wildlife viewing and fishing opportunities) while better protecting sensitive habitats (i.e., limiting unrestricted use along the bank of the slough). Details are provided below.

Trails and Near-Shore Access Points. The portion of the trail along the new setback levee would be at least 14 feet wide and surfaced to comply with the Americans with Disabilities Act. The existing levee would become a new loop trail, which would provide public access between the relocated viewing platform on the west and the existing viewing platform on the east, and allow access to new fishing / wildlife viewing areas located along the bank of Elkhorn Slough (Figure 6). The loop trail would be 10-feet wide and constructed of earthen material removed when the perimeter levee is deconstructed. The trail would be slightly elevated (constructed to an elevation of about 7.5 feet, or 2 feet above MHHW) between the setback levee and the two larger fishing / wildlife viewing areas. The two fishing / wildlife viewing areas would be surfaced with 6" of material and connected by an at-grade trail (elevation 6.0 feet), which would be surfaced with small rock or decomposed granite. Along the at-grade trail would be three additional, smaller, fishing areas. Symbolic fencing (e.g., post and cable trail markers) and fishing pole holders would be installed within two fishing / wildlife viewing areas to discourage public access into the adjacent tidal marsh and discourage anglers from pounding poles into tidal marsh vegetation.

Signage. Signage would be installed along the new trails to indicate that public access is limited to the designated trail system and viewing platforms. Additional public access and western snowy plover management signage would be constructed in the parking area, including interpretive signage articulating how the Wildlife Area is managed to benefit western snowy plover and migratory waterfowl. All signage would be low profile and limited in the vicinity of western snowy plover nesting habitat to minimize predator perching opportunities.

Relocated Western Viewing Platform. The viewing platform on the western side of the project area would be relocated to the western end of the new trail on the setback levee. The area where the viewing platform was previously located would be converted into a walkway (approximately 25:1 slope). The walkway substrate would consist of re-cycled, base rock that is currently on-site.

Access Road and Parking Area Improvements. The entrance to the Wildlife Area from Highway 1 would be improved by replacing degraded asphalt within the existing road footprint and regrading/paving the turnout to provide a safer area for cars to turn around, informally park, and reenter Highway 1. In addition, low spots in the gravel access road from Highway 1 to the main parking lot would receive supplemental soil and rock to bring the access back to original design lines and grades. The visitor kiosk in the parking area would also be raised.

Specifically, the kiosk would be removed; the lower corner of the parking lot raised to match the overall parking lot elevation (8.0 feet), and the kiosk reinstalled at the same general location.

***Salt Pond and Infrastructure Repair***

The proposed project includes maintenance activities that would improve the ability for CDFW staff to access managed pond infrastructure and improve water management capabilities within the managed ponds. Several of these activities would directly benefit the western snowy plover population by increasing the extent of suitable nesting habitat available to nesting pairs and enhancing brood rearing habitat available to flightless chicks.

- Remove accumulated silt from inlet and outlet structures in Ponds 1, 2, 3, 4, and 6. Improve existing swales in Ponds 1, 2, 3, and 4 by excavating channel constrictions. The sediment excavation would occur every 5 years. CDFW would rent excavators/backhoes to accomplish this project element.
- Place sediment mounds upwind of the culvert basins to serve as sediment barriers and capture future wind-blown sediment.
- Clean and repair water control structures in all ponds, including removal of invertebrates.
- Remove levee vegetation in selected areas to enhance pond connectivity for flightless chicks.
- Add gravel or oyster shells to Pond 1 to enhance habitat for plovers.
- Repair the walkway support structure over the main intakes in Pond 6.

The maintenance activities and infrastructure repairs would occur when the ponds are dry in late summer and therefore dewatering would not be required.

## Construction Work Sequence

Project construction would occur over two years to allow fill material associated with the setback levee to settle and compact. Project activities would be implemented after the western snowy plover nesting season is complete. Year 1 activities would last approximately 8 weeks from mid-August through mid-October. Year 2 activities would last approximately 4 weeks in September and/or October. The following provides a sequential list of the general steps that would occur during the two year construction sequence.

Year 1

- Material and equipment mobilized to the project footprint and staging area.
- Erosion and sediment control Best Management Practices (BMPs) installed (see Table 1).
- Internal pond repair and maintenance activities implemented.
- Western viewing platform disassembled and relocated, low tide walkway installed.
- New setback levee constructed.
- Elkhorn Slough bank recontoured.
- Eelgrass planted in Elkhorn Slough.

Year 2

- Existing perimeter levee removed.
- Setback levee construction completed.
- Remaining public access improvements implemented.
- Areas temporarily disturbed during construction restored to pre-construction conditions.
- Native high marsh vegetation reestablished in footprint of existing levee.
- Final erosion control measures installed.
- Material and equipment removed from the project area.

## Construction Equipment

Heavy equipment, including scrapers, excavator, backhoes, and haul trucks would be used to construct the project. To the extent possible, equipment would access work areas on existing roads and levees. Low ground pressure (LGP) equipment would be used to transport exported material between cut and fill areas not accessible from the existing road / levee system, and wetland mats would be used to minimize soil compaction in work areas adjacent to Elkhorn Slough, as necessary. Equipment and vehicles would be staged along existing access roads or in a dedicated staging area in the existing parking area. All equipment would be steam-cleaned prior to arrival on-site to reduce the chances of non-native seeds or species being introduced by construction equipment.

***Work In Receiving Waters***

Work adjacent to Elkhorn Slough work would be completed intermittently at low tide (when water has receded from the footprint) to minimize sediment delivery to Elkhorn Slough. Sediment or turbidity curtains would not be employed to avoid the potential for marine mammals to be entangled in the netting. Wetland blankets or mats would be used along the bank, where necessary, to prevent compaction of wetland soils during construction.

Excavated soil from the bank would be placed into haul trucks and transported to the setback levee location to be repurposed as fill. Excavation equipment and haul trucks would utilize the levee system to transport sediment.

## Construction Schedule

As mentioned above, the proposed project would be constructed in two seasons, during the summer and fall of 2021 and 2022. During Year 1 the construction contractor would move the western viewing platform, construct the initial footprint of the setback levee, recontour the bank of Elkhorn Slough, and complete the salt pond and infrastructure repair items. Proposed pond infrastructure repair activities would begin after the western snowy plover nesting season is complete, to the extent practicable and in consultation with biologist from Point Blue. Work to recontour the bank of Elkhorn Slough would take approximately 2 weeks (total) and would only occur during low, low tide cycles (tides below 2.5 feet NAVD88) to allow heavy equipment to access the work area. The proposed eelgrass planting would occur after the bank is recontoured and would be conducted by graduate research students at the University of California, Santa Cruz. During Year 2, the construction contractor would remove the existing perimeter levee, complete construction of the setback levee, and implement the public

access improvements. Public access to trails and the shoreline within the Wildlife Area would be restricted during all construction activities.

## Construction Personnel and Access

Access to the project area by the workers would be along Highway 1 and the access road to the Wildlife Area. Access within the project area would be provided by the existing perimeter levee, where possible, or overland, where construction is required within a salt pond and/or outboard of the perimeter levee. All equipment would be staged on the existing road, levee, or the established parking area within the project area and adjacent to developed house and boat storage area. All access and staging would be above the high tide line.

## Construction-Related Best Management Practices

Table 1 provides a list of construction-related BMPs that will be applied to this project. The Mitigation Monitoring and Reporting Program (MMRP) will provide an accounting of all required mitigation measures described in this Initial Study/Mitigated Negative Declaration.

## Potential Permits and Approvals from Public Agencies

A component of project planning is to understand the jurisdiction of multiple regulatory agencies and the types of approvals or permits that might be necessary to implement a project. The following is a list of agencies that may have jurisdiction over activities proposed by the project and the corresponding type of approval that may be required.

Federal Approvals

- U.S. Army Corps of Engineers (USACE): A § 404 Clean Water Act (CWA) permit and a § 10 Rivers and Harbors Act (RHA) permit would be required for placement of dredge or fill material into waters of the United States and work within navigable waters respectively.
- National Marine Fisheries Service (NMFS): Federal Endangered Species Act (FESA) compliance would be required for potential effects on anadromous fish species federally listed as threatened or endangered, and compliance with the Marine Mammal Protection Act (MMPA) would be required for potential effects on marine mammals under NMFS jurisdiction (i.e., harbor seal). NMFS would also consider the impacts of the project on federally-protected eelgrass beds and essential fish habitat (EFH) protected under the Magnunson-Stevens Fishery Conservation and Management Act (MSA)
- U.S. Fish and Wildlife Service (USFWS): FESA compliance would be required for potential effects on wildlife and resident aquatic species federally-listed as threatened or endangered, and compliance with the MMPA would be required for potential effects on marine mammals under USFWS jurisdiction (i.e., southern sea otter). Compliance with the Migratory Bird Treaty Act (MBTA) would be necessary to protect active nests of native birds.

**Table 1 Construction-Related Best Management Practices**

| BMP No. | Name | BMP |
|---|---|---|
| BMP - 1 | Erosion Control and Construction-Related Turbidity | 1. Sandbags or other erosion control measures will be employed to prevent runoff and construction-related turbidity.<br>2. Upland soils exposed during construction will be stabilized using native or non-invasive seed and, if necessary to control erosion, existing vegetation or straw mulch.<br>3. Erosion control fabric will consist of natural fibers that biodegrade over time. No plastic or other non-porous material will be used as part of a permanent erosion control approach.<br>4. Other erosion control measures shall be implemented as necessary to ensure that sediment or other contaminants do not reach surface water bodies. |
| BMP -2 | Staging and Stockpiling of Materials | 1. All construction equipment will be staged in upland areas, away from sensitive natural communities or habitats.<br>2. All construction-related items, including equipment, temporary erosion control treatments, and trash will be removed within 72 hours of project completion. All residual soils and/or materials will be cleared from the project area.<br>3. Building materials and other construction-related materials, including chemicals, will not be stockpiled or stored where they could spill into water bodies or storm drains, or where they could cover aquatic or riparian vegetation. |
| BMP - 3 | Spill Prevention and Response Plan | A Spill Prevention and Response Plan will be developed prior to the start of construction describing spill cleanup equipment and materials required to be maintained on-site; measures to be taken to contain a spill; and notification requirements in the event of a spill. |
| BMP - 4 | Equipment and Vehicle Maintenance and Cleaning | 1. All vehicles and equipment will be kept clean. Excessive build-up of oil or grease will be prevented. Vehicles should be free of exotic vegetation.<br>2. Vehicle and equipment maintenance activities will be conducted in a designated area to prevent inadvertent fluid spills from adversely impacting water quality. This area will be clearly designated with berms, sandbags, or other barriers.<br>3. Secondary containment, such as a drain pan or drop cloth, to catch spills or leaks will be used when removing or changing fluids. Fluids will be stored in appropriate containers with covers, and properly recycled or disposed of off-site.<br>4. Cracked batteries will be stored in a non-leaking secondary container and removed from the site.<br>5. Spill cleanup materials will be stockpiled where they are readily accessible.<br>6. Incoming vehicles and equipment will be checked for leaking oil and fluids (including delivery trucks and employee and subcontractor vehicles). Leaking vehicles or equipment will not be allowed on-site.<br>7. Vehicles and equipment will not be washed on-site. Vehicle and equipment washing will occur at an appropriate wash station. |
| BMP - 5 | Refueling | 1. All fueling sites shall be equipped with secondary containment and avoid a direct connection to underlying soil, surface water, or the storm drainage system.<br>2. For stationary equipment that must be fueled on-site, secondary containment such as a drain pan or drop cloth shall be provided in such a manner to prevent accidental spill of fuels to underlying soil, surface water, or the storm drainage system. |
| BMP - 6 | On-Site Hazardous Materials Management | 1. The products used and/or expected to be used and the end products that are produced and/or expected to be produced after their use will be inventoried.<br>2. As appropriate, containers will be properly labeled "Hazardous Waste" and properly recycled or disposed of off-site. |

| BMP No. | Name | BMP |
|---|---|---|
| | | 3. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage.<br>4. Quantities of equipment fuels and lubricants greater than 55 gallons shall be provided with secondary containment that is capable of containing 110 percent of the volume of primary container(s).<br>5. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials shall not be allowed to enter receiving waters or the storm drainage system.<br>6. Sanitation facilities (e.g., portable toilets) will be surrounded by a berm, and a direct connection to the storm drainage system or receiving water will be avoided.<br>7. Sanitation facilities will be regularly cleaned and/or replaced, and inspected regularly for leaks and spills.<br>8. Waste disposal containers will be covered when they are not in use, and a direct connection to the storm drainage system or receiving water will be avoided.<br>9. All trash that is brought to a project area during construction (e.g., plastic water bottles, plastic lunch bags) will be removed from the site daily. |
| BMP - 7 | Fire Prevention | 1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors.<br>2. During the high fire danger period (April 1–December 1), work crews will have appropriate fire suppression equipment available at the work site.<br>3. On days when the fire danger is high, flammable materials will be kept at least 10 feet away from any equipment that could produce a spark, fire, or flame.<br>4. On days when the fire danger is high, portable tools powered by gasoline-fueled internal combustion engines will not be used within 25 feet of any flammable materials unless at least one round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area). |
| BMP - 8 | Work Site Housekeeping | 1. The work site will be maintained in a neat and orderly condition, and left in a neat, clean, and orderly condition when work is complete.<br>2. Materials or equipment left on the site overnight will be stored as inconspicuously as possible, and will be neatly arranged. |
| BMP - 9 | Health and Safety Plan | 1. Consistent with Occupational Safety and Health Administration (OSHA) regulations, CDFW would require that a project-specific Health and Safety Plan be developed by the construction contractor prior to any construction activities. |

- California State Historic Preservation Office (SHPO): National Historic Preservation Act (NHPA) implementing regulations, as set forth in Title 36 Code of Federal Regulations (CFR) Parts 800 et. seq., require federal agencies to take into account the effects of their undertakings on historic properties and consult with stakeholders, including SHPO, on potential effects to resources that are listed or eligible for listing in the National Register of Historic Places. The USACE through the 404 process would be the Federal agency to consult with SHPO.

State Approvals

- California Coastal Commission (CCC): A Coastal Development Permit would be required from the CCC for all work in the project area that has the potential to impact coastal resources.[5]
- Central Coast Regional Water Quality Control Board (RWQCB): A CWA § 401 Water Quality Certification and Porter-Cologne Water Quality Control Act (Porter-Cologne) Waste Discharge Requirements (WDR) would be required for all work that may impact waters of the state, including wetlands. A Construction General Permit, in compliance with CWA § 402, would be required for construction activities that disturb 1 acre or more of land and that have the potential to discharge to a surface water.
- CDFW: A Lake or Streambed Alteration Agreement (LSAA), in accordance with § 1602 of the California Fish and Game Code (FGC), would be required for work within the bed, channel or bank of jurisdictional waters. The project would also be required to comply FGC § 2080 (protection of State-listed special status species), as applicable. CDFW is also the landowner and manager and is acting as the State lead agency under CEQA. In addition, all native bird species that occur in the project area are protected by the FGC. FGC §§ 3503, 3503.5, 3513, and 3800 (and other sections and subsections) provide protections for native birds, including their nests and eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort may be considered "take" by CDFW.
- California State Historic Preservation Office (SHPO): National Historic Preservation Act (NHPA) implementing regulations, as set forth in Title 36 Code of Federal Regulations (CFR) Parts 800 et. seq., require federal agencies to take into account the effects of their undertakings on historic properties and consult with stakeholders, including SHPO, on potential effects to resources that are listed or eligible for listing in the National Register of Historic Places.

Regional Approvals

- Monterey Bay National Marine Sanctuary: A Monterey Bay National Marine Sanctuary Permit may be required for construction activities that could affect Sanctuary resources.
- Moss Landing Harbor District (MLHD): The MLHD has jurisdiction over all lands below the mean high tide line adjacent to Elkhorn Slough in the vicinity of the project area (Boggiano pers. comm. 2020). MLHD will review the scope of all work located below the high tide line and/or work that may impact the quality of downstream waters.

[5] The project area is located entirely within the jurisdiction of the CCC; a CDP from Monterey County is not required (Butler pers. comm. 2020).

**Figure 1 Project Vicinity and Location**


**Figure 1. Project Vicinity and Location**
Moss Landing Wildlife Area Bank Enhancement Project
Section 7 & 8, T13S, R2E
Monterey County, CA

9,900 4,950 0 9,900 Feet

**Figure 2 Project Area**

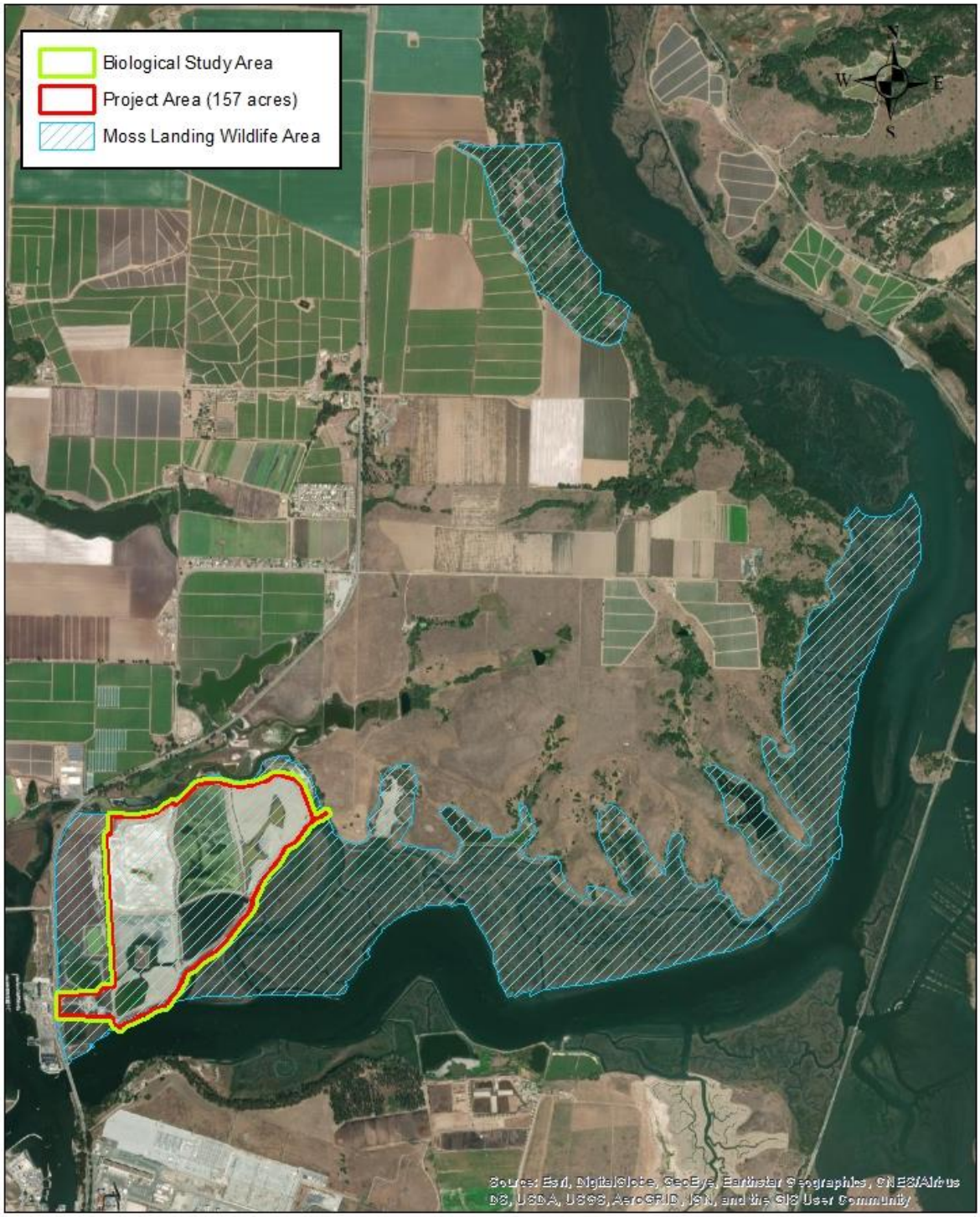


**Figure 2. Project Area**
Moss Landing Wildlife Area Bank Enhancement Project
Section 7 & 8, T13S, R2E
Monterey County, CA

1,400 700 0 1,400 Feet

**Figure 3 Habitats within the Project Area**

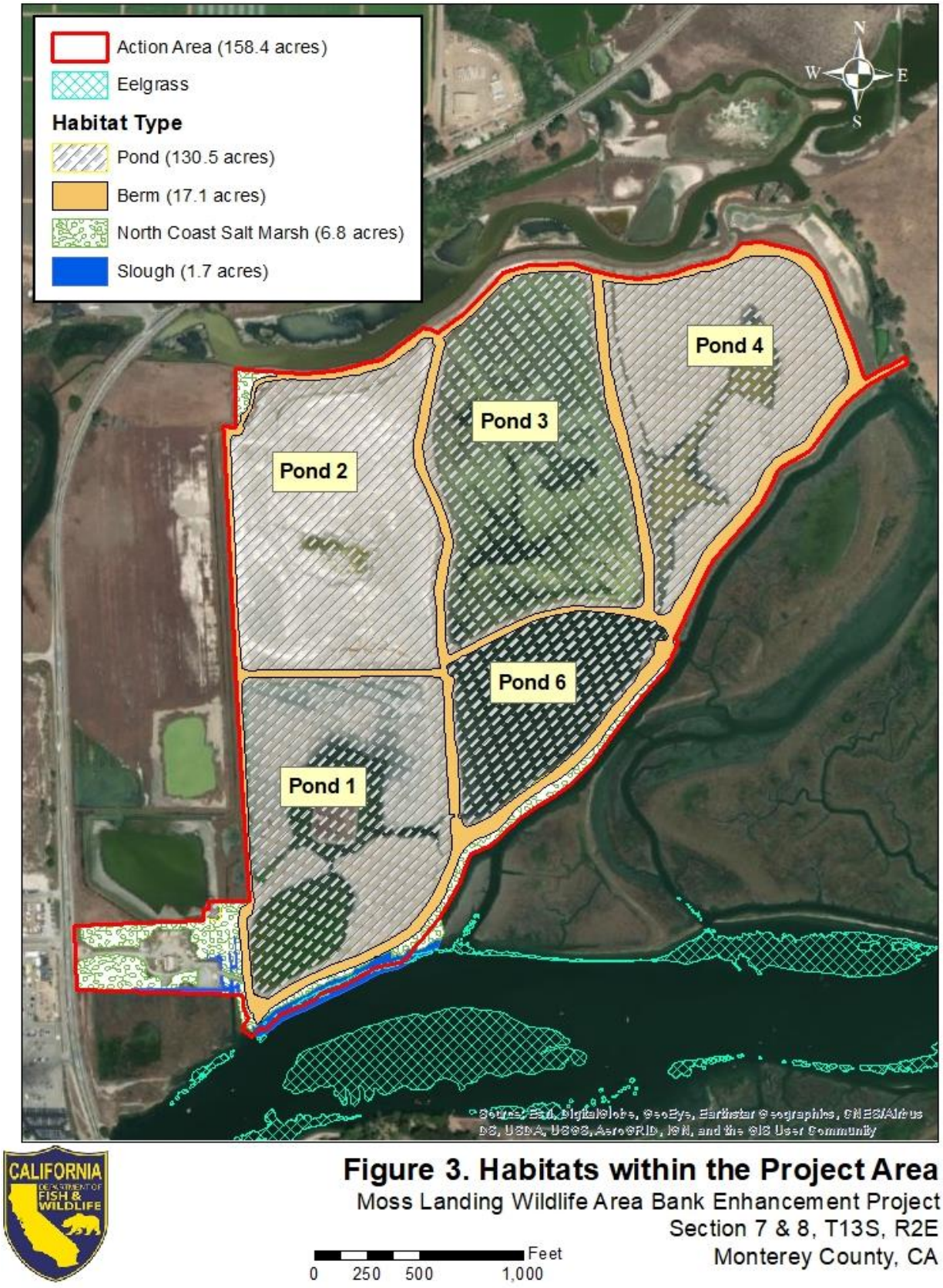


**Figure 3. Habitats within the Project Area**
Moss Landing Wildlife Area Bank Enhancement Project
Section 7 & 8, T13S, R2E
Monterey County, CA

0 250 500 1,000 Feet

**Figure 4 Snowy Plover Nest Locations**

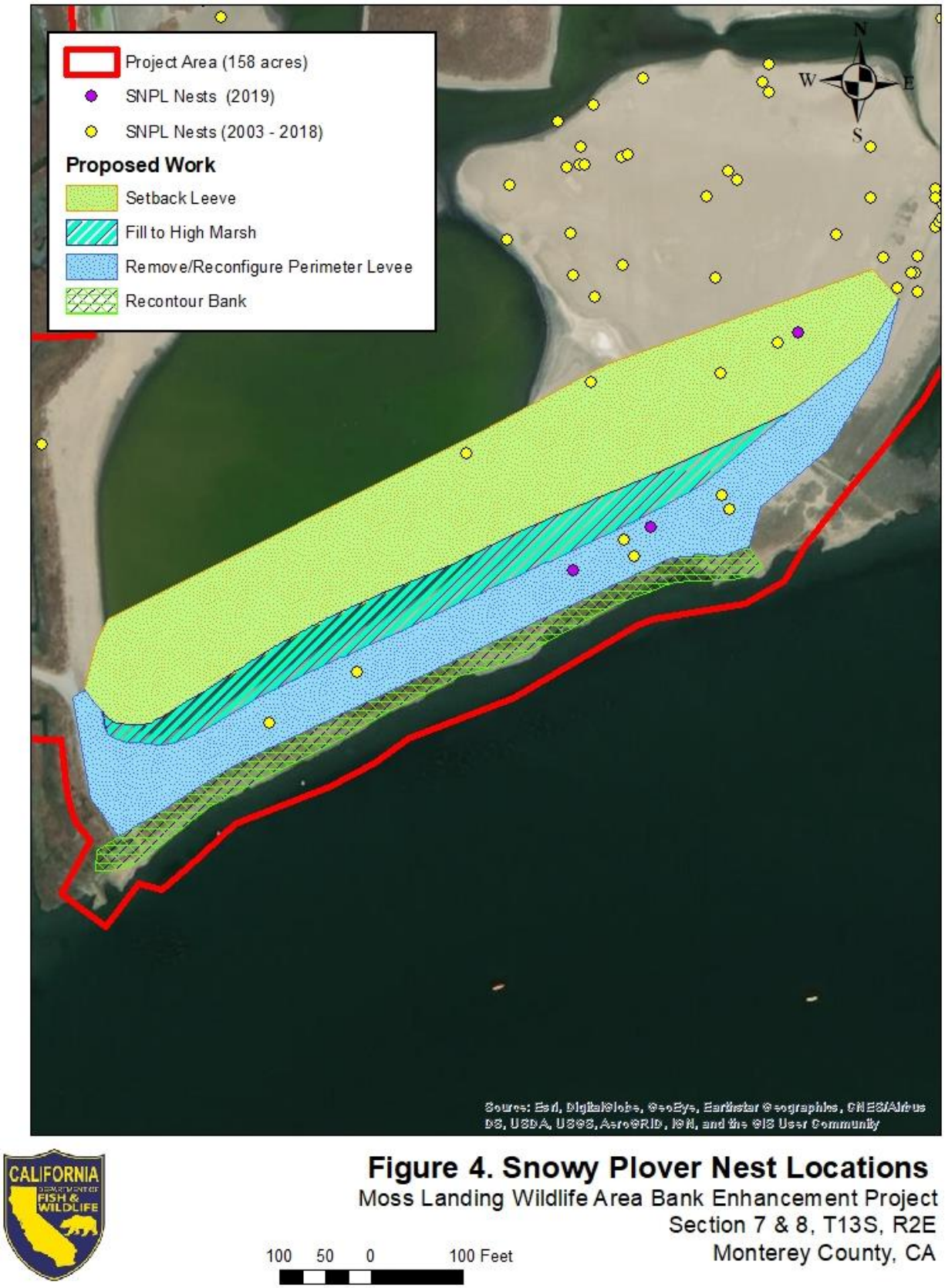

**Figure 5 Harbor Seal Haul-Out Sites in the Vicinity of the Project Area**

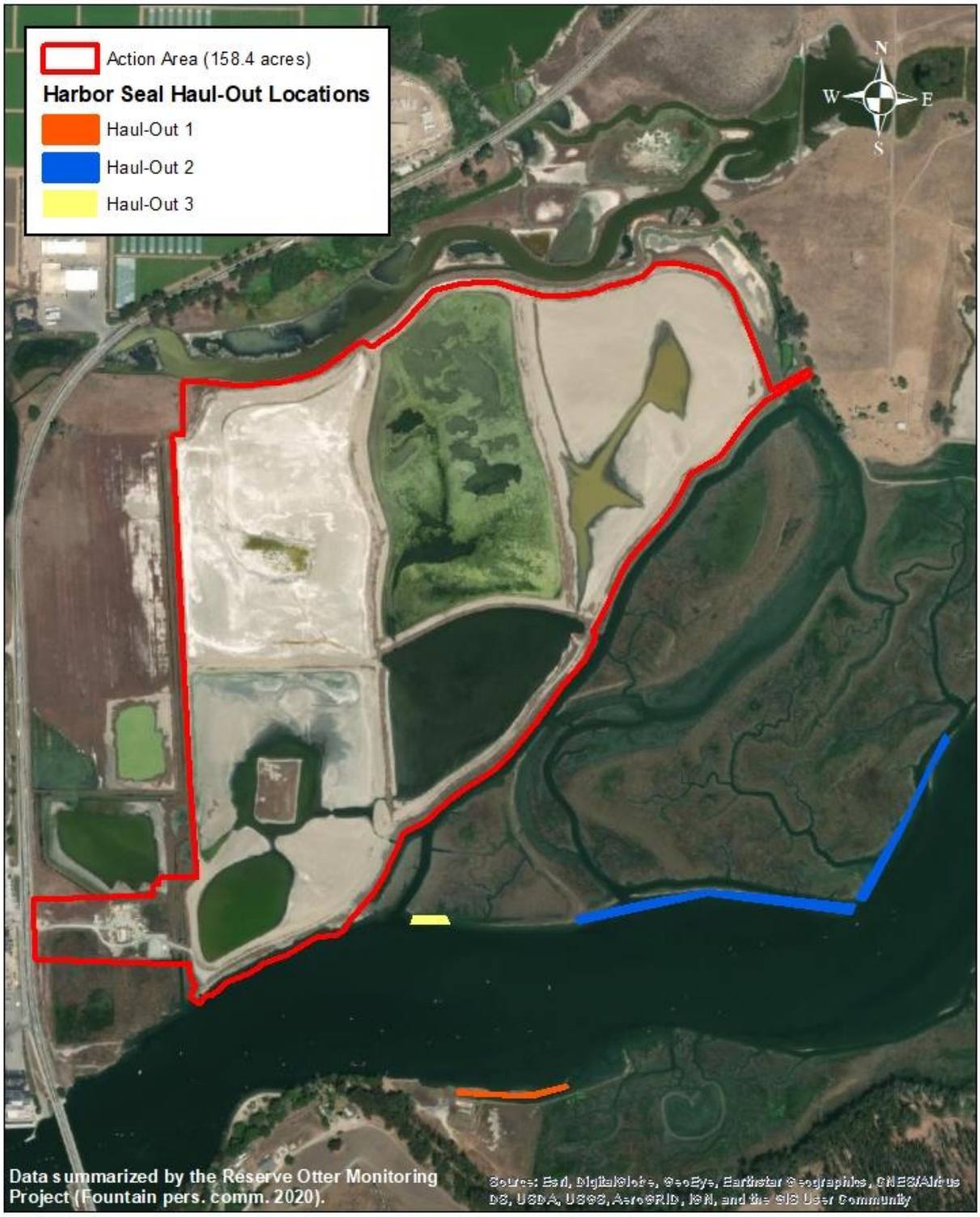


**Figure 5. Harbor Seal Haul-Out Sites in the Vicinity of the Project Area**
Moss Landing Wildlife Area Bank Enhancement Project
Section 7 & 8, T13S, R2E
Monterey County, CA

0 0.125 0.25 0.5 Miles

**Figure 6 Proposed Project Conceptual Design**

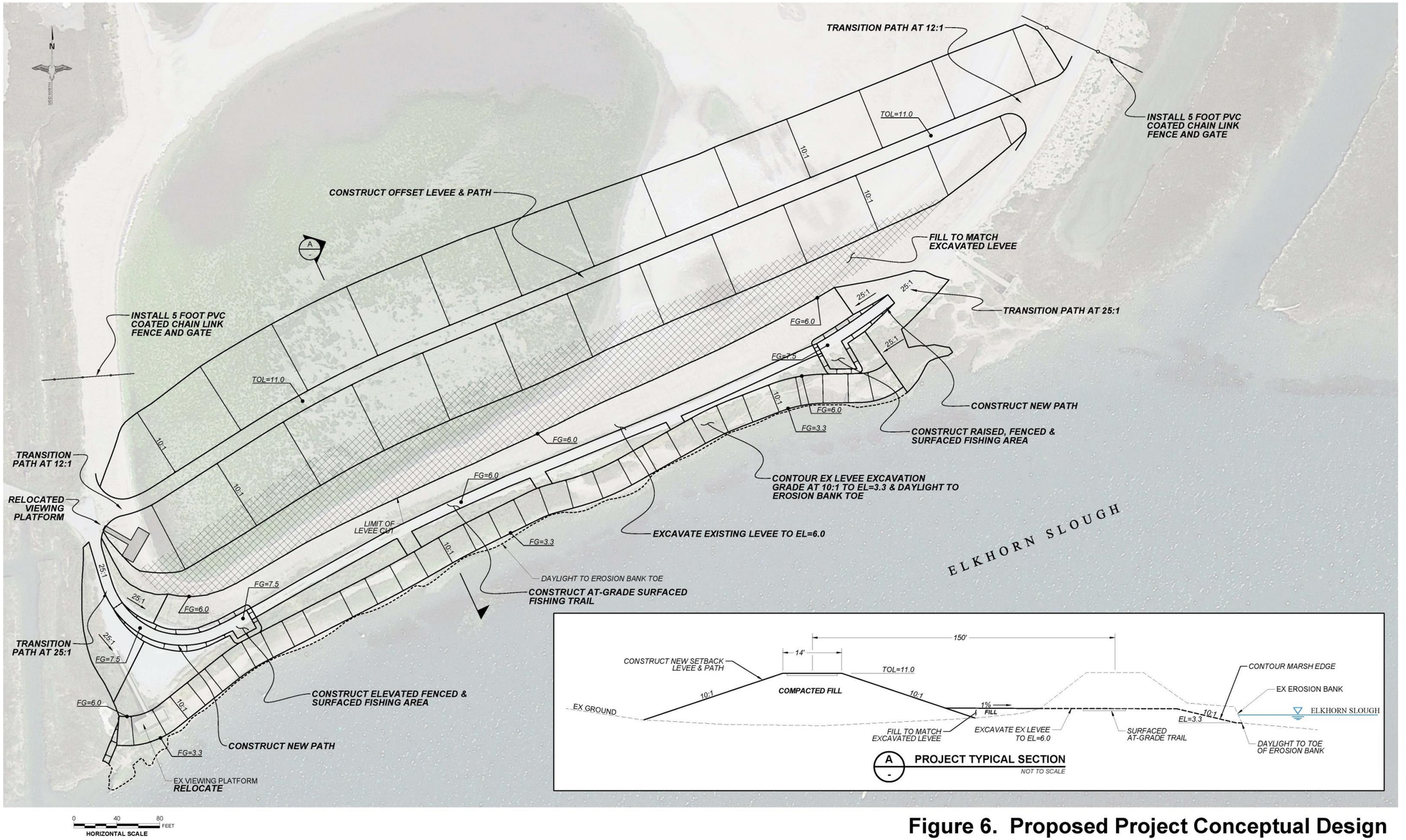


**Figure 6. Proposed Project Conceptual Design**
Moss Landing Bank Enhancement Project

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## B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

All of the following potential environmental factors are evaluated in this Initial Study. The environmental factors checked below would be potentially affected by the proposed project.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forest Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources / Tribal Cultural Resources | ☐ Energy |
| ☐ Greenhouse Gas Emissions | ☐ Geology / Soils | ☐ Hazards / Hazardous Materials |
| ☐ Hydrology / Water Quality | ☐ Land Use / Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population / Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Utilities / Service Systems |
| ☐ Wildfire | ☐ Mandatory Findings of Significance | ☒ None with Mitigation Incorporated |

For the environmental issue areas where there is no potential for significant environmental impact, there is no potential for a significant environmental impact to occur from construction, operation, or maintenance of the proposed project. This finding can be made using the project description, environmental setting, or other information as supporting evidence, which is provided in the Environmental Checklist below. For those environmental issue areas where there is potential for significant environmental impact, mitigation measures have been identified in this document that would reduce impacts to a less than significant level.

## C. LEAD AGENCY DETERMINATION

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.

[X] 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.

For: DocuSigned by: Bob Stafford 5343A684FE02469...

Signature

6/29/2021

Date

Julie A. Vance

Printed Name

Regional Manager

Title

# D. EVALUATION OF ENVIRONMENTAL IMPACTS

## AESTHETICS

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista. | | | X | |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. | | | X | |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | | | X | |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. | | | | X |

Setting:

The project area provides important habitat for foraging and breeding shorebirds, specifically the federally threatened western snowy plover, as well as wintering areas for migratory waterfowl. The project area is characterized by a mixture of former salt ponds and earthen levees, surrounded by tidal marsh, tidal sloughs, and mudflats. In summer months water remains in the swales and channels within the managed ponds and ponds contain small clusters of low-lying plants in the summer. The managed ponds are filled with water during winter months. Visually the site contains a mixture of light and dark soils, small wet areas, small rocks, and green vegetation. Other visual elements within the project area include levees, wooden viewing platforms, a single residence with boat storage and the parking area. Topographically, the site surroundings are largely flat, and of a similar visual character, which includes the open waters of Elkhorn Slough to the southeast and the smaller Moro Cojo Slough to the south.

Highway 1 is designated as a scenic resource under Streets and Highway Code § 263 of the California Scenic Highway Program. The California Department of Transportation (Caltrans) manages the State Scenic Highway Program, provides guidance, and assists local government agencies, community organizations, and citizens with the process to officially designate scenic highways. According to Caltrans, Highway 1, which is within the vicinity of the proposed project, is a designated State Scenic Highway (Caltrans 2020).

Highway 1 is not mapped as a Scenic Highway by Monterey County, however, Elkhorn Slough is considered a Scenic Waterway (Monterey County 2010).

Would the Project:

**a) Have a substantial adverse effect on a scenic vista.**

The view of the project area from Highway 1 and from Elkhorn Slough would be impacted during project construction by the presence of heavy equipment and generalized ground disturbance. This impact would be temporary, lasting approximately 8 weeks in Year 1 and approximately 4 weeks in Year 2. Views of the project area would be comparable to pre-project conditions upon completion of activities. The view of the new setback levee would be comparable in appearance to the current levee that is used for public and maintenance access. The re-location of a viewing platform would not result in a significant change to existing conditions. The impact would be **Less than significant.**

**b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.**

The proposed project would not result in any damage to scenic resources as, post construction, the views of the project area from Highway 1 and Elkhorn Slough would be similar to pre-project conditions. The temporary impact to scenic resources during construction activities would last approximately 8 weeks in Year 1 and approximately 4 weeks in Year 2. This impact would be **Less than significant.**

**c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

The project area consists of open water, salt ponds, wildlife viewing platforms and trails. All areas temporarily disturbed during construction would be returned to a visual character comparable to pre-project conditions. Implementation of the project would result in a temporary disturbance to public views, but would not result in long-term degradation to the visual character of the area, or conflict with any regulations governing scenic quality. This impact would be **Less than significant.**

**d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.**

Construction of the project would not result in a new source of nighttime lighting during construction as no night work is permitted. No permanent lighting would be installed as a result of the proposed project. There would be **No impact.**

## AGRICULTURE AND FOREST RESOURCES

| **Environmental Factors and Focused Questions for Determination of Environmental Impact**<br>**Would the project:** | **Potentially Significant Impact** | **Less Than Significant With Mitigation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| 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. | | | | X |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract. | | | | X |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)) or timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Public Resources Code § 51104(g)? | | | | X |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | X |
| e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use. | | | | X |

Setting:

This section describes the environmental setting and any potential impacts on agricultural resources that would result from the project. Information about the project area and vicinity was obtained from review of the Farmland Mapping & Monitoring Program (FMMP), which identifies the project area as "Other Land" and "Water" (California Department of Conservation 2020).

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.**

Most of the project area is designated as "Other Land" on the Important Farmlands Map for Monterey County and does not contain any lands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance (California Department of Conservation 2020). There would be **No impact.**

**b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

The project area is zoned Resource Conservation (Coastal Zone), which is not considered to be an agricultural zone. Additionally, the project is owned by CDFW and not under a Williamson Act Contract. Therefore, the

project does not conflict with existing zoning for agricultural use, or a Williamson Act Contract. There would be **No impact.**

**c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)) or timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Public Resources Code § 51104(g))?**

The project would not impact forest resources or result in the loss or conversion of forest land since the project area does not contain any forest land as defined in PRC § 12220(g), timberland as defined by PRC § 4526, or property zoned for Timberland Production as defined by Government Code § 51104(g). There would be **No impact.**

**d) Result in the loss of forest land or conversion of forest land to non-forest use?**

As mentioned above, the project area does not contain forest land and would not result in loss of forest land. There would be **No impact.**

**e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

As mentioned above, the project area does not contain any lands designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance as shown on the maps prepared pursuant to the FMMP of the California Resources Agency (California Department of Conservation 2020). There would be **No impact.**

## AIR QUALITY

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan. | | | X | |
| b) 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. | | | X | |
| c) Expose sensitive receptors to substantial pollutant concentrations. | | X | | |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. | | | X | |

Setting:

The proposed project is located in Monterey County, which is part of the North Central Coast Air Basin (NCCAB) along with Santa Cruz and San Benito counties. The NCCAB's main air quality problems are with ozone (which is formed in the atmosphere from reactive organic gases [ROG] and nitrogen oxides [NOx]) and particulate matter (two varieties – $PM_{10}$ [particulate matter less than 10 microns in diameter] and $PM_{2.5}$ [particulate matter less than 2.5 microns in diameter]). Such problems tend to occur in the summer and fall when seasonal winds and local topography restrict the dispersion of locally emitted pollutants and/or transport pollutants from the San Francisco Bay area or the Central Valley into the NCCAB. The NCCAB is in attainment of all federal ambient air quality standards, including ozone, particulate matter and all other major air pollutants, according to the California Air Resources Board (CARB) Area Designation Maps (https://www.arb.ca.gov/desig/adm/adm.htm).

The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for air pollutant emission control and air quality planning in the NCCAB. The most recently adopted air quality plan for the region is the 2008 Air Quality Management Plan (MBARD 2008). The MBARD maintains a number of air quality monitoring stations in the NCCAB that continually measure the ambient concentrations of major air pollutants. The closest such monitoring station to the project area is in Carmel Valley, about 25 miles to the south. Recent data collected show a few violations of the federal $PM_{2.5}$ particulate standard per year (see Table 2). Such occurrences (particularly those in 2016) reflect the increased influence of wildfires on air quality in recent years, which so far have not been sufficiently severe/frequent enough to affect the $PM_{2.5}$ federal attainment status of the NCCAB.

**Table 2 Local Ambient Air Quality Monitoring Summary**

| Pollutant | Air Quality Standard | Maximum Concentrations and Number of Days Standards Exceeded | | |
|---|---|---|---|---|
| | | 2016 | 2017 | 2018 |
| **Ozone** | | | | |
| Maximum 8-hour concentration (ppm) | 70 ppb | 61 ppb | 66 ppb | 54 ppb |
| # Days 8-hour federal standard exceeded | | 0 | 0 | 0 |
| **Suspended Fine Particulates ($PM_{2.5}$)** | | | | |
| Maximum 24-hour concentration ($\mu g/m^3$) | 35 $\mu g/m^3$ | 104.7 $\mu g/m^3$ | 43.6 $\mu g/m^3$ | 50.7 $\mu g/m^3$ |
| # Days federal 24-hour standard exceeded | | 11 | 1 | 4 |

Note: As monitored at the MBARD station in Carmel Valley.
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million
ppb = parts per billion.
Source: CARB, iADAM: Air Quality Data Statistics https://www.arb.ca.gov/adam/.

In addition to major air pollutants (as identified above), many other chemical compounds, generally termed toxic air contaminants (TACs), pose a present or potential hazard to human health through airborne exposure. A wide variety of sources, stationary (e.g., dry cleaning facilities, gasoline stations, and emergency diesel-powered generators, etc.) and mobile (e.g., motor vehicles, construction equipment, etc.), emit TACs. The health effects associated with TACs are quite diverse. TACs can cause adverse health effects from long-term exposure (e.g., cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) and/or from short-term exposure (e.g., eye watering, respiratory irritation, running nose, throat pain, and headaches). Most of the estimated carcinogenic/chronic health risk in California can be attributed to relatively few airborne compounds, the most important being particulate matter from diesel-fueled engines (i.e., diesel particulate matter or DPM). The CARB has identified DPM as being responsible for about 70 percent of the cumulative cancer risk from all airborne TAC exposures in California (CARB 2014).

The analytical methodologies and significance criteria specified in *CEQA Air Quality Guidelines* (MBARD 2008) and *Guidelines for Implementing the California Environmental Quality Act* (MBARD 2016) were used to assess the project's emissions of air pollutants from construction operations and the potential for exposure of local sensitive receptors to DPM in the construction equipment exhaust. The specific significance criteria relevant to evaluating this project's construction air quality impacts are:

- **Construction Air Pollutant Emissions**: There would be a significant impact if the following limits on air pollutant emissions from all sources (i.e., equipment exhaust + activity fugitive dust) are exceeded:
  - 137 pounds per day of $NO_x$
  - 137 pounds per day of ROG
  - 82 pounds per day of $PM_{10}$
  - 55 pounds per day of $PM_{2.5}$
- **Construction Fugitive Dust Emissions**. There would be a significant impact from the $PM_{10}$ in fugitive dust from construction activities if such emissions exceed 82 lbs/day. Based on this threshold, the *Guidelines*

set the following limits on the active daily area worked at construction sites to assure that the daily $PM_{10}$ emissions are below the 82 lbs./day emission threshold:

  - Construction with Minimal Earthmoving – 8.1 acres/day
  - Construction with Earthmoving (e.g., grading, excavation) – 2.2 acres/day

- **DPM Health Risk**. There would be significant impacts from projects with DPM emissions if their cancer risk to local maximally exposed sensitive receptors increases by 10 chances in one million from a 70-year exposure; or if the non-cancer hazard index from chronic exposure to DPM exceeds 1.0 at sensitive receptor locations.

Would the Project:

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

The purpose of the proposed project to preserve and enhance wildlife habitat; reduce bank erosion of Elkhorn Slough; provide safe public recreational access; and improve habitat water management capabilities within the managed ponds. Project construction would occur over two years, after the western snowy plover nesting season is complete. Year 1 activities would last approximately 8 weeks from mid-August through mid-October. Year 2 activities would last approximately 4 weeks in September and/or October.

The project would not have NCCAB-wide significant impacts impeding the implementation of control strategies or the attainment of goals set in the *2008 Air Quality Management Plan*. There would be no net new project operational pollutant emissions after the above-mentioned habitat/access improvements are implemented. Nor would there be any project effects on housing, employment, and population projections within the NCCAB, which are the bases of the emission inventories and control strategies of said Plan. Also, air pollutant emissions generated during construction of the proposed project would be less than the MBARD CEQA significance thresholds (see Table 3 in Item b below). Thus, the project would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be **Less than significant.**

**b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

The CEQA Guidelines recommend quantification of construction and operational air pollutant emissions using the California Emissions Estimator Model (CalEEMod). Off-road equipment and haul/delivery/worker vehicular pollutant emission rates were taken from Appendix D of the CalEEMod (Version 2016.3.2) and the EMFAC2017 on-road model, respectively.

As shown in Table 3, incremental emissions under the project would be less than the MBARD CEQA significance thresholds. Therefore, the project would not make cumulatively considerable contributions to the NCCAB's regional problems with ozone or particulate matter. This impact would be **Less than significant.**

**Table 3 Project Construction Emissions and Comparisons with MBARD Thresholds (lbs/day)**

| Project Construction Activity (Year) | ROG | NOx | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| Mobilization (2021) | <0.1 | 0.3 | <0.1 | <0.1 |
| Site Preparation (2021) | 0.2 | 1.9 | 0.1 | <0.1 |
| Pond Maintenance (2021) | 1.6 | 14.7 | 0.7 | 0.5 |
| Earthwork (2022) | 1.2 | 11.1 | 0.4 | 0.4 |
| Surfacing (2022) | 0.4 | 4.1 | 0.2 | 0.2 |
| Demobilization (2022) | <0.1 | 0.3 | <0.1 | <0.1 |
| **Peak Daily Total** | **1.6** | **14.7** | **0.7** | **0.5** |
| **Significance Thresholds** | **137** | **137** | **82** | **55** |
| **Significant Impact?** | **No** | **No** | **No** | **No** |

**c) Expose sensitive receptors to substantial pollutant concentrations?**

Impact AQ-1: Project construction could impact local $PM_{10}$ concentrations due to the fugitive dust emitted during ground disturbance activities. To limit the generation of fugitive dust, appropriate construction BMPs listed in *CEQA Air Quality Guidelines* (page 8-2) will be implemented. These measures are listed below in Mitigation Measure AQ-1. Implementation of these measures would reduce local project construction impacts from fugitive dust. This impact would be **Less than significant.**

*Mitigation Measure AQ-1: Construction Fugitive Emissions Minimization Measures*

The Project contractor shall implement a Dust Control Plan that shall include the following measures as applicable to Project construction activities:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 miles per hour [mph]).
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Haul trucks shall maintain at least 2 feet of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.

- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall be visible to ensure compliance with Rule 402 (Nuisance).
- Limit the area worked at any one time to 8.1 acres/day during construction phases with minimal earthmoving, or to 2.2 acres/day during construction phases with substantial earthmoving (e.g., grading, excavation, etc.).

The cancer risk from project equipment DPM emissions would be far below the 10-in-a-million significance threshold for the following reasons: (1) the relatively small equipment sets specified for Project construction (i.e., one each – bulldozer, excavator, loader, paver, roller), which would reduce local receptor exposure concentrations; and (2) the relatively short times that the equipment would be active (i.e., 2-3 months in the Summers of 2021 and 2022, which would reduce local receptor exposure durations. Since cancer risk is typically evaluated over a reference 70-year exposure period, Project cancer risk would be proportionate to the much shorter Project exposure durations. Thus, there would be a **less-than-significant** health risk to local sensitive receptors from ambient exposure to DPM from project construction equipment.

**d) Create objectionable odors affecting a substantial number of people?**

Diesel exhaust that would be emitted by project construction equipment has a characteristic odor. The contractor would be using at most two pieces of construction equipment for each project element (e.g., a bulldozer and excavator during infrastructure maintenance; a paver and roller during setback levee construction etc.). Project elements would happen sequentially so any odors they produced from two pieces of equipment would be tightly localized to the locus of equipment and be of short duration to any particular local receptor. In addition, because the work areas would move around the project area, the odors would not linger in one area for 2-3 month periods in the years 2021 and 2022. This impact would be **Less than significant**.

## BIOLOGICAL RESOURCES

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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 U.S. Fish and Wildlife Service. | | X | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service. | | | X | |
| c) Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means. | | | | X |
| 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, or impede the use of native wildlife nursery sites. | | | | X |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. | | | | X |

Setting:

### Regulations

The following federal and state regulations would apply to activities contemplated under the proposed project that may impact sensitive habitats and/or fish, wildlife, or plant species.

***Federal Regulations***

Clean Water Act

The CWA (33 U.S. Code [U.S.C.] § 1251 et. seq.) is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA § 404 regulates the discharge of dredged and fill materials into waters of the United States (comprising wetlands and other waters of the United States). CWA § 401 requires that applicants for a federal license or permit for activities that may impact water quality obtain certification from the RWQCB that the proposed discharge will comply with state water quality standards. The authority to issue water quality certifications in the project area is vested with the Central Valley RWQCB, with oversight provided by the State Water Resources Control Board. CDFW will need to obtain a permit from USACE and RWQCB for project activities.

Endangered Species Act

The FESA (16 U.S.C § 1531 et. seq.) was enacted in 1973 for the purpose of protecting fish and wildlife species (and their habitats) that have been identified by the USFWS or NMFS as threatened or endangered. USFWS and NMFS administer FESA; in general, NMFS is responsible for protection of FESA-listed marine and anadromous fish species, while FESA-listed terrestrial species and freshwater aquatic species are under USFWS jurisdiction. Specific areas within the geographic range of a federally listed species may be designated as "Critical Habitat" and receive protection as well. The proposed project is likely to affect species protected under FESA and would be required to evaluate potential impacts through preparation of a Biological Assessment (BA). The BA would be provided to the appropriate agency (either NMFS and/or USFWS) which would determine the process for compliance with FESA.

Migratory Bird Treaty Act

The MBTA (16 U.S.C. §§ 703-712) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird." Project activities may disturb active nests (including nestlings or eggs) which would trigger the need for compliance with the MBTA. Permits are not issued under the MBTA, but the law requires project proponents to evaluate potential impacts on active nests and nesting birds.

Magnuson-Stevens Fishery Conservation and Management Act

The MSA (16 U.S.C. §§ 1801-1891(d)) requires all federal agencies to consult with NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect EFH. EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." In addition, NMFS developed policy and guidelines for protecting eelgrass, a species of seagrass (NMFS 2014). NMFS also designated eelgrass beds as Habitat Areas of Particular Concern (HAPC), a subset of EFH for federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan. Estuaries, sea grass beds, canopy kelp, rocky reefs, and other "areas of interest" (e.g., seamounts, offshore banks, canyons) are designated HAPC for managed groundfish species (PFMC 2006).

Marine Mammal Protection Act

The MMPA (16 U.S.C. §§ 1361-1421) requires federal agencies manage marine mammals to their optimum sustainable population (OSP) level. Authority to manage the MMPA was divided between the Secretary of the Interior through the USFWS and the Secretary of Commerce, which is delegated to NMFS. Subsequently, a third Federal agency, the Marine Mammal Commission (MMC), was established to review existing policies and make recommendations to the USFWS and NMFS to better implement the MMPA. Under the MMPA, the USFWS is responsible for ensuring the protection of sea otters and marine otters, walruses, polar bears, three species of manatees, and dugongs. NMFS is responsible for conservation and management of pinnipeds, including seals and sea lions and cetaceans such as whales and dolphins. The MMPA provides a general prohibition on activities

that take marine mammals, with limited exceptions for scientific research, commercial fisheries, subsistence harvest by Alaska Natives, activities that take marine mammals incidentally but that have a negligible impact on their populations, and military activities deemed essential for national defense.

***State Regulations***

California Endangered Species Act

The California Endangered Species Act (CESA) (14 CCR 670.5) ensures that "all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved." Under CESA, it is unlawful to "take" a State-listed endangered or threatened species except as authorized by CDFW. FGC § 86 defines take as "hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture or kill." Compliance with CESA would be required if the construction or operation of the project would cause the incidental "take" of any State-listed plant or wildlife species known to occur within the project area.

California Coastal Act

The California Coastal Act (CCA) (14 CCR §§ 30221 et seq.) was enacted by the State Legislature in 1976 to provide long-term protection for coastal resources along California's 1,100-mile-long coastline. The enforceable policies of the CCA constitute the standards used by the CCC to review activities proposed within the coastal zone, as well as activities located outside the coastal zone that have the potential to impact coastal resources. Among other things, CCA polices require protection and expansion of public access to the shoreline; protection, enhancement and restoration of environmentally sensitive habitats; and protection of the scenic beauty of coastal landscapes and seascapes. The project area is located entirely within the jurisdiction of the CCC, and will require receipt of a CDP from the CCC prior to construction activities.

Porter-Cologne Water Quality Control Act

Porter-Cologne (California Water Code §§ 1300-14958) is the primary state authority providing for water rights and water quality protection in the state of California. Under Porter-Cologne, the SWRCB and nine RWQCBs are responsible for regulating activities, including waste discharges, that have the potential to impair the beneficial uses of waters of the State including surface waters, ground water, and wetlands. Under Porter-Cologne, waste discharge requirements (WDR) are used to regulate activities that may affect waters of the state and to verify discharges are in compliance with state water quality standards.

California Fish and Game Code

Migratory birds are protected by FGC § 3503, which prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Specifically, FGC § 3503.5 prohibits the take, possession, or destruction of any birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls), or take, possession, or destruction of their nests or eggs, except as otherwise provided in the FGC. FGC § 3511 prohibits the take or possession of fully protected birds; and FGC § 3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA. Construction

disturbance that causes nest abandonment and/or loss of reproductive effort may be considered "take" by CDFW. FGC

In addition, FGC §§ 1600-1607 require project proponents to notify CDFW if a project would divert, obstruct, or change the natural flow of the bed, channel, or bank of any river, stream, or lake. Project Proponents are also required to notify CDFW if a project would use material from streambeds designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.

## Methods

The construction footprint of the project has been minimized to the maximum extent practicable in order to avoid jurisdictional features and sensitive habitats. The footprint includes construction access and staging areas in addition to all project features. For the purpose of this impact evaluation, biologists reviewed the CDFW California Natural Diversity Data Base (CNDDB) (CDFW 2020), USFWS Information for Planning and Consultation (IPaC) Trust Resources Report for Monterey County (USFWS 2020a), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2020) to determine what special-status species are likely to occur in or adjacent to the project area. Results of these searches are provided in Appendix B. Information about wetland communities and habitat types within the project area was gathered from the Wetland Delineation Survey and Report prepared by Ducks Unlimited biologists for the proposed project (Ducks Unlimited 2010a and Ducks Unlimited 2018). Information on western snowy plover use of the Wildlife Area was provided by on-going surveys conducted by Point Blue Conservation Science (Point Blue) and summarized in annual reports (Neuman et al. 2020). Salinity levels in the managed ponds within the Wildlife Area were measured in 2010 by Central Coast Wetlands Group at Moss Landing Marine Labs and in 2017 by Coastal Conservation and Research (CCR 2018).

## Existing Conditions

The 872-acre Wildlife Area is adjacent to the Elkhorn Slough Estuary, which combined provides over 3,000 acres of a rich ecosystem essential for over 340 bird, 550 marine invertebrate, and 102 fish species (Harvey and Connors 2002). Elkhorn Slough is an important nursery for commercial and recreational fish and a premier migratory stopover for birds. The 158.4-acre project area, which is located within the larger Wildlife Area, is comprised of tidal marsh, managed ponds (former salt ponds) and sloughs, and includes a narrow portion of Elkhorn Slough where bank improvements and eelgrass plantings are proposed. The managed ponds within the project area provide habitat to western snowy plover in spring and summer and wintering habitat for brown pelican and other waterfowl in the fall and winter (when flooded). The project area also contains levees, developed roads and a house with associated boat storage facility.

Birds commonly observed in the Wildlife Area include black-necked stilt (*Himantopus mexicanus*), American avocet (*Recurvirostra americana*) (nesting), Caspian tern (*Hydroprogne caspia*), barn swallow (*Hirundo rustica*), great egret (*Ardea alba*), great blue heron (*Ardea Herodias*), greater yellowlegs (*Tringa melanoleuca*), gadwall (*Mareca strepera*)(nesting) and brown pelican (*Pelecanus occidentalis*). In previous years, the eastern portion of the Wildlife Area supported a roosting site for large flocks of brown pelicans.

Assuming the current erosion rate of 2 feet per year, implementation of the proposed bank enhancement activities would provide up to 75 years of erosion protection to the perimeter levee and western snowy plover

habitat (AECOM 2019). As depicted in Table 4, under a no-action scenario, the combination of sea level rise and erosion of the existing levee would result in regular overtopping of levee and salt ponds retaining water throughout the year, thereby reducing the overall extent of suitable nesting habitat for western snowy plover. Although the proposed project would not alter the course of sea level rise or its long-term impacts on the ponds, reconfiguring the existing levee system would provide additional erosion protection that would allow nesting habitat within the salt ponds to persist for an additional 65 years (AECOM 2019).

**Table 4 Comparison of No Action to Proposed Project – Erosion and Sea Level Rise Resiliency**

| Alternative | Erosion Protection[1] | Sea Level Rise Resiliency[2] |
|---|---|---|
| No Action | ~10 years | ~100 years |
| Setback Levee | ~75 years | ~100 years |

[1] Assumes average erosion rate of 2 feet per year. Reflects time frame for Elkhorn Slough to reach the toe of the existing perimeter levee (No Action) or the setback levee.
[2] Reflects timeframe when salt ponds in the project area would be regularly inundated at MHHW and no longer capable of providing snowy plover habitat.

## Habitat Descriptions

North Coast Salt Marsh Habitat

The project area contains 6.8 acres of North Coast Salt Marsh (NCSM) habitat, which is characterized by a low growing, almost homogeneous community of pickleweed. Approximately 90 percent of the vegetative cover consists of pickleweed which grows to a height of approximately 12 to 24 inches on the banks of the channel and in the tidal zone. Associate species found in much fewer numbers within the NCSM consist of gum plant (*Grindelia hirsutula*), saltscale (*Atriplex* sp.), alkali heath (*Frankenia salina*), salt grass (*Distichlis spicata*), and sea-lavender (*Limonium californicum*). Within tidally-influenced channels, NCSM vegetation dominates between the low and high tide lines. At and below the low tide line, tidally-influenced channels are devoid of vegetation due to regular scouring and inundation that prevents colonization by seedlings. At the upper edges of the NCSM, patches of non-native grass and weed species occur, consisting of soft chess (*Bromus hordeaceous*), Mediterranean barley (*Hordeum marinum* var. *gussoneanum*), rabbits-foot grass (*Polypogon monspelienensis*), slender-leaved ice plant (*Mesembryanthemum nodiflorum*), cut-leaf plantain (*Plantago coronopus*), and curved sicklegrass (*Parapholis incurva*). The upper margins of the NCSM are susceptible to invasion of non-native species due to the lack of inundation. Areas where flooding is frequent overwhelmingly support pickleweed as the dominant plant species. Birds that typically nest in the NCSM habitat include American avocet, gadwall, and mallard (*Anas platyrhynchos*).

Managed Pond Habitat

The project area contains 130.5 acres of managed ponds, which include accompanying water distribution systems. These systems have been designed to meet the goal of managing the ponds for wildlife and habitat values with a minimal amount of water manipulation and personnel. The existing ponds provide a variety of habitats throughout the year. Specifically, each pond can be managed as a dry playa interspersed with brackish water ponds and swales (for breeding shorebirds), as a fully flooded pond (for pickleweed control), or as a muted tidal system (for wintering waterfowl, shorebirds, wading birds, and seabirds).

An important dynamic in managing the ponds for nesting shorebirds is the balance of open areas for plover nests and sparse vegetative cover for the chicks. Vegetation in the ponds is sparse to non-existent. Water management practices exclude the growth of vegetation, promoting nesting habitat for the snowy plover. Vegetation management also includes the hand removal of vegetation from the ponds to keep plant growth to a minimum. In general, vegetation proximate to the ponds is limited to pickleweed and slender-leaved ice plant scattered at the upper edges of the ponds.

When managed as habitat for snowy plover, the ponds are characterized by 95-percent bare ground and are best described as drying salt flats with shallow secondary channels (between 10 to 20 feet wide) circling the interior of the ponds. The shallow channels in the ponds are inundated with several inches of water, and white sheets of algae and salt form over the surface. The shallow water provides a micro-habitat which promotes the development of populations of the small insect species on which snowy plovers and other shorebirds feed.

Water quality data was collected by the Central Coast Wetlands Group (CCWG) at Moss Landing Marine Labs for Elkhorn Slough and each of the ponds in the action area in 2010. This data was collected again in 2017 by Coastal Conservation and Research (CCR) (Table 5). Results of salinity measurements in 2017 were highly variable, depending on time of year.

**Table 5 Salinity Measurements from Managed Ponds**

| | Salinity Level (ppt) | |
|---|---|---|
| **Pond Number** | **2010** | **2017** |
| Pond 1 | 170.37 | 20 to 76 |
| Pond 2 | 70.21 | 25.9 to 205.5 |
| Pond 3 | 114.46 | 32.8 to 96.4 |
| Pond 4 | 141.58 | 170 to 51.6 |
| Pond 6 | 41.56 | 48.7 |

Slough Habitat

The project area contains 1.7 acres of slough habitat that includes a narrow portion of Elkhorn Slough along the southern project area boundary and a small network of tidally influenced channels that enter the site through the southwest corner of the project area (Figure 3). The National Wetland Inventory classifies these areas as estuarine subtidal unconsolidated bottom subtidal (E1UBL), estuarine intertidal emergent regularly flooded (E2EMN), estuarine intertidal unconsolidated shore regularly flooded (E2USN), and estuarine intertidal emergent regularly flooded diked/impounded (E2EMNh) (USFWS 2020b). Elkhorn Slough has an average depth of 4.6 feet, and is deepest at the Highway 1 bridge overcrossing where it measures 25 feet deep at MLLW. The small tidal channels in the southwest corner of the project area range in width from four to six feet with a depth of approximately six inches to several feet. They cut through the NCSM habitat, resulting in pickleweed vegetated banks on either side of the channels. In 2010 the average salinity level of Elkhorn Slough was measured at 32.9 parts per thousand (ppt) (CCWG 2010). Eelgrass, a Sensitive Natural Community, is found

adjacent to the project area within Elkhorn Slough. Figure 3 depicts the extent of eelgrass mapped in the vicinity of the project area in 2018 (Fountain pers. comm. 2020).

Berms/Ruderal Habitat

The project area contains 17.1 acres of berms and levees, which are characterized as ruderal habitat. Starting at the northwestern corner of the project area, ruderal habitat has established and forms a border between the Wildlife Area and Bennett Slough. The vegetation in this area includes a tall band of weedy annual and biannual species consisting of poison hemlock (*Conium maculatum*), milk thistle (*Silybum marianum*), black mustard (*Brassica nigra*), and wild radish (*Raphanus sativus*). The poison hemlock forms a 5- to 6-foot-high bank of vegetation blocking views to Bennett Slough. Beneath the poison hemlock and other weeds lies an intermittent vegetative carpet composed of pickleweed and soft chess. The existing topography at the northwestern corner of the project area is higher than the ponds; the higher elevation allows for the growth of ruderal broadleaf species which can germinate and survive above the high-tide line.

### *Sensitive Natural Communities*

Several of the habitats in the project area, including NCSM, managed ponds, and slough habitat, are considered Sensitive Natural Communities under CEQA, and are protected under various state and federal laws including CWA §§ 404 and 401, Porter-Cologne, and the California Coastal Act. Areas managed as HAPCs by NMFS are also considered Sensitive Natural Communities. In the project area / vicinity, Elkhorn Slough, as an estuary, is managed as an HAPC. Similarly, patches of eelgrass occurring within the main channel of Elkhorn Slough are managed as seagrass HAPC. Potential impacts to eelgrass resources in California are offset by implementation of the California Eelgrass Mitigation Policy (CEMP) (NMFS 2014).

## Special-Status Species

### *Special-Status Plant Species*

For the purposes of this evaluation, special-status plant species are defined as plant species listed as endangered, threatened, or proposed for listing under FESA as amended (CFR Title 50, § 17); locally rare species defined by CEQA Guidelines 15125(c) and 15380, which may include species that are designated as sensitive, declining, rare, locally endemic or as having limited or restricted distribution by various federal, state and local agencies, organizations and watch lists; plant species assigned California Rare Plant Ranks 1A, 1B, 2A, 2B, 3, and 4 in the CNPS Inventory of Rare and Endangered Vascular Plants of California; and/or Native Plant Protection Act of 1977.

Table B1 in Appendix B provides list of 14 special-status plants with potential to occur in the region. Choris popcorn flower (*Plagiobothrys chorisianus var. chorisianus*) (California Native Plant Society [CNPS] 1B.2) is found in wetland and marsh habitat and has been documented from the Moss Landing Power Plant located approximately 0.3-mile to the south (CDFW 2020). However, this plant inhabits non-saline wetlands and therefore is not expected to occur in the project area (CalFlora 2020). The project area does not provide suitable habitat for any of the other plants listed in Table B1. The marsh habitat within the project area is too saline for all but the most specialized salt-tolerant plant species.

***Special-Status Wildlife***

For the purpose of this evaluation, special-status wildlife are defined as follows:

- Species listed as endangered, threatened, or proposed for listing under FESA;
- Species protected under the MMPA;
- Species protected under the MBTA;
- Species protected under CESA;
- Species protected under FGC (§§ 1901, 2062, 2067, 3511, 4700, 5050 and 5515);
- Species designated as Species of Special Concern or Fully Protected by the CDFW; and
- Locally rare species defined by CEQA Guidelines 15125(c) and 15380, which may include species that are designated as sensitive, declining, rare, locally endemic or as having limited or restricted distribution by various federal, state and local agencies, organizations and watch lists.

Table B2 in Appendix B provides a list of special-status wildlife with potential to occur in the region. The Wildlife Area currently supports vegetation communities and aquatic habitats that are essential for the dispersal, refuge, breeding, and foraging activities of common and special-status wildlife species. The USFWS and CNDDB database searches identified 17 special-status fish and wildlife species that may potentially occur in the project vicinity (Table B2 in Appendix B). Several of these species were removed from further evaluation due to lack of habitat or because the project area is outside the species' known range. Special-status species with some potential to occur within or adjacent to the project area are discussed in more detail below.

***Federal/State Listed, Proposed, Candidate and/or Fully Protected Wildlife Species***

<u>Salmonids</u>

Three listed salmonid species occur in the waters of Monterey Bay: coho salmon (*Oncorhynchus kisutch*), Chinook salmon (*O. tshawytscha*), and steelhead (*O. mykiss*). Listed coho and Chinook salmon are grouped into Evolutionarily Significant Units (ESUs) depending on the geographic location of their spawning sites and/or the timing of their spawning migrations. Steelhead are grouped into Distinct Population Segments (DPS) according to their spawning sites. Depending on the ESU and/or DPS, listed salmonids in Monterey Bay may be federally endangered, threatened, or not listed. Coho and Chinook salmon do not spawn as far south as Elkhorn Slough. However, while coho salmon have not been reported from the project area, Chinook salmon of unknown origin have occasionally been recorded in Elkhorn Slough (Yoklavich et al. 2002), and Tenera (2007) reported hatchery-origin juvenile Chinook salmon from the intakes of the Moss Landing Power Plant in Moss Landing Harbor. Steelhead spawn in coastal and inland streams of California as far south as the U.S.-Mexico border. Steelhead of unknown origin have been reported from Elkhorn Slough (Yoklavich et al. 2002). South-central coast steelhead are known to spawn in Gabilan Creek, which is connected to Moss Landing Harbor via Alisal Slough, Tembladero Slough and the Old Salinas River channel, which connects Elkhorn Slough to the current estuary of the Salinas River (Boughton et al. 2006). There is no salmonid spawning or rearing habitat upstream on the project area. As such, both adult and juvenile steelhead may migrate through the harbor, and may at times stray into other portions of Elkhorn Slough, but project activities are unlikely to affect these species.

Green Sturgeon

The Southern DPS of green sturgeon (*Acipenser medirostris*) is federally listed as threatened; it has no state listing status. There is very little data on green sturgeon presence in, and use of, Elkhorn Slough. Adult and/or subadult green sturgeon of unknown DPS were collected in Elkhorn Slough and adjacent areas (i.e., Moss Landing Harbor, Jetties Slough, and Bennett Slough) in surveys from the 1970s to 1990s (Yoklavich et al. 2002). One green sturgeon of unknown DPS was impinged and died at the Moss Landing Power Plant in 2006 (Tenera 2007). While the species may periodically stray into the Elkhorn Slough system to forage, the probability of occurrence on the project area is considered to be extremely low. In fact, critical habitat for southern DPS green sturgeon has been designated (74 Federal Register [FR] 52300) and includes portions of Monterey Bay, but the designation specifically excludes the Elkhorn Slough Complex due to the high degree of uncertainty as to the extent to which southern DPS fish use this area.

Tidewater Goby

Tidewater goby (*Eucyclogobius newberryi*) is federally-listed as endangered; it has no state listing status. This species inhabits brackish to fresh water habitats along the California coast from Tillas Slough in Del Norte County, south to Agua Hedionda lagoon in San Diego County. Tidewater gobies range upstream a short distance into freshwater and downstream into water of up to about 75 percent sea water (28 parts per thousand [ppt]) (USFWS 2005). The species typically is found in salinities of less than 12 ppt in shallow lagoons and lower stream reaches where slow moving or still, but not stagnant, water is found with high oxygen levels (USFWS 2005). Tidewater gobies are known to occur in Bennett Slough and Moro Cojo Slough (CDFW 2020), both of which are part of the overall Elkhorn Slough Estuary. Furthermore, Bennett Slough has been federally designated as a critical habitat recovery unit (MNT-1) for the species (73 FR 5920). A study by Ritter et al. (2008) of different tidal regimes in Elkhorn Slough found tidewater gobies only at sites with minimal tidal flow. Although tidewater gobies have a high potential to occur in Bennett and Moro Cojo sloughs, the species' dependence on low tidal flows is expected to exclude it from the main channel of Elkhorn Slough, and thus from the project area.

Santa Cruz Long-toed Salamander

The Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum)* is both federally-listed and state-listed as endangered, and is a fully protected species in the State of California. This species inhabits coastal woodland and chaparral near ponds and marshes, which are used for breeding (CDFG 1990). The Santa Cruz long-toed salamander spends most of the year underground in animal burrows or in spaces among root systems of woody plants. Habitat requirements include shade and abundant soil humus with nearby shallow ponds with abundant submerged vegetation. There is no suitable freshwater habitat for Santa Cruz long-toed salamander in the proposed project area (Table 5); however, this species does occupy McClusky Slough which is freshwater habitat approximately 0.8-mile north of the project area (CDFW 2020).

California Red-legged Frog

California red-legged frog (*Rana draytonii*) is federally listed as threatened and is a California State Species of Special Concern. California red-legged frog is a pond-dwelling amphibian that generally lives in the vicinity of permanent aquatic habitats including livestock ponds and pools in perennial streams (Jennings and Hayes 1994).

Optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (>2.3 feet), still, or slow-moving water. The species historical range reached from California to Baja California and Mexico but is now limited to 28 counties (from its original range of 70 counties) in California. Most of this reduction is from loss of habitat from urban encroachment, hydrological changes from water diversions, agriculture, and intensive livestock grazing.

This species has not been documented in the project area. In addition, the existing ponds within the project area are too saline to support red-legged frog (Table 5). California red-legged frog adults do not inhabit water with salinities greater than 12 ppt and cannot reproduce in water with salinities greater than 7 ppt (USFWS 2002, Jennings and Hayes 1990, Jennings pers. comm. 2006). Salinity data collected in 2010 and 2017 report levels greater than 20 ppt in Elkhorn Slough and in all ponds throughout the project area (CCR 2018; CCWG 2010).

Western Snowy Plover

The western snowy plover is a small shorebird in the family *Charadriidae*. The western snowy plover breeds in disjunct locations along the California Coast, San Francisco Bay Area and infrequently in the Central Valley on sandy beaches, dunes, mud flats, levees, river banks and salt-evaporation ponds. The sandy, silty bottoms of the former salt ponds in the project area provide ideal nesting sites for the snowy plover. When dry, the managed ponds are one of the most productive snowy plover habitats in the Monterey Bay region. They also nest along the beach near Moss Landing Harbor. Snowy plover forage for insects and marine invertebrates in wet sand along the edge of the water.

In June of 2012, USFWS designated approximately 24,527 acres of dune ecosystem habitat along the Pacific Coast essential to the survival and recovery of the plover (USFWS 2012). The Wildlife Area falls within Recovery Unit 4 and provides high quality and occupied nesting and brood rearing habitat for snowy plovers. The former salt ponds are now managed as diked wetlands whereby water levels are controlled to optimize nesting habitat for plovers. CDFW manages the ponds in the project area to create dry nesting substrate and associated wet foraging areas for snowy plovers. Water is drawn down rapidly from some ponds at the beginning of the season to provide dry nest sites. Flooding of other areas occurs several times per month throughout the nesting season to maintain foraging habitat for adults and chicks.

Within the project area, snowy plovers tend to nest on the elevated levees, roads and walkways because most of the ponds do not drain before nesting season begins. Pond 1 has historically been the most active location for nesting plovers (Figure 4). In 2015, Point Blue documented 43 nests and 3 broods from the project area, of which approximately 30 nests/broods were located in and around Pond 1 (Page et al. 2016). The low density of nest sites located in the northern portion of the project area (Ponds 2, 3 and 4) is most likely a result of the lack of flow through existing culverts resulting in flooded ponds during the nesting season (Eyster pers. comm. 2020). In January 2020, only Pond 1 contained suitable (dry) nesting habitat; all other ponds were flooded (Eyster pers. comm. 2020). In addition, low density in Ponds 2, 3, and 4 may be a result of the proximity of these ponds to a grove of large eucalyptus trees (Eyster pers. comm. 2017). Biologists suspect avian predators are responsible for most nest failures within the project area and these trees provide perches for avian predators. It is possible plovers avoid nesting in Ponds 2, 3, and 4 because of avian predation.

The ponds in the project area currently constitute important breeding habitat for the Monterey Bay population of western snowy plover because they provide plovers with nesting habitat that is protected from high tide

events throughout the breeding season (Eyster pers. comm. 2017). In addition, these ponds are well suited for nesting plovers because they have minimal disturbance from corvid predators (Eyster pers. comm. 2017). In years where weather and storm events result in severe beach erosion, the project area—which is generally set back from Elkhorn Slough—may also serve as one of only a few early season nesting locations available to snowy plover. Coordinated range-wide survey data collected by USFWS in association with Point Blue show the number of breeding adult plovers counted in the project area from 2013-2018 ranged from 4.7 percent to 19.6 percent of the Monterey Bay total (USFWS 2017; Eyster pers. comm. 2017).[6] In 2019, there were 303 breeding adult plovers within Monterey Bay region, and 26 of those were counted from the project area, representing 8.5 percent of the Monterey Bay breeding population (USFWS 2019; Neuman et al. 2020; Eyster pers. comm. 2020).

Brown Pelican

Brown Pelican (*Pelecanus occidentalis*) was de-listed from its endangered status by both CDFW and USFWS in 2009. However, it remains a fully protected species under Fish and Game Code 3511. The only brown pelican nesting colonies on the west coast of the United States are on the Channel Islands of Southern California. Brown pelicans within the estuary roost in highest numbers between July and October (Elkhorn Slough Foundation 2002). Reports of up to 5000 pelicans have been recorded in the Elkhorn Slough vicinity. Within the project area, pelicans roost in the open water habitats of Elkhorn Slough and in managed ponds when flooded.

***Special-Status Raptors and Migratory Birds***

Suitable habitat for special-status raptors and migratory birds is located within and surrounding the proposed project area. Active raptor nests are protected under FGC § 3503.5. Raptor species that could use the project area for nesting and foraging include northern harrier (*Circus cyaneus*), western burrowing owl (*Athene cunicularia hypugea*), and short-eared owl (*Asio flammeus*). These ground-nesting raptors may inhabit upland levees and tidal marsh habitats throughout, and adjacent to, the proposed project area. The large, mature eucalyptus trees located north of the project area most likely support tree-nesting raptors such as red-tailed hawk (*Buteo jamaicensis*) and white-tailed kite (*Elanus leucurus*). Both of these raptors may forage on small mammals that inhabit seasonal wetland (when dry) and upland habitats within and adjacent to the site. White-tailed kite nesting sites are designated as fully protected by FGC § 3511.

Southern Sea Otter

In 1977 the southern sea otter was listed as a federally threatened species (42 FR 2968) under the FESA, and is designated as a fully protected species under California state law (FGC § 4700). Because of its federal status, the southern sea otter is considered - by default - to be a "strategic stock" and "depleted" under the MMPA, with

[6] It is important to note that window survey data underrepresent the actual number of plovers breeding at a site over the duration of the breeding season and are typically multiplied by 1.35 to more accurately reflect how a site is used in any given year (Eyster pers. comm. 2017).

oversight provided by USFWS. Sea otters occupy hard- and soft-sediment marine habitats from the littoral zone to depths of less than 330 feet (100 meters), including protected bays and exposed outer coasts. Most individuals occur between shore and the 65-foot (20-meter) depth contour (USFWS 2003). Southern sea otters are known to occupy Elkhorn Slough within the project area. Approximately 100 sea otters frequently use Elkhorn Slough for resting, foraging, and pupping (McCarthy 2010). In California, most births occur from late February to early April but births may occur throughout the year, and the birth peak may extend over several months (Riedman et al. 1994). The peak pupping season in Elkhorn Slough occurs in March and April (Maldini et al. 2009). The construction of the Moss Landing Harbor in 1946 and the subsequent opening of an artificial mouth to Elkhorn Slough played an important role in the occupation of this area by southern sea otters. The artificial mouth altered conditions by creating a much wider and deeper opening that resulted in increased oceanic influence in portions of the Slough open to tidal flow. Moss Landing Harbor provides shelter, the entrance provides accessibility, and the strong marine influence is hospitable to otters and their prey. However increased tidal velocities are causing scouring of soft sediments in foraging areas near the entrance to Elkhorn Slough. Further, the influx of otters to the Elkhorn Slough may negatively impact the population if it leads to increased mortality rates from exposure to pathogens and toxins.

Harbor Seal

Harbor seal are nonmigratory marine mammals found in subarctic and temperate waters of the North Atlantic and North Pacific Oceans and contiguous seas. Harbor seals are not listed under the FESA or CESA, but are protected under the MMPA where oversight is provided by NMFS. They are not considered a depleted stock under the MMPA. Harbor seals, numbering in the hundreds, are year-round residents in Elkhorn Slough, occurring individually or in small groups in the main channel. Monterey Bay is the primary foraging area for most of the harbor seals in Elkhorn Slough. Harbor seals use the corridor from the mouth of the Slough through the Moss Landing Harbor entrance to travel to the Bay to feed nightly. The limited amount of foraging that occurs in Elkhorn Slough is concentrated in the deepest part of the main channel, in the region closest to the mouth.

Harbor seals haul out on land for rest, thermal regulation, social interaction, and to give birth. Seal Bend, which is located 0.5-mile east of the project area, is one of the larger haul-out areas. A smaller haul-out area is located approximately 350 feet east of the project area along the smaller tributary to Elkhorn Slough, and a third haul-out is located approximately 0.2-mile south/southeast of the project area, on the southern bank of Elkhorn Slough (Figure 5). Haul-out sites vary in the slough, with Seal Bend being the most frequented historically. Pupping begins in the slough during early April and the greatest numbers of births occur in early May (Maldini et al. 2009). Females spend a greater proportion of time ashore during spring and summer when they give birth, nurse their pups, and molt (Hanan 1996).

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 CDFW and USFWS?**

*Special-Status Plants*

As mentioned earlier, the project area provides little native habitat to support special-status plants because the concentrated salts in the soil, residual from decades of brine concentration, are too saline for all but the most specialized salt-tolerant plant species. No impacts to special-status plants would occur as a result of the proposed project.

*Special-Status Fish*

Special-status fish species, including salmonids, green sturgeon, and tidewater goby, are not expected to occur within the project area but may transit Elkhorn Slough. However, the project includes specific actions that would minimize the amount of sediment and turbidity that may enter Elkhorn Slough. For example, construction activities adjacent to Elkhorn Slough would only occur during low tide cycles so that no heavy equipment would need to be in water. Furthermore, a stated purpose of the project is to minimize the rate of bank erosion along Elkhorn Slough. Reduced sediment delivery to Elkhorn Slough would improve water quality over the long-term and, in turn, benefit habitat conditions for aquatic species, including special-status fish. Finally, implementation of the BMPs in Table 1 would also reduce the potential for construction-related materials to inadvertently enter the adjacent slough.

*Western Snowy Plover*

Construction of the proposed project has the potential to disturb western snowy plovers in the project area when workers are present and heavy equipment is operating. The potential impact to nesting pairs during this activity is addressed in Impact BIO-1 below.

Construction of the new setback levee would directly impact up to 2.5 acres of managed salt pond habitat in Pond 1, which currently provides brood rearing habitat and nesting substrate for western snowy plover. Snowy plovers also nest on the existing levee, and are expected to nest on the proposed levee that would displace the 2.5 acres of salt pond (Figure 4). Construction of the new setback levee is necessary to adaptively manage for ongoing erosion of the perimeter levee that separates the ponds from Elkhorn Slough, which if compromised would dramatically limit the ability of the project area to provide suitable nesting habitat for snowy plover. It is anticipated the setback levee would provide an additional 65 years of erosion protection to the ponds relative to current conditions (Table 1). In addition, the setback levee would provide comparable protection of the ponds from sea level rise as current conditions (approximately 100-years).

In addition to reconfiguring the levee system, CDFW would implement a series of maintenance actions that would improve the quality of existing salt pond habitat available to nesting plovers throughout the project area. These improvements, which are part of the project description and described in the Project Design section of this Initial Study, would enhance and increase the extent of suitable habitat for nesting and brood rearing snowy plovers across 150.5 acres of managed pond habitat within the project area. The project would convert 2.5 acres of salt pond to a levee, extend the lifespan, and enhance the function of the remaining 150.5 acres of salt pond for snowy plover breeding.

Impact BIO-1: Because the western snowy plover nests within the project area, implementation of the project may have a significant impact on this species during construction activities. Impacts could include nest abandonment; disturbance due to noise or human presence during construction; and/or injury or death to

individuals proximate to heavy equipment or truck traffic. Implementation of specific project actions as described above, in combination with implementation of Mitigation Measure BIO-1, would reduce the impact significance to **less than significant with mitigation.** In addition, CDFW would implement any additional conservation measures identified by USFWS during formal FESA consultation associated with project permitting.

*Mitigation Measure BIO-1: Construct During the Non-Nesting Season, Conduct Preconstruction Surveys, and Implement Minimization and Avoidance Measures for Western Snowy Plover*

- Setback levee construction, bank recontouring, infrastructure maintenance activities and levee removal activities will occur after the western snowy plover nesting season (typically March – August) is complete as determined by a qualified biologist.
- Stockpiling of soil for levee construction will likely occur during the nesting season because that is when spoils from other projects are most likely to become available. Stockpiling of setback levee construction material will occur only within the area comprised of the setback levee, existing levee to be removed, and the space between those areas.
- For any project activities that must occur during the nesting season, a qualified biologist will survey the entire project area to verify the presence or absence of nesting birds. The survey will be conducted no more than two weeks before the proposed activity. No project activities will occur within a 300-foot buffer of an active snowy plover nest.
- A qualified biologist will directly monitor any activities occurring during the snowy plover nesting season, and until the snowy plover chicks from any nests in the project area have fledged, and will halt vehicle and equipment operations if snowy plover chicks enter an active work area until the chicks are not in danger of being killed by project activities.
- Prior to the nesting season, CDFW may implement passive nest deterrent measures in a specified area near Pond 1. These measures may include installing streamers or removing wrack and/or placing substrate on the surface of the managed pond that would inhibit nesting activity. Installation of nest deterrent measures will be conducted under supervision of a Point Blue biologist, or other qualified biologist. The purpose of the deterrent(s) is to provide the construction contractor with a location to stockpile sediment before the end of the nesting season.

Special-Status Raptors and Migratory Birds

Implementation of the proposed project would restore and enhance 2.5 acres of high marsh habitat, which provides suitable nesting substrate for special-status northern harrier. In addition, the newly constructed setback levee and associated trail system could provide additional nesting habitat for western burrowing owl. These long-term outcomes would benefit ground nesting raptors through habitat enhancement and protection. Potential construction-related impacts on special-status raptors and migratory birds are described in Impact BIO-2.

Impact BIO-2: Several species of special-status birds use the project area for foraging, roosting and nesting, and wintering. Construction activities could result in temporary impacts on special-status birds including burrowing owl, brown pelican and northern harrier, as well as birds protected by FGC § 3503 and birds protected by the MBTA. Potential construction-related impacts may include temporary changes in foraging patterns or territories,

noise disturbance, and/or winter roost abandonment. Implementation of Mitigation Measure BIO-2 would reduce this impact to **less than significant with mitigation**.

*Mitigation Measure BIO-2: Conduct Preconstruction Surveys and Implement Minimization and Avoidance Measures in Suitable Habitat for Nesting Bird Species, if Present*

- Vegetation removal and/or ground disturbing activities shall not occur during the bird breeding season of February 15 through August 31.
- If vegetation removal and/or ground disturbing activities must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds. Preconstruction surveys will be conducted no more than two weeks prior to the start of work where work is proposed between February 15 – August 31.
- If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

*Marine Mammals*

Project-related construction activities could result in an increase in noise and human activity relative to existing conditions that may affect the behavior of sea otters and harbor seals. There are three known harbor seal haul out locations in proximity to the project area (Figure 5) and southern sea otters occupy Elkhorn Slough adjacent to the project area. Noise disturbance during construction is not expected to disrupt normal behaviors that are essential to growth and survival, such as pupping, loafing, and feeding, because of the abundance of high-quality habitat available to marine mammals within the larger estuary. In addition, sea otters and harbor seals that inhabit Elkhorn Slough and nearby haul-out areas are acclimated to regular disturbance from recreational use of the slough, construction activities within the Elkhorn Slough Reserve, and operational activities associated with Moss Landing Harbor. Previous construction monitoring of marine mammals by the Elkhorn Slough National Estuarine Research Reserve (ESNERR) and other local biologists have documented little to no disturbance to marine mammals during implementation of construction projects (Eby pers. comm. 2020).

Impact BIO-3: Potential impacts on southern sea otter and harbor seals are not anticipated; however, CDFW and their contractors will implement Mitigation Measure BIO-3 to reduce any potential for disturbance. Accordingly, this impact would be **less than significant with mitigation**.

*Mitigation Measure BIO-3: Awareness Training, Biological Monitoring and Limits on Construction when Marine Mammals are in Project Area*

- Construction will only be conducted during daylight hours.
- A qualified biologist shall conduct mandatory biological resources awareness training for all construction personnel prior to the onset of construction activities. The awareness training will emphasize the need to avoid construction noise effects on marine mammals. If new construction personnel are added to the

Project, the contractor shall ensure that the personnel receive the mandatory training before starting work.

- The contractor will be required to establish a 30-minute period at the start of each construction day whereby activities and equipment begin gradually.
- A qualified marine mammal monitor will be present during work within 100 meters (328 feet) of tidal waters for the purposes of verifying marine mammals are not reacting to construction equipment or noise (e.g., physically moving or flushing from the haul out). Monitoring during construction will occur from the eastern-most observation platform to provide a vantage point of the construction area, the harbor seal haul out area closest to the Project area, and the main channel of Elkhorn slough. The monitoring location will be accessed by foot. Construction work will not occur within 100 meters of marine mammals if they are observed reacting to project activities.
- A 15 meter (50-foot) exclusion zone will be established at all times around active construction areas. If a marine mammal enters the exclusion zone, the contractor will stop all activities within the exclusion zone. Preemptively, the monitor will have the authority to halt construction activity when there is a reasonable possibility that marine mammals will enter the exclusion zone. Construction may resume at the direction of the monitor after marine mammals have moved out of the exclusion zone and have returned to normal behavior.

**b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?**

Eelgrass

Figure 3 provides the location of eelgrass beds based on a 2018 survey of Elkhorn Slough (Fountain pers. comm. 2020). Based on this map, eelgrass beds are located in the project area and within 50 feet of the bank of Elkhorn Slough. These eelgrass beds are presently fragmented and patchy (Figure 3).

Impact BIO-4. Project activities include transplanting eelgrass into areas adjacent to the existing eelgrass beds. This activity would have a beneficial impact on the eelgrass beds within the Wildlife Area by expanding the beds alongside the reconstructed bank and hastening the recovery of eelgrass within Elkhorn Slough (Beheshti, K. pers. comm. 2020). Recontouring activities along the bank of Elkhorn Slough are not expected to impact existing eelgrass beds because, to the extent possible, all in-water work would be limited to low tide conditions (i.e., tides less than 2.5 feet NAVD88). Once complete, the proposed project would not impact water flow or residence time in Elkhorn Slough, including areas proximate to eelgrass stands (AECOM 2019). Infrastructure (viewing platforms, fishing areas) would be setback from existing eelgrass beds by at least 50 feet to avoid the potential for shading. No mitigation is required as the project would effectively avoid any long-term impacts on this Sensitive Natural Community, other than the beneficial impact of transplanting eelgrass within the Wildlife Area. This impact would be **less than significant.**

**c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to , marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?**

As discussed above, construction of the new setback levee is necessary to adaptively manage for ongoing erosion of the perimeter levee that separates the ponds from Elkhorn Slough, which if compromised would dramatically limit the ability of the project area to provide suitable nesting habitat for snowy plover. The associated reconfiguration of the levee and public access systems would result in a limited shift in wetland habitats (NCSM and managed ponds) within the project area. Specifically, managed pond habitat within the footprint of the setback levee would be permanently displaced; however, new NCSM (high marsh) habitat would be restored or enhanced south of the new setback levee, including within a portion of the footprint of the existing perimeter levee that would be removed. Long-term improvements in the quality of managed pond and high marsh habitats in the project area are anticipated. CDFW would obtain all necessary permits from USACE, RWQCB and CCC to work in wetlands, and would comply with any conditions provided in those permits to ensure the project would not result in a net loss of wetland function or values.

Impact BIO-5 – Construction activities would result in the permanent fill of up to 2.5 acres of managed pond to construct the new setback levee and up to 1 acre of managed pond to construct swales and channels to improve water management capabilities. In addition, up to 2 acres of NCSM would be temporarily disturbed to remove the existing perimeter levee, install the new trail system, and access the edge of Elkhorn Slough to contour the actively eroding bank. NCSM areas temporarily disturbed (and not otherwise associated with a levee or trail) would be restored as high marsh habitat. Once complete, the project would result in a net increase of about 1.6 acres of NCSM habitat (located in the area between where the existing levee is removed and new setback levee is constructed), and well as enhancement of existing NCSM which would be revegetated through natural recruitment and excluded from public access in the future. Mitigation Measure BIO-4 would be implemented to reduce construction-related impacts to managed ponds and NCSM in the project area. This impact would be **less than significant with mitigation**.

*Mitigation Measure BIO-4: Wetland Protective Measures*

- Prior to the start of construction, a biological monitor will identify and conspicuously flag all sensitive aquatic and wetland resources located within the project area and outside the project footprint to prevent inadvertent impacts to these resources. Sensitive aquatic and wetland resources outside the project area will be flagged if those resources could be impacted by construction activities. If required, setback or non-disturbance buffer zones around these resources would be established and monitored by a biologist.
- Worker environmental awareness training will be conducted for all construction crews and contractors. The education training will be conducted prior to starting work on the project and upon the arrival of any new worker. The training will include: locations of sensitive areas; possible fines for violations; environmental permits and regulatory compliance requirements including all relevant avoidance and mitigation measures; and required actions if sensitive species are encountered. Additional training will be conducted as needed, including morning "tailgate" sessions to update crews as they advance into new sensitive areas. A record of all personnel trained during the project will be maintained for compliance verification.

**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, or impede the use of native wildlife nursery sites?**

Increased human activity during construction and construction noise may temporarily inhibit the movements of wildlife species. The proposed construction-related impacts would be short term and would only occur in discrete areas. No wildlife corridors would be impeded as a result of project construction activities. In addition, on-going maintenance activities would not interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site. The project would result in improved conditions for the movement of native fish in Elkhorn Slough by reducing erosion and associated turbidity; increasing the amount and extent of eelgrass beds; and improving water quality. Project activities would also improve nesting habitat conditions for western snowy plover. Without implementation of the project, nesting habitat for snowy plover would eventually become flooded and without maintenance of pond infrastructure, the managed ponds would continue to hold water well into the nesting season. Implementation of the project would result in both an immediate improvement and long-term benefit to western snowy plover by improving drainage within managed ponds and through protecting ponds from flooding by providing improved erosion protection. This impact would be **less than significant.**

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

No trees would be removed or disturbed during project implementation. The project would not conflict with any local policies or ordinances protecting biological resources including tree preservation policies or ordinances. There would be **no impact**.

## CULTURAL RESOURCES / TRIBAL CULTURAL RESOURCES

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5. | | | | X |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5. | | X | | |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries. | | X | | |
| d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either:<br>1) a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code § 5020.1(k), or<br>2) a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code § 5024.1 (c), and considering the significance of the resource to a California Native American tribe. | | | | X |

Setting:

### Regulations

CEQA requires lead agencies to determine if a project would have an adverse impact on a significant cultural resource (PRC §§ 21084, 21084.1, 21083.2). A cultural resource can be a pre-contact or historic structure, object, site, or district, and is considered significant if:

- It is listed in or has been determined eligible for listing in the California Register of Historic Resources (CRHR);
- It is included in a local register of historical resources, as defined in PRC § 5020.1(k);
- It has been identified as a significant in an historical resources survey, as defined in PRC § 5024.1(g); or
- It is determined to be historically significant by the CEQA lead agency [14 CCR 14 § 15064.5(a)].

The CRHR eligibility criteria are used to determine significance. A significant resource must meet one of the four criteria, as follows:

- The resource is associated with events that have made a significant contribution to the broad patterns or California's history and cultural heritage;
- The resource is associated with the lives of persons important in our past;
- The resource embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual, or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, information important in prehistory or history.

If a significant resource would be impacted, the project applicant must determine whether there is substantial evidence in the administrative record to support a finding of significant effect (PRC § 21080(e)). CEQA requires examination of mitigation measures or feasible project alternatives that would avoid or minimize any impacts or potential impacts.

Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to mandate consultation with California Native American tribes during the CEQA process to determine whether or not the proposed project may have a significant impact on a Tribal Cultural Resource, and that this consideration be made separately from cultural and paleontological resources. California Native American tribes are defined in PRC § 21073 as "a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non–federally recognized tribes. Tribal Cultural Resources for the purpose of CEQA are defined in PRC § 21074(a) as:

- Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are any of the following:
    - Included or determined to be eligible for inclusion in the CRHR; and/or
    - Included in a local register of historical resources as defined in subdivision (k) of § 5020.1; and/or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of § 5024.1. In applying the criteria set forth in subdivision (c) of § 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria listed above also meet the definition of a Historical Resource under CEQA, a Tribal Cultural Resource may also require additional consideration as a Historical Resource. Tribal Cultural Resources may or may not exhibit archaeological, cultural, or physical indicators.

AB 52 requires that CEQA lead agencies carry out consultation with tribes at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a significant effect on a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Consultation is concluded when either the lead agency and tribes agree to appropriate mitigation measures to mitigate or avoid a significant effect, if a significant effect exists, or when a party, acting in good faith and after reasonable effort, concludes that mutual

agreement cannot be reached (whereby the lead agency uses its best judgement in requiring mitigation measures that avoid or minimize impact to the greatest extent feasible.

## Methods

The potential for the project area to contain cultural resources was assessed in 2010, 2017, and 2020. A Cultural Resources inventory search was done by the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University in September of 2010; no known archaeological sites or historic buildings were identified within the project area (NWIC File No. 10-0153). An archaeological investigation of the project area was also completed by Ducks Unlimited in October 2010 (Ducks Unlimited 2010b). During the pedestrian survey, numerous soil cores were taken, and information about soils and hydrology was recorded in each construction location. One historic artifact was noted but not collected as it clearly came from a disturbed context on top of a levee. The single artifact was a stoneware shard probably from a clay crock or bowl (Ducks Unlimited 2010b).

On August 3, 2017 a follow up record search of the NWIC database was conducted (NWIC File # 17-0243). Additional archival research included examination of the library and project files by Tom Origer & Associates. Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places (NRHP), California Historical Landmarks, CRHR, and California Points of Historical Interest as listed in the Office of Historic Preservation's *Historic Property Directory*.

In July of 2020 archaeologist Mark Hylkema completed a Historic Properties Significance Report (HSPR) to assess the historical significance of the existing levee system within the project area. He determined that the perimeter levee is not a significant resource and recommended the project would have a Finding of No Effect on historic properties because the present, more recent levee was overlain on an earlier levee and therefore no longer retains its historic integrity. Mr. Hylkema prepared a Primary Record for submission to the Center of the California Historical Resources Information System that provides descriptive findings and that will preserve a record of this structure (Hylkema 2020).

Would the Project:

**a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.**

Results of the record search, survey and archival research indicate that portions of the levee system within the project area are considered a lineal historic feature; however, the portion of the levee that is being removed is not original and therefore not considered historically significant (Hylkema 2020). No impacts to historical resources would occur from project implementation. There would be **No Impact.**

**b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.**

Impact CR-1: As discussed in subsection a) above, there are no known significant historic resources that would be impacted by project activities. However, in the unlikely event an archaeological resource is discovered during earth moving activities associated with levee removal or bank recontouring, implementation of Mitigation Measure CR-1 would be implemented. This impact would be **less than significant with mitigation.**

*Mitigation Measure CR-1: Conduct Identification Training and Stop Work if Cultural Resources and/or Paleontological Resources are Encountered During Construction*

The construction contractor shall participate in a cultural resource identification training session by a qualified archaeologist in order to be aware of the potential cultural and paleontological resources that might be uncovered during earth moving activities. If cultural or paleontological resources are encountered during project construction, work shall be temporarily halted in the vicinity of the discovered materials and the construction contractor shall avoid altering these materials and their context until a qualified archaeologist or paleontologist has evaluated the resource. Recommendations on how to treat the resource by the qualified archaeologist or paleontologist may include evaluation, preservation in place, test excavation and/or data recovery, and a draft and final report documenting such activities.

**c) Disturb any human remains, including those interred outside of formal cemeteries?**

Impact CR-2: Excavation during project construction may disturb unrecorded Native American remains. Implementation of Mitigation Measure CR-2 would reduce this potential impact to **less than significant with mitigation.**

*Mitigation Measure CR-2: Discovery of Human Remains*

If at any time during site preparation, excavation, or other ground disturbance associated with the proposed project human remains are discovered, the construction contractor shall immediately cease and desist from all further site excavation and notify CDFW and CDFW shall notify the sheriff-coroner. If the coroner determines the remains are Native American, the coroner will contact the NAHC. The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent will make recommendations regarding the treatment of the remains with appropriate dignity. Disturbance shall not resume until the significance of the human remains is determined and appropriate mitigations to preserve the resource on the site are established.

**d) Cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in PRC § 21074 as either:**

**1) a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code § 5020.1(k), or**

**2) a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code § 5024.1 (c), and considering the significance of the resource to a California Native American tribe.**

CEQA analyses must consider "tribal cultural values, as well as scientific and archaeological values when determining impacts and mitigation." As described above, Tribal Cultural Resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native

American Tribe" that are either included or determined to be eligible for inclusion in the CRHR or local registers of historical resources.

In September 2020, CDFW initiated the AB52 consultation process with California Native American tribes that are traditionally and culturally affiliated with the geographic area that the proposed project is within. No comments have been received as of the date of this report. **No Impact**.

## ENERGY

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | | | X |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | | X |

Setting:

In 2018 former Governor Jerry Brown signed Senate Bill 100 committing California to obtaining 60 percent of its electric energy from carbon-free sources and 100 percent of electric energy coming from renewable sources by the year 2045. The former governor also signed an Executive Order establishing a target for the State to be carbon-neutral by 2045. CDFW currently manages the project area for invasive species (plants) and to maintain appropriate water levels in ponds with the use of non-renewable machinery and equipment (weed whacker/backhoe).

The Natural Resources Conservation Service (NRCS) weather station located closest to the site is in the City of Monterey (WETS Station: Monterey, CA5795). Data from this station is presented here as a reasonable approximation of climate conditions at the site. The mean annual air temperature at the NRCS station in Monterey is 56.9°F, and the growing season is typically year-round. Mean annual precipitation (51-year period of record) is 20.34 inches, with most falling as rain between the months of November and March.

Would the Project:

**a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

During project construction, energy would be consumed to produce and transport construction materials. Operating and maintaining construction equipment would also consume energy resources. Energy used to support construction activities would be a one-time, non-recoverable energy cost. Although measurable, the energy used for project construction would not require significant additional capacity nor significantly increase peak- or base-period demands for electricity and other forms of energy. In addition, no new or additional energy resources would be required to manage and operate the project area after the project is completed, compared to baseline conditions. Ongoing maintenance activities would include management of water structures and removal of invasive weeds – actions that currently occur on an annual basis. As technology improves over time, CDFW will incorporate electric construction equipment into their on-going maintenance activities. This impact would be **less than significant**.

**b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

The proposed project consists of enhancing habitat for wildlife and is consistent with State goals for decreasing dependence on non-renewable sources of energy. Enhancing and protecting wildlife habitat would not conflict with existing state or local plans for renewable energy. There would be **No impact.**

## GEOLOGY AND SOILS

| **Environmental Factors and Focused Questions for Determination of Environmental Impact**<br>**Would the project:** | **Potentially Significant Impact** | **Less Than Significant With Mitigation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>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 Division of Mines and Geology Special Publication 42.<br>ii) Strong seismic ground shaking.<br>iii) Seismic-related ground failure, including liquefaction.<br>iv) Landslides. | | | | X |
| b) Result in substantial soil erosion or the loss of topsoil? | | | X | |
| 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? | | | X | |
| d) Be located on expansive soil, as defined in Table 181-B of the Uniform Building Code (1994), creating substantial risks to life or property. | | | X | |
| 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. | | | | X |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | | X | | |

Setting:

Monterey County is associated with a high level of seismic activity constituted by frequent moderate earthquakes and infrequent major earthquakes. The San Andreas Fault System, which is where the project area is located, consists of many active or potentially active fault systems, including the onshore/offshore San Andreas Fault, the onshore/offshore Palo Colorado-San Gregorio Fault Zone, and the Monterey Bay Fault Zone. Most seismic movement occurs along preexisting faults that have shown ground displacement within the last 11,000 years, and thus are considered active. The proximity to active fault lines determines the risk of ground shaking and shifting, in addition to secondary hazards such as ground failure, liquefaction, and enlarged waves. Although Monterey County is identified as highly seismically active, the California Geological Survey (CGS) has determined that the project area is not within an Earthquake Fault Zone (CGS 2020).

The project area is located on the southwestern edge of the Pajaro Valley near the northern margin of Elkhorn Slough. The ground surface of much of the project area is organic material characteristic of salt marsh. Beneath the organic material layer are alternating layers of unconsolidated marine and non-marine sedimentary deposits

consisting of gravel, sand, silt, clay, and shell fragments (Sea Engineering Incorporated 2006). The first bedrock layer is likely present more than 1,500 feet below the ground surface. The project area is located on soils mapped by Monterey County as having high liquefaction susceptibility (Monterey County 2008). Liquefaction susceptibility depends on the age and type of material, relative density of the material, and the depth to first (shallowest) water. Generally, younger sediments (especially latest Holocene that are less than 1,000 years old) such as loose fill, river channel, and flood plain deposits are more likely to liquefy than older Pleistocene terrace deposits.

According to the NRCS Web Soil Survey, Alviso silty clay loam underlies a vast majority of the project area. Alviso silty clay loam is derived from sedimentary rock and is most commonly found on basin floors and tidal flats. This soil is found in diked areas and areas that are periodically flooded during high tides, where the water table is close enough to the surface that the upper horizons are always moist. This alluvium was deposited over time by the Elkhorn Slough and is prone to water and wind erosion. Its soil properties include poor natural drainage and a high flooding frequently. The other soil units mapped within the project area include Arbuckle gravelly loam, 2 to 9 percent slopes and water. Arbuckle soils are fine-loamy, mixed, superactive, thermic Typic Haploxeralfs. They are very deep, well drained soils that formed in alluvial materials from mainly conglomerate and metasedimentary rocks. They are also well drained, negligible to high runoff, and have moderately slow to slow permeability.

Construction activities that disturb more than 1 acre of land that is hydrologically connected to a surface water are required to obtain coverage under the General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit). In compliance with this permit, construction contractors are required to file a Notice of Intent with the RWQCB indicating compliance with the General Permit and prepare a Stormwater Pollution Prevention Plan (SWPPP).

Would the Project:

**a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death due to 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?**

The California Alquist-Priolo Earthquake Zoning Act mandates that CGS identify rupture hazard zones near active fault lines. These rupture hazard zones, published on CGS maps, represent areas of substantial risk of surface rupture. According to these maps, the project area is not within or immediately adjacent to the CGS Earthquake Fault Zone. In addition, the proposed project would not expose people or habitable structures to potential substantial adverse effects due to rupture of a known earthquake fault, seismic groundshaking, liquefaction, or landslides because the project has been designed to Federal and State building standards. This reduces all potential hazards from seismic groundshaking, liquefaction or landslides. There would be **No impact.**

**b) Result in substantial soil erosion or the loss of topsoil.**

Construction activities involving soil disturbance, such as recontouring the bank of Elkhorn Slough, stockpiling material to construct the setback levee, and grading, could result in increased soil erosion. The contractor would

implement all erosion control measures outlined in Table 1 and in the SWPPP for the project to minimize the potential for construction activities to contribute sediment, pollutants or other stormwater runoff to adjacent surface waters. The minimal erosion that might occur during construction along the bank of Elkhorn Slough would be off-set by the long-term improvements to water quality in the estuary resulting from the slope being stabilized under the project. Revegetation of high marsh areas under the project would also stabilize topsoil along the bank of Elkhorn Slough. This impact would be **less than significant.**

**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?**

Implementation of the proposed project would stabilize and enhance the bank of Elkhorn Slough and improve and protect nesting habitat for western snowy plover. Project activities would not result in creation of unstable soils. Sediment for the setback levee would be imported and compacted over a two year period. The proposed project would improve the stability of the geologic unit and reduce the potential for off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. This impact would be **less than significant.**

**d) Be located on expansive soil, as defined in Table 181-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

The project area may include expansive soils, but with proper engineering, the construction and operation of the trails, viewing platforms and levee system are not expected to result in any significant adverse short- or long-term impacts related to geology, soils or seismicity and there would be no substantial risk to life or property. This impact would be **less than significant.**

**e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.**

No septic tanks are proposed under the project. There would be **No impact.**

**f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

There is the possibility that unique paleontological and/or geologic features could be accidentally discovered and/or directly or indirectly destroyed during ground-disturbing activities associated with levee removal and bank enhancement activities. However, implementation of Mitigation Measures CR-1 and CR-2 as described under the Cultural Resources section of this Initial Study would reduce potential impacts to paleontological resources that may be discovered. In addition, compliance with federal and State laws provide protection of paleontological resources at the site by requiring construction activities cease in the event of discovery of paleontological resources. This impact would be **less than significant with mitigation.**

## GREENHOUSE GAS

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | | | X | |
| b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | | | X | |

Setting:

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHG) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), ozone, and water vapor.

While the presence of the primary GHGs in the atmosphere are naturally occurring, CO2, CH4, and N2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in units of "carbon dioxide-equivalents" (CO2e).

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, required the CARB to lower GHG emissions to 1990 levels by 2020, which would be a 25 percent reduction statewide, with mandatory caps for significant emissions sources. AB 32 directed CARB to develop discrete early actions to reduce GHG emissions while also preparing a scoping plan (i.e., the Climate Change Scoping Plan) to identify how best to reach the 2020 limit.

Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS), the California Appliance Energy Efficiency regulations, the California Renewable Energy Portfolio standard, changes in the motor vehicle corporate average fuel economy (CAFE) standards, and other early-action measures that would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32.

The County of Monterey adopted the Municipal Climate Action Plan (MCAP) and expects to achieve the State's AB 32 2020 goals for emissions reductions from County GHG sources (County of Monterey 2013). The MCAP also

sets a strategy for County agencies to meet 2030 goals to reduce emissions from County operations by an additional 40 percent by requiring County buildings achieve Net Zero energy goals, by increasing the percentage of County employees who telecommute, and by incentivizing electrification of the County vehicle fleet.

The MBARD Guidelines for Implementing the California Environmental Quality Act consider global climate change a cumulative impact to which a project contributes with its incremental GHG emissions (MBARD 2016). The MBARD GHG thresholds are defined in CO2e. If annual emissions of GHGs exceed this level, the project would make a cumulatively considerable contribution to the global GHG burden and must implement mitigation measures.

A stationary source project would not have a significant GHG impact if operation of the project emits less than 10,000 metric tons per year (MT/year) CO2e. All other projects would not have a significant GHG impact if operation of the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions, in accordance with the State CEQA Guidelines § 15064.4(b)(3).

Would the Project:

**a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Net new project incremental GHG emissions were estimated from the equipment/vehicles associated with project activities, as shown in Table 6. Project incremental GHG emissions are compared with the MBARD CEQA significance threshold for stationary GHG sources (the only available quantitative threshold established in the NCCAB). After construction, the direct and indirect GHG emissions associated with any other sources in the County and State would be unchanged by the project (i.e., the project would not create new or increased demand for resources that generate GHGs and new operational GHG emissions would be zero). Thus, GHG from project construction activities would not substantially contribute to the global GHG emissions burden. This impact would be **less than significant.**

**Table 6 Project Construction GHG Emissions (MT/year)**

| Project Construction Activity (Year) | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Mobilization/Site Preparation/Pond Maintenance (2021) | 7.15 | 0.002 | 0.0 | 7.22 |
| Earthwork/Surfacing/Demobilization (2022) | 42.00 | 0.014 | 0.0 | 42.43 |
| **Significance Thresholds** | -- | -- | -- | **10,000** |
| **Significant Impact** | -- | -- | -- | **No** |

**b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

The project would restore and protect existing wildlife habitat and improve access to recreational facilities. After completion, the project would not affect the operational GHG emissions of any other source locally or elsewhere

in the State, nor would it conflict with any local or State plan, policy or regulation to reduce GHG emissions. This impact would be **less than significant.**

## HAZARDS AND HAZARDOUS MATERIALS

| **Environmental Factors and Focused Questions for Determination of Environmental Impact**<br>**Would the project:** | **Potentially Significant Impact** | **Less Than Significant With Mitigation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. | | | X | |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | | | X | |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a 0.25-mile of an existing or proposed school. | | | | X |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 ("Cortese List," prepared by the California Integrated Waste Management Board) and, as a result, would it create a significant hazard to the public or the environment. | | | | X |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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. | | | | X |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | | | X | |
| g) Expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. | | | | X |

Setting:

In 2020 Northgate Environmental Management Inc. (Northgate) conducted a Phase I Environmental Site Assessment for the 1-acre house and boat storage facility located in the western portion of the project area (Northgate 2020). The purpose of the investigation was to identify the potential presence of Recognized Environmental Conditions (REC). A REC refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a release to the environment. Northgate identified the following RECs adjacent to the project area: removal of an undocumented gasoline underground storage tank, potential chemical spills in the workshop, and potential spills from boats stored in the shop. In addition, Northgate recommend that a water well located west of the project area be properly abandoned if it is no longer in use. The conditions within the vicinity of the existing house and potential RECs would not change as a result of the project.

Would the Project:

**a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

The proposed project would not create a significant hazard to the public or the environment. No routine transportation or disposal of hazardous materials is proposed. However, during construction, fuel would be used at the project area and re-fueling may occur within the limits of the staging areas. Implementation of the project-wide BMPs, specifically BMP 6 Onsite Hazardous Material Management (see Table 1), by the construction contractor would ensure impacts from hazardous materials are **less than significant**.

**b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Construction activities would involve the use of certain potentially hazardous materials such as fuels for heavy equipment, as described above. These materials would be used according to manufacturer's specifications and would be contained within vessels engineered for safe storage. Storage of large quantities of these materials at the construction site is not anticipated. None of the potentially contaminated soil identified during the Phase I investigation are within the proposed project footprint and project activities would not disturb or result in release of hazardous materials into the environment. In accordance with BMP 9, CDFW would require their construction contractor to prepare a Health and Safety Plan that includes a project-specific contingency plan for hazardous materials and waste operations before construction activities can begin. Preparation and implementation of the Health and Safety Plan would ensure impacts from hazardous materials releases are **less than significant**.

**c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?**

The proposed project is not located within 0.25-mile of an existing or proposed school. The nearest school, Faith Christian in Moss Landing, is over 1 mile from the project area. At this distance, any accidental emissions of hazardous materials would not be expected to pose a threat. **No Impact** would occur.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 ("Cortese List," prepared by the California Integrated Waste Management Board) and, as a result, would it create a significant hazard to the public or the environment?**

The proposed project is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5, which is the California Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List (Cortese List) (DTSC 2017) and would not create a significant hazard to the public or the environment (EnviroStor 2017).

As described under b) above, and Table 1 of this document, CDFW will require their construction contractor prepare and submit a Health and Safety Plan, with specific provisions to protect both workers and the public during construction. **No impact** would occur**.**

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?**

The proposed project is not located within 2 miles of a public airport or public use airport. The Watsonville Municipal Airport is approximately 8 miles north of the project location and the Marina Municipal Airport is approximately 9 miles south of the project location (AirNav 2017). The project area is not shown in the Safety Compatibility Zones in the Watsonville Municipal Airport Master Plan nor identified in the planning area shown in the Marina Municipal Airport Land Use Plan. Due to the distance between the project area and nearby airports, there would be no airport-related safety hazard. There would be **No impact.**

**f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The proposed project would not be expected to interfere with an emergency response plan or emergency evacuation plan. CDFW would require their construction contractor develop and implement a traffic management plan (detail provided under Transportation and Traffic) that ensures any temporary street obstruction would be subject to all emergency access standards and requirements. This impact would be **less than significant.**

**g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

The project area is not located within or near a state responsibility area designated by the California Department of Forestry and Fire Protection (Cal Fire) as high fire hazard severity zone (Cal Fire 2007, 2008). Cal Fire's Fire and Resources Assessment Program map designates the project area's hazard class as "Non-Wildlife/Non-Urban" (Monterey County 2008). The project would not alter the existing level of wildfire risk and therefore would not expose people or structures to increased fire hazards. **No Impact** would occur**.**

## HYDROLOGY AND WATER QUALITY

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. | | | X | |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. | | | | X |
| c) Substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| i) Result in substantial erosion or siltation on- or off-site. | | | X | |
| ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. | | | | X |
| iii) 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. | | | X | |
| iv) Impede or redirect flood flows. | | | X | |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. | | | | X |

Setting:

The project area is located adjacent to Elkhorn Slough and within the Alisal-Elkhorn Sloughs watershed (HUC 18060011). Elkhorn Slough and Bennett Slough converge at the Moss Landing Harbor, and then flow into the Pacific Ocean. The material in the Elkhorn Slough channel is fine-grained, particularly as a result of unconsolidated material eroding away in the past few decades. Elkhorn Slough has an average depth of 4.6 feet, and is deepest at the Highway 1 bridge overcrossing where it measures 25 feet deep at MLLW. Flow velocities near the Highway 1 Bridge just to the west of the project area can approach 1.5 meters per second, which contributes to increased rates of erosion in this area.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the project area (i.e., Monterey County, Panel 06053C0058H) the project would be located in Flood Zone AE, an area subject to inundation with a 1.0 percent annual-chance of flood for which base flood elevations have been determined (FEMA 2017). The map also indicates that the area has reduced flood risk due to the existing perimeter levee along Elkhorn Slough and to the east along the tidal wetlands. Precipitation that falls within the watershed drains from the uplands through ephemeral drainages into the marsh areas and eventually

to Elkhorn Slough and Monterey Bay. Additionally, the project area receives saline tidal flows from Elkhorn Slough. No storm drain system exists on the site.

The managed ponds within the project area are situated approximately two feet above mean sea level and are surrounded by a series of levees. Water enters the managed ponds from the Elkhorn Slough system through a manual operating water control structure along the southeastern boundary. From that pond, water can be manually moved to each of the adjacent four ponds through connecting water control structures. The managed ponds are designed to allow water to flow through the ponds and drain; however, most of the water control structures are currently not functioning due to sediment build up. Salinity data was collected for each of the 5 ponds and Elkhorn Slough in 2010 and again in 2017 (CCR 2018). Results of salinity measurements are depicted in Table 5 of this IS/MND.

The project area is located in a Tsunami Inundation Zone (CGS 2020). This means the project area is subject to periodic flooding and would be inundated by a tsunami because of its proximity to the Monterey Bay.

Would the Project:

**a) Violate any water quality standards or waste discharge requirements?**

No in-water construction work would occur during project construction activities. Bank recontouring would occur during low tides (i.e., tides below 2.5 feet NAVD88), to the extent possible, to minimize the amount of sediment and turbidity that may enter Elkhorn Slough. Implementation of BMPs identified in Table 1 and a site-specific SWPPP would reduce the potential for upland materials to enter the adjacent slough during construction. All heavy construction equipment would be positioned in upland areas on the edges of the existing levee, and no heavy equipment would enter surface waters. The proposed construction methods considered in combination with implementation of the BMPs would reduce this effect to **less than significant**.

Similarly, although all in-water construction activities would be conducted using equipment staged in upland areas (i.e., no heavy equipment would enter channels), construction equipment could release contaminants such as oil, grease, and fuel into adjacent water bodies, which could degrade water quality and potentially violate water quality standards for specific chemicals, dissolved oxygen, oil and grease, suspended sediment or toxicity. This impact would also be reduced to **less than significant** with implementation of the BMPs provided in Table 1.

**b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

The proposed project would not deplete groundwater supplies or interfere substantially with groundwater recharge. **No impact** would occur.

**c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:**

***i) Result in substantial erosion or siltation on- or off-site?***

A stated purpose of the proposed project is to minimize on-going erosion of the bank along Elkhorn Slough. This section of the bank is currently eroding at an approximate average rate of 2 feet per year. The eroded bank has developed a vertical face ranging between 3.5 and 5.5 feet in height, and is continually cleaving and slumping into the slough. The project also proposes cleaning and repair of intake slides and flap gates to return them to design capacity and function. The proposed project is expected to reduce erosion and siltation within the main channel of Elkhorn Slough and would improve the existing drainage pattern of the surrounding area. This impact would be **less than significant.**

***ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?***

One purpose of the proposed project is to reduce the risk of flooding of the managed ponds from failure of the perimeter levee. Construction of the setback levee and reconfiguration of the bank would reduce ongoing erosion and temporarily delay flooding of the managed ponds for up to 65 years. Existing public access features (e.g., viewing platform, visitor kiosk) would be relocated to accommodate sea level rise and on-going erosion. The proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. **No impact** would occur**.**

***iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

The proposed project would not create or contribute runoff water that could exceed the capacity of existing or planned drainage systems. CDFW would require the construction contractor to implement the BMPs provided in Table 1 and prepare a SWPPP, which would guide the management and operation of construction to control and minimize the potential contribution of pollutants to stormwater runoff from these areas. The use of standard erosion control techniques during project construction activities would reduce the potential for any water quality impacts. This impact would be **less than significant**.

***iv) Impede or redirect flood flows?***

The project would not place any structures that would impede or redirect flood flows. **No impact** would occur**.**

**d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

Although the project is located within the 100-year floodplain and a tsunami inundation zone, the project does not risk release of pollutant because there are no known pollutants within the project footprint. The activities considered in this analysis – construction of a setback levee, recontouring the bank along Elkhorn Slough,

enhancing public access amenities, and improving managed pond habitat for snowy plovers - would not expose users to pollutants in the event of a flood or tsunami. **No impact** would occur.

## LAND USE AND PLANNING

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Physically divide an established community. | | | | X |
| b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. | | | X | |

Setting:

The 872-acre Wildlife Area was purchased by the State of California from the Western Salt Works Company in 1984 for conservation of shorebird, waterfowl, and brown pelican habitat. Across Highway 1 to the west of the project area are the Elkhorn Yacht Club and Moss Landing North Harbor, followed by the north branch of Elkhorn Slough. The private Elkhorn Yacht Club operates cruises, races, and a dining facility. Vendors operating near the Elkhorn Yacht Club include charters, wildlife tours, and canoe and kayak rentals and sales. The Moss Landing North Harbor contains a public launch ramp and additional canoe and kayak rentals.

Elkhorn Slough is part of and managed in accordance with several other management plans and programs, including the following:

- Elkhorn Slough State Marine Conservation Area (Title 14, § 632);
- Monterey Bay National Marine Sanctuary Final Management Plan (NOAA 2008);
- Elkhorn Slough National Estuarine Research Reserve Final Management Plan 2007-2011 (ESNERR 2006).
- Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (USFWS 2010);
- Elkhorn Slough Watershed Conservation Plan (Scharffenberger et al. 1999);
- Salinas Valley Integrated Regional Water Management Plan (RMC 2006); and
- Elkhorn Slough Tidal Wetland Strategic Plan (ESTWPT 2007).

Implementation of the proposed project would be consistent with the conservation goals set forth under these plans.

Would the Project:

**a) Physically divide an established community.**

The project area currently consists of wildlife habitat and public recreation access structures. There are no neighborhoods adjacent to the project area. Proposed improvements to public access include: improvements to the trail system, including the addition of public access ways; the standardization of the parking lot elevation; and the relocation of the western viewing platform. Implementation of these improvements would not divide an established community. **No Impact** would occur.

**b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

The principal plans, policies, and regulations guiding land use decisions in the project area and general vicinity include the Monterey County Local Coastal Program (LCP; North County Land Use Plan, Moss Landing Community Plan and North County Coastal Implementation Plan), Monterey County General Plan, and California Coastal Act. Both the Monterey County General Plan and LCP govern projects above the mean high tide line, whereas the Coastal Act generally applies to projects below the mean high tide line. However, because the Wildlife Area is solely within the jurisdiction of the CCC it is not subject to the Monterey County LCP and only subject to Chapter 3 enforceable policies of the Coastal Act.

*California Coastal Act and Monterey County Local Coastal Program*

The guidelines of the Coastal Act commonly promote public beach access, the protection of the coastal aesthetic, coastal-dependent land uses centered on recreation and the visitor experience, and restoration and ongoing maintenance of sensitive species habitats (e.g., coastal wetlands and marine waters). The proposed project would increase the visitor experience by improving public access and leveling the elevation of the existing parking lot. The project would also restore the health of the western snowy plover habitat, as well as lessen the sedimentation at the mouth of the Elkhorn Slough. The project does not propose any actions that would be expected to obstruct or inhibit use of the Elkhorn Slough channel or shoreline. Therefore, the project would not be expected to conflict with any Coastal Act policy pertaining to access or recreation. Additional information on the proposed project's impact on public access and recreation is available in subsections Recreation and Transportation.

The project area is designated as a scenic resource under Streets and Highway Code § 263 of the California Scenic Highway Program. The proposed project would follow the existing aesthetic and would not degrade the quality of this State scenic resource. No actions would be taken to obstruct the views to or along the shoreline. Therefore, the project would not be expected to conflict with any Coastal Act policy pertaining to scenic or visual resources. Additional information on the proposed project's impact on scenic and visual resources is available in the Aesthetics subsection of this document.

The project area contains valuable habitat for a protected species (the western snowy plover) and therefore has limited land uses according to the Coastal Act. Land uses and actions typically permitted within sensitive habitat and wetland areas include coastal and resource-dependent uses, scientific research, and restoration and maintenance of natural physical resources (e.g., fish and wildlife). The proposed project is coastal and resource-dependent because its ability to function is determined by its location along the Elkhorn Slough and the coast. The purpose of the project is to maintain and improve the existing wildlife habitat and physical processes. For these reasons, the project would not conflict with Coastal Act policies pertaining to land uses within or adjacent to sensitive habitats and wetlands. Further discussion on the project's short-term impact on sensitive species and their habitats is available in the Biological Resources subsection of this document.

*Monterey County General Plan*

The Monterey County General Plan maps the project area as Wetlands and Coastal Strand (Monterey County 2010). The Monterey County General Plan establishes the long-term land use plan for all of Monterey County. It

contains eight issue-oriented elements (e.g., Land Use, Housing, Circulation) and 14 area-specific or master plans for each of the regional planning areas (e.g., North County Land Use Plan). Out of the eight General Plan project elements, the relevant project elements include: Conservation and Open Space and Safety.

The Conservation and Open Space element establishes the policies for all open space lands and natural resources within Monterey County. Policies are centered on the preservation and conservation of the following resources: biological; marine; scenic; archeological and paleontological; and air and water quality. As previously discussed, the project would not conflict with the preservation and conservation of biological resources, surface water, marine resources and scenic resources because it is designed to enhance these resources. Short-term impacts to air quality would result from construction emissions. The emissions would only occur during construction and would not pose a long-term air quality impact. The MBARD guidelines would be followed so that emissions would not surpass any air quality standard. For these reasons, the project would not conflict with the Conservation and Open Space Element of the General Plan. Additional discussion on the project's short-term impacts on air quality is available in the Air Quality subsection of this document.

The Safety Element of the Monterey County General Plan defines as a fundamental goal the preservation of a healthy and quiet environment without annoying and harmful sounds. The project would increase noise levels only during the construction phase of the project. Construction activities would adhere to County noise standards and would not have a substantial adverse effect on the nearby sensitive receptors. Therefore, the project would not conflict with the Safety Element of the General Plan. Additional discussion on the project's short-term effects on noise is available in the Noise section of this document.

The purpose of the project is to improve wildlife habitat, reduce erosion, and increase long-term recreation access inherently align with governing land use plans, policies, and regulations. Construction of the project would have a limited duration and effect and would not be expected to cause any substantial land use incompatibilities or disruptions to land use areas. Project implementation would not require land use plan or general plan amendments. For these reasons, the project would not conflict with any other local land use policies or ordinances. This impact would be **less than significant.**

## MINERAL RESOURCES

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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. | | | | X |
| 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. | | | | X |

Setting:

In accordance with the Surface Mining and Reclamation Act of 1975, CGS maps the regional significance of mineral resources throughout the state, with priority given to areas where future mineral resource extraction could be precluded by incompatible land use or to mineral resources likely to be mined during the 50-year period following their classification. The CGS delineates Mineral Resource Zones based on the likelihood of the presence of mineral deposits and their economic value. This mineral land classification is used to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land use changes that would preclude future mineral extraction. No aggregate resources have been classified beyond the more urbanized northern portions of the County, which includes the project area (Monterey County 2008).

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.**

The project area is located in an area without mineral resource significance. Implementation of the project would not result in any removal of the mineral deposits present. The existing levee consists of fill material and will be re-purposed within the footprint of the setback levee. Similarly, the material excavated from the bank of Elkhorn Slough would be placed on the new setback levee. No soil, sediment or fill would be removed from the project area. Therefore, the project would not result in the loss of a known mineral resource. **No impact** would occur**.**

**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.**

As described above, no soil, sediment or fill would be removed from the project area as a result of the project. Therefore, the proposed project would not 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 (Monterey County 2010). **No impact** would occur**.**

## NOISE

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project cause: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. | | | X | |
| b) Generation of excessive groundborne vibration or groundborne noise levels. | | | X | |
| c) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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. | | | X | |

Setting:

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound (e.g., loudness, pitch, duration, etc.) and other factors relating to the situation of the listener (e.g., the time of day when it occurs, the acuity of a listener's hearing, the activity of the listener during exposure, etc.). Environmental noise has many documented undesirable effects on human health and welfare, either psychological (e.g., annoyance and speech interference) or physiological (e.g., hearing impairment and sleep disturbance).

Just as vibrating objects radiate sound through the air, if they are in contact with the ground, they also radiate mechanical energy through the ground. If such an object is massive enough and/or close enough to an observer, the ground vibrations can be perceptible and, if the vibrations are strong enough, they can cause annoyance to the observer and, if still stronger, damage to the buildings exposed. Annoyance and structural damage correlate strongly with the velocity produced by the vibration source at receptor locations. The vibration metric most commonly used to correlate vibration levels with human annoyance and structural damage is the vibration decibel (VdB).

### Environmental Setting

The Wildlife Area is an 872-acre open space currently devoted to recreational activities and wildlife habitat. It is surrounded primarily by agricultural lands in a rural, unincorporated area of Monterey County about 5 miles south of Watsonville. Thus, the land uses in the vicinity of the project area are not noise-sensitive. The closest off-site noise-sensitive receptors appear to be a few isolated residential uses associated with the farmlands

north and northwest of the project area; all are greater than 500-1000 feet from the project area boundary. Also of note are the sensitive wildlife species that use the Wildlife Area for breeding, foraging and roosting. Potential impacts of construction noise to sensitive wildlife species are evaluated in the Biological Resources Section of this Initial Study.

## Regulatory Setting

Section 65302(f) of the California Government Code requires that all city and county general plans include a noise element that identifies and provides mitigation for any existing and perceivable noise problems. In preparing the Monterey County General Plan (2010), the County followed the California Department of Health Services' Guidelines. The General Plan's Safety Element defines noise metrics, presents land use compatibility guidelines, and sets policies for noise control. The Safety Element contains the following policies applicable to the project (underline added for emphasis):

- **Policy S-7.8.** "All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy."
- **Policy S-7.9.** "No construction activities pursuant to a County permit that exceed "acceptable" levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study."

The assessment of the potential noise impacts of project diesel-powered equipment and trucks to be used for the proposed habitat restoration and recreational access improvements on local noise-sensitive noise receptors is based on a comparison of anticipated noise levels for the equipment to be used with the following Monterey County Municipal Code sections (underline added for emphasis):

- ***Section 10.60.030 - Operation of noise-producing devices restricted.*** *"At any time of the day, it is prohibited within the unincorporated area of the County of Monterey to operate, assist in operating, allow, or cause to be operated any machine, mechanism, device, or contrivance which produces a noise level exceeding eighty-five (85) dB measured fifty (50) feet therefrom. The prohibition in this Section shall not apply to aircraft, nor to any such machine, mechanism, device or contrivance that is operated in excess of two thousand five hundred (2,500) feet from any occupied dwelling unit."*
- **Section 10.60.040 - Regulation of nighttime noise**. "The following regulations shall apply to nighttime noise:
    - *"A. It is prohibited within the unincorporated area of the County of Monterey to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 p.m. to 7:00 a.m. the following morning.*
    - *"B. Within the time period 10:00 p.m. to 7:00 a.m. the following morning, and for the purposes of this Section, a loud and unreasonable sound shall include any sound that exceeds the [following] exterior noise level standards: [45 dB nighttime hourly average; 65 dB maximum]."*

Would the Project:

**a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

Activities associated with implementation of the proposed project would result in temporary increases in noise within and near the project area as a result of equipment staging and operation. There would be no permanent increase in noise from new operational sources after construction is complete.

Noise levels from construction activities would be short-term with an equipment mix specifically including a bulldozer, front end loader, excavator and dump truck operating during the setback levee construction, bank contouring and pond maintenance activities in the year 2021 and supplemented by a paver and roller during the levee removal activity in the year 2022. During construction the equipment noise would be short term, lasting between 30 – 40 workdays during Year 1 and between 5 and 10 workdays during Year 2. The most noise intensive work would occur during earthwork planned for Year 1. During that period, and assuming all work occurs within the same general area and simultaneously, Table 7 provides the average noise level for three pieces of equipment necessary for construction (i.e., bulldozer, dump truck, and front end loader) from distances between 50 and 800 feet away from construction as estimated by the U.S. Department of Transportation's Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). This would be the worst-case noise impact when all equipment is working in close proximity to each other. When equipment is not working in close proximity, each individual piece has a reduced local effect on the sensitive receptor nearest to it, and the levels from all equipment would not add at any one receptor.

**Table 7 Construction Equipment* Noise Levels**

| Distance from Noise (feet) | Noise Level (dB) |
|---|---|
| 50 | 80.0 |
| 100 | 74.4 |
| 200 | 68.3 |
| 400 | 62.3 |
| 800 | 56.3 |

* Bulldozer, Front End Loader & Dump Truck. Roadway Construction Noise Model Users Guide (USDOT 2006).

Trucks associated with project material deliveries and debris off-haul and worker commute vehicles would arrive via Highway 1, the only available access route. All such construction equipment and vehicle operation would only occur during regular weekday daylight working hours (i.e., 7 am to 6 pm). Thus, the project would comply with the work hour limitations established by General Plan and Municipal Code policies and standards.

Noise from diesel-powered equipment would not exceed the specified Municipal Ordinance standard level of 85 dB at 50 feet. RCNM estimates show that project construction noise at the nearest residence, which is located within the project area and adjacent to the access route and staging area, would be approximately 80 dB at 50 feet (USDOT 2006). Any approaches of project equipment to within 50 feet of the existing residence would be

extremely rare, given the size of the project area and locations of the land/water features within it requiring reconfiguration. This impact would be **Less than Significant**.

**b) Generation of excessive groundborne vibration or groundborne noise levels.**

Although there is a policy in the General Plan (S-7.8) requiring that structural damage to existing buildings be avoided during construction, there are no quantitative standards or evaluation methodologies specified therein. It is most common for government agencies to rely on assessment methodologies, impact standards and vibration-reduction strategies developed by the Federal Transit Administration (FTA) in Transit Noise and Vibration Impact Assessment (2018). According to the FTA, limiting vibration levels to 94 VdB or less would avoid structural damage to wood and masonry buildings (which are typical of most residential uses), while limiting vibration levels to 80 VdB or less at residential buildings would avoid significant annoyance to the occupants.

All construction equipment has the potential for causing annoyance and/or structural damage if the construction activity is too close to vibration-sensitive receptors. According to FTA vibration screening methodology, sensitive receptors between 500-1000 feet away would be far outside the range where there would be a substantial potential for on-going annoyance or structural damage from construction vibration. This impact would be **less than Significant**.

**c) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?**

The proposed project is not located within 2 miles of a public airport or public use airport. The two closest airports to the project site, the Watsonville Municipal Airport and the Marina Municipal Airport, are approximately 8 and 9 miles away from the project location, respectively. According to the Watsonville Municipal Airport Master Plan and the Marina Municipal Airport Land Use Plan, the proposed project is not located within either airport land use zone. The proposed project is also not located within the vicinity of a private airstrip, and therefore would not result in excessive noise levels. This impact would be **less than Significant.**

## POPULATION AND HOUSING

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). | | | | X |
| b) Displace substantial numbers of existing housing, units, necessitating the construction of replacement housing elsewhere. | | | | X |

Setting:

Within the project area is a single-story, wooden, L-shaped house measuring approximately 50 feet by 45 feet. Sewer and water are provided by local municipal agencies to the property. The house was occupied by a resident who leased the property and provided assistance with opening/closing gates to the Wildlife Area. The proposed project would not affect the condition of the house or lease.

Would the Project:

**a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

The proposed project would not induce any population growth in the area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area. **No impact** would occur.

**b) Displace substantial numbers of existing housing, units, necessitating the construction of replacement housing elsewhere?**

The proposed project would not displace any existing housing or necessitate the construction of replacement housing elsewhere. **No impact** would occur.

## PUBLIC SERVICES

| **Environmental Factors and Focused Questions for Determination of Environmental Impact**<br>**Would the project:** | **Potentially Significant Impact** | **Less Than Significant With Mitigation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: | | | | |
| i) Fire protection. | | | | X |
| ii) Police protection. | | | | X |
| iii) Schools. | | | | X |
| iv) Parks. | | | | X |
| v) Other public facilities. | | | | X |

Setting:

The 872-acre Wildlife Area became a designated wildlife area by the Fish and Game Commission in 1985. Trails and viewing platforms are the only public facilities within the project area. Outside the project area, most tidal portions of the Wildlife Area are seasonally open to waterfowl hunting. Additional public access is also available for wildlife viewing and angling.

The project area is located in the North County Fire District and the closest fire station is the Castroville Fire Station (Monterey County 2010; Monterey County 2008). The closest police department is located in the City of Marina, approximately 9 miles south of the project area. The project is located in the North Monterey County School District and the closest public school is the Moss Landing Middle School, located 1.83 miles to the north. Faith Christian is the closest private school, which is located in Moss Landing over 1 mile from the project area. The project is adjacent to the 1,700-acre ESNERR, which is one of 28 National Estuarine Research Reserves established nationwide as field laboratories for scientific research and estuarine education. The reserve is owned and managed by CDFW in partnership with NOAA Fisheries and the local, non-profit Elkhorn Slough Foundation. It is one of 22 national estuarine research reserves around the country that serve as representative estuaries for research, education and habitat stewardship.

Would the Project:

**a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: i) fire protection; ii) police protection; iii) schools; iv) parks; or v) other public facilities?**

The proposed project would protect and enhance the bank of Elkhorn Slough along the southern boundary of the project area; protect the managed ponds from flooding due to a levee breach or rising sea levels; and would provide continued safe and sustainable recreational access to the public. Implementation of the project would result in a beneficial impact to public access through improvements to access roads, trails and observation platforms. No other government facilities or public services are present within the project area. Construction activities associated with the project would be temporary and completely contained within the boundaries of the Wildlife Area, therefore no adverse impact to public services or altered governmental facilities would occur. **No impact** would occur.

## RECREATION

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) 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. | | X | | |
| b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. | | | | X |

Setting:

The project area is part of the larger 872-acre Wildlife Area, which provides many beneficial recreational uses such as angling, boating, hiking, and bird watching opportunities. A stated purpose of the project is to provide safe and sustainable public recreational access within the project area.

Would the Project:

**a) 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?**

Impact REC-1: The project area currently provides recreational facilities to the general public (viewing platform and trail). Construction of the proposed project would temporarily impact users of these facilities, who would be excluded from certain areas when heavy equipment is operating or the site is otherwise unsafe to use. Implementation of Mitigation Measure REC-1 would ensure that this potential impact be reduced to **less than significant with mitigation**.

> *Mitigation Measure REC-1: Provide Wildlife Area Users with Clear Re-Route / Detour Options During Construction.*
>
> CDFW and their contractors will minimize disturbance to the public during construction activities through installation of appropriate signage demarcating temporary pedestrian/user access routes. If access to the project area is entirely unsafe for some period of time, CDFW will provide the public with recommendations on alternate locations near the project area that may be accessible for wildlife viewing and/or fishing.

**b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

The proposed project would benefit the existing physical environment through protection of existing observation platforms and construction of additional trails to provide safe and sustainable access to recreational facilities. The proposed improvements would not have an adverse physical effect on the environment. **No impact** would occur**.**

## TRANSPORTATION AND TRAFFIC

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? | | | X | |
| b) Conflict or be inconsistent with CEQA Guidelines § 15064.3 (b)? | | | X | |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | X | | |
| d) Result in inadequate emergency access? | | X | | |

Setting:

In July 2020 CEQA Guidelines were revised to require project proponents to evaluate impacts based on vehicle miles traveled (VMT); PRC § 15064.3 sets the criteria and methodology for evaluating these impacts.

Would the Project:

**a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

There would be no permanent increase in traffic as a result of the proposed project. Increased traffic due to project construction would consist of daily arrival and departure of construction workers at the site and trucks hauling equipment and materials to and from the project area. Once on the site, construction equipment and vehicles would have no adverse impact on traffic circulation systems. Construction generated traffic to and from the site would be temporary and limited in scope. This temporary increase in traffic would not result in any exceedance of the capacity of existing circulation systems as designated in any general plan or ordinance. This impact would be **less than significant.**

**b) Conflict or be inconsistent with CEQA Guidelines § 15064.3(b), which pertains to vehicle miles travelled?**

The proposed project would generate inherently low VMT for potential increase in visitors accessing the improved project area post-construction and short term increases of VMT during construction activities. Impacts associated with construction-related emissions have been evaluated and mitigated in the Air Quality and Greenhouse Gas subsections of this document and therefore does not require additional transportation evaluation or analyses. Proposed construction hours would be between 7:00 a.m. and 6:00 p.m. Monday through Friday to be consistent with local municipal codes. CDFW would obtain all necessary local road encroachment permits prior to construction and would comply with all the applicable conditions of approval. This impact would be **less than significant.**

**c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

The proposed project would not change the design or alignment of nearby roadways and would not introduce vehicles that are not already travelling on area roads. However, during construction, heavy equipment operating adjacent to or within a road right-of-way could increase the risk of some traffic related accidents as these trucks will be accessing the project via Highway 1.

Impact TRAFFIC-1: Construction equipment and trucks on the project area roadways may interact with other vehicles and potential conflicts could occur between construction traffic and/or bicyclists and pedestrians. Implementation of Mitigation Measure TRAFFIC-1 would reduce risks associated with temporary increases in construction traffic and increased risk of traffic related accidents to **less than significant with mitigation**.

*Mitigation Measure TRAFFIC-1: Prepare a Traffic Control Plan Prior to Construction*

Monterey County requires that a traffic control plan be submitted with an encroachment permit application. In compliance with this requirement, CDFW would require their construction contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan shall be submitted to Monterey County for review and approval prior to construction.

**d) Result in inadequate emergency access?**

Similar to c) above, the construction contractor would establish methods for maintaining traffic flow and minimizing disruption to emergency vehicle access to land uses within the vicinity of the project area. Implementation of Mitigation Measure TRAFFIC-1: Prepare a Traffic Control Plan Prior to Construction, would ensure potential impacts associated with temporary effects on emergency access would be minimized or avoided. This impact would be **less than significant with mitigation**.

## UTILITIES AND SERVICE SYSTEMS

| Environmental Factors and Focused Questions for Determination of Environmental Impact<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects. | | | | X |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? | | | | X |
| c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. | | | | X |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. | | | | X |
| e) Comply with federal, state, and local statutes and regulations related to solid waste. | | | | X |

Would the Project:

**a) Require or result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects?**

The proposed project would not result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities. It would be the responsibility of the construction contractor to obtain water that would be used for dust control during construction activities. The contractor would obtain water from an off-site source and truck it to the project area. **No** impact would occur**.**

**b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**

The proposed project does not require water entitlements. **No impact** would occur.

**c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

The proposed project would not require wastewater treatment and therefore would have no impact on wastewater demands or providers. **No impact** would occur**.**

**d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.**

Construction of the project would generate minimal solid waste (e.g., disposal of degraded water control structures or culverts in the managed ponds, construction work debris). However, this waste would not be in excess or of State or local standards, or in excess of the capacity of local infrastructure. **No impact** would occur**.**

**e) Comply with federal, state, and local statutes and regulations related to solid waste?**

The proposed project and project contractor would be required to comply with all pertinent regulations regarding the disposal of solid waste generated by construction activities. **No impact** would occur.

## WILDFIRE

| Environmental Factors and Focused Questions for Determination of Environmental Impact | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones? If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | | | | X |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | | | | X |
| c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | | | | X |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | | | | X |

Setting:

The project area is not located within or near a state responsibility area designated by Cal Fire as high fire hazard severity zone (Cal Fire 2007, 2008). Cal Fire's Fire and Resources Assessment Program map designates the project area's hazard class as "Non-Wildlife/Non-Urban" (Monterey County 2008).

Would the Project:

**Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones? If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project**

**a), b), c), d)** The proposed project would not conflict with implementation of Monterey County Emergency Operations Plan. There would be no impact to an adopted emergency response plan or evacuation plan as a result of the project. The project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency. Project activities would not result in post-fire slope instability or increase risk of downstream flooding or risk of landslides. Project activities would improve long-term conditions in the project area through protection from sea level rise and improvements to water control structures within the pond system. **No impact** would occur**.**

## MANDATORY FINDINGS OF SIGNIFICANCE

| Environmental Factors and Focused Questions for Determination of Environmental Impact | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major Periods of California history or prehistory? | | | X | |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | | | X | |
| c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? | | | X | |

Setting:

The reconfiguration of levees under the proposed project is an adaptive management approach to protect about 150 acres of managed pond habitat important to the Monterey Bay breeding population of western snowy plover. Proposed construction activities would result in short-term impacts on sensitive habitats and species, which would be minimized through project design, BMPs and Mitigation Measures. Permanent shifts in habitat types resulting from the project would be offset by improvements in the overall quality of habitats in the project area, including a net increase in high marsh habitat along Elkhorn Slough In addition the proposed project would improve water and sediment management capabilities within the managed ponds to benefit plovers and shorebirds; would reduce sediment delivery to Elkhorn Slough; and would provide safe and sustainable public access facilities within the project area. Project construction would occur over two years, after the western snowy plover nesting season is complete. Year 1 activities would last approximately 8 weeks from mid-August through mid-October. Year 2 activities would last approximately 4 weeks in September.

CEQA Guidelines (§ 15355[b]) define cumulative impacts as those resulting from closely related past, present, and reasonably foreseeable projects. CEQA Guidelines (§ 15125[a]) also define the analytical baseline as the conditions on the ground at the time that the Initial Study is prepared. Table 8 lists all reasonably foreseeable projects within the larger Monterey Bay Region.

**Table 8 Reasonably Foreseeable Cumulative Projects within the Monterey Bay Region**

| Project Name | Estimated Date of Construction | Project Description |
|---|---|---|
| DeepWater Desal, LLC | Beyond 2017<br>Update: Applied for Coastal permit in late 2018. | Construction of a 15-million-gallon-per-day seawater desalination facility located on a 110-acre site in Moss Landing, on Dolan Road, approximately 1,500 feet east of the Moss Landing Power Plant. This project would serve the City of Salinas. |
| Moss Landing Community Plan | 2016-2045 | The Moss Landing Community Plan would guide planning and development decisions within Moss Landing for the next 10 to 20 years. The Community Plan focuses mainly on activities within the Moss Landing Harbor area, but does extend to lands east of Highway 1. The Community Plan does not propose and would not authorize any development. Presently in draft form, the final Community Plan will be a chapter within the North County Land Use Plan. |
| Moss Landing Development Projects | 2016-2045 | The Monterey Bay Aquarium Research Institute (MBARI) General Development Plan calls for 150,700 square feet of new structures, including a 900-square-foot dock extension, and for the demolition of an existing 14,725-square-foot structure. MBARI has identified several short- term and long-term development projects in its proposed master plan. MBARI has proposed phased development of these facilities over a 35-year timeframe. Moss Landing Marine Labs conceptual development plans include: 1) a combined Marine Operations, Research Diving and Sustainable Fishery Offloading Facility; 2) modifications to existing facilities at their northern Shore Laboratory Complex, 3) a southern Shore Laboratory complex that combines a research pier/coastal observatory, large animal holding tanks, lab space and an integrated aquaculture research facility; and 4) housing and visitor-serving facilities for the accommodations of students during the academic year and workshops, classes and special programs. |
| Monterey Bay Sanctuary Scenic Trail Network | 2020-2023 | The Monterey Bay Sanctuary Scenic Trail Network is a Regional Transportation Commission (RTC) proposed 50-mile bicycle and pedestrian trail project. The spine of the trail network will be the 32-mile Coastal Rail Trail from Davenport to Watsonville, to be built within or adjacent to the RTC-owned rail right-of-way. The remaining miles will be connecting paths, sidewalks, bike lanes, other roadway improvements or unpaved coastal spur trails |

Would the Project:

**a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major Periods of California history or prehistory?**

Based on the analysis provided in this Initial Study, the proposed project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or

animal or eliminate important examples of the major periods of California history or prehistory. The intent of the project is to improve habitat for fish and wildlife through targeted actions that would protect nesting habitat for western snowy plover, reduce erosion, and improve water quality in Elkhorn Slough.

Temporary impacts associated with construction would be short term and localized. Project impacts to air quality, biological resources, cultural resources, recreational resources, and traffic would be fully mitigated through mitigation measures, standard permit conditions and BMPs identified in this document. This impact would be **less than significant with mitigation.**

**b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Project impacts identified in this document would be minimized through implementation of BMPS, standard permit conditions and mitigation measures, and would not significantly contribute to cumulative impacts in the area. Present and future projects located in the same region and identified in Table 8 above would be held to the same environmental impact evaluation and compliance regulations as the proposed project. Cumulative impacts would be **less than significant with mitigation.**

**c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

Based on the analysis provided in this Initial Study, the proposed project would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. In general, construction sites present hazards that have the potential to adversely affect human beings either through impaired air quality, construction noise and vibration impacts. These hazards would be temporary, would last only for the duration of project construction, and would be offset though BMPs designed to provide safe working conditions. Temporary impacts to recreational access during construction would be fully mitigated through mitigation measure REC-1, standard permit conditions and BMPs identified in this document. Once implemented, the project would provide improved and expanded safe and sustainable public access within the project area. This impact would be **less than significant with mitigation.**

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# Appendix A

## Project Area Photographs


2002


2004


2008


2012

# Appendix B

## Biological Resource Database Search Results and Special Status Species Tables

**Table B-1 Special-Status Plant Species with Potential to Occur in the Project Area, Monterey County**

| Federal or State Listed Species | | | |
|---|---|---|---|
| **Common Name Scientific Name** | **Listing Status (Federal/State)** | **General Habitat and Phenology** | **Potential for Occurrence in Project Area** |
| Marsh Sandwort *Arenaria paludicola* | FE / - CNPS 1B.1 | Sandy openings of boggy meadows, marshes, and swamps Flowers May-August | None: lacks suitable vegetation associations and substrate. No CNDDB occurrences within 2 mile radius of project area. |
| Congdon's tarplant *Centromadia parryi* ssp. *Congdonii* | - / - CNPS 1B.2 | Grassland Blooms May-October | None: lacks suitable vegetation associations. No CNDDB documented occurrences within a 2-mile radius of project area. |
| Robust Spineflower *Chorizanthe robusta var. robusta* | FE / - CNPS 1B.1 | Sandy Sites in: Maritime Chaparral Cismontane Woodland Coastal Dunes Coastal Scrub Valley and Foothill Grassland Blooms April-September | None: lacks suitable vegetation associations and substrate. No CNDDB documented occurrences within a 2-mile radius of the project area. |
| Monterey Spineflower *Chorizanthe pungens var. pungens* | FT / - CNPS 1B.2 | Sandy Sites in: Maritime Chaparral Cismontane Woodland Coastal Dunes Coastal Scrub Valley and Foothill Grassland Blooms April-June | Not expected: lacks suitable vegetation association (dune habitat). There are 5 CNDDB documented occurrences within a 2-mile radius of the project area. All detections were within dune habitats. |
| Seaside Bird's-beak *Cordylanthus rigidus* ssp. *littoralis* | - / SE CNPS 1B.1 | Sandy, Often Disturbed Sites in: Closed-cone Coniferous Forest Maritime Chaparral Cismontane Woodland Coastal Dunes Coastal Scrub Blooms March-August | None: lacks suitable vegetation associations and substrate. 1 CNDDB occurrence within a 2-mile radius of the project area, approximately 2 miles to the northeast |
| Menzies' Wallflower *Erysimum menziesii* | FE / SE CNPS 1B.1 | Coastal Dunes Blooms March-April | None: lacks suitable vegetation associations or substrate present. No CNDDB documented occurrences within a 2-mile radius of project area. |
| Monterey Gilia *Gilia tenuiflora* ssp. *arenaria* | FE / ST CNPS 1B.2 | Sandy Sites in openings of: Maritime Chaparral Cismontane Woodland Coastal Dunes Coastal scrub Blooms May to June | Not expected: lacks suitable vegetation association (dune habitat). 1 CNDDB occurrence from within a 2-mile radius of the project area, within disturbed sand dune habitat. |
| Santa Cruz Tarplant *Holocarpha macradenia* | FT / SE CNPS 1B.1 | Often on Clay Sites in: Coastal Prairie Coastal Scrub Valley and Foothill Grassland Blooms June-October | None: lacks suitable vegetation associations and substrate. No CNDDB documented occurrences within a 2-mile radius of the project area. |

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat and Phenology | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| Yadon's rein orchid<br>*Piperia yadonii* | FE / -<br>CNPS 1B.1 | Occurs on Sandy Sites in:<br>Coastal Bluff Scrub<br>Closed-cone Coniferous Forest<br>Maritime Chaparral<br>Flowers May-August | None: lacks vegetation associations and outside species elevation range. No CNDDB occurrences within a 2 mile radius of project area. |
| Choris popcorn flower<br>*Plagiobothrys chorisianus var. chorisianus* | CNPS 1B.2 | Occurs in mesic valley and foothill grassland and swamps<br>Blooms March-June | Not expected. No suitable habitat within project area. Documented from Moss Landing Power Plant. |

**California Native Plant Society Listed and Locally Rare Species**

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat and Phenology | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| Pajaro manzanita<br>*Arctostaphylos pajaroensis* | CNPS 1B.1 | Chaparral<br>100-2,500 feet<br>Blooms December-March | None: lacks suitable vegetation associations and outside the species known elevation range. There is 1 CNDDB occurrence within a 2-mile radius of the project area. |
| Sand-loving wallflower<br>*Erysimum ammophilum* | CNPS 1B.2 | Sandy openings of maritime chaparral, coastal dunes, and coastal scrub<br>Blooms February-June | None: lacks suitable vegetation associations. No CNDDB documented occurrences within a 2-mile radius of the project area. |
| Woodland woolythreads<br>*Monolopia gracilens* | CNPS 1B.2 | Serpentine soils in openings of broad-leafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley grassland, and foothill grassland<br>Flowers February-July | None: outside the species known elevation range. No CNDDB occurrences within a 2-mile radius of the project area. |
| Saline clover<br>*Trifolium hydrophilum* | CNPS 1B.2 | Marshes and swamps, and valley and foothill grassland, and vernal pools. Occurs on mesic and alkaline sites.<br>Flowers April-June | Not expected: no suitable marsh or vernal pool habitat within project area. Documented from dunes east of Highway 1 and Moro Cojo Slough. |

Source: CNDDB 2020; CNPS 2020.

**STATUS CODES:**

FEDERAL

FE = Listed as Endangered by the USFWS
FT = Listed as Threatened by the USFWS
FC = Candidate for Federal listing

STATE

SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California

CALIFORNIA NATIVE PLANT SOCIETY (CNPS STATUS)

1A – Plants presumed extinct in California
1B – Plants rare, threatened, or endangered in California and elsewhere
2 – Plants rare, threatened, or endangered in California, but more common elsewhere
3 – Plants about which we need more information – a review list
4 – Plants of limited distribution – a watch list

CNPS THREAT CODE EXTENSIONS:

.1 -- Seriously endangered in California
.2 -- Fairly endangered in California
.3 -- Not very endangered in California

**Table B-2 Special-Status Wildlife Species with Potential to Occur in the WHISTLESTOP Levee Repair Project Area, Monterey County**

| **INVERTEBRATES** | | | |
|---|---|---|---|
| **Common Name<br>Scientific Name** | **Listing Status<br>(Federal/State)** | **General Habitat** | **Potential for<br>Occurrence in Project Area** |
| Ohlone tiger beetle<br>*Cicindela ohlone* | FE / - | Found only on, and adjacent to, coastal prairie terrace habitat marked by poorly drained clay soils. Specific clay soils that provide moisture, composition, and temperature conditions necessary for egg-laying and larval development. | None. No suitable habitat for this species within or adjacent to the project area. No CNDDB documented occurrences within a 2-mile radius of the project area (CDFW 2020). |
| Globose dune beetle<br>*Coelus globosus* | - / - | Burrows beneath the sand surface of foredunes and sand hummocks, and is most commonly found beneath dune vegetation. | Not expected. No suitable dune habitat in project area. Known from Sunset State Beach and Salinas River State Beach (CDFW 2020). |
| Monarch butterfly<br>*Danaus plexippus* | - / - | Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Host plant is milkweed (*Asclepius* spp.). Fall migration occurs from August through October. Overwintering roosts in California commonly occur on Eucalyptus tree. | Not expected. Known from region. Suitable roost sites located in eucalyptus trees just north of project area but species has not been documented from that area. Closest occurrence 0.6 miles to the south, reported in 1982 . |
| Range Black abalone<br>*Haliotis cracherodii* | FE / - | Inhabit rocky substrates in intertidal and shallow subtidal reefs (to about 18 feet deep) along the coast. The species typically occur in habitats with complex surfaces and deep crevices that provide shelter for juveniles and adults. | None. No suitable rocky reef habitat within project area. No CNDDB documented occurrences within a 2-mile radius of the project area (CDFW 2020). |
| Olympia oyster<br>*Ostrea lurida* | - / - | The Olympia oyster survives in broad range of habitats but most abundant in estuaries, small rivers, and streams; however it is limited almost entirely to estuaries throughout its range from Baja California to Alaska. | Not expected. No suitable oyster reef or hard substrate habitat in project area. Known from Elkhorn Channel. |
| **FISHES** | | | |
| **Common Name<br>Scientific Name** | **Listing Status<br>(Federal/State)** | **General Habitat** | **Potential for<br>Occurrence in Project Area** |
| Central California coast coho salmon<br>*Oncorhynchus kisutsch* | FE / CE | Anadromous. Spawns in freshwater in areas with suitable spawning gravels. Juveniles require cool, clean water, cover, and sufficient dissolved oxygen. | Not expected. Known to occur in Monterey Bay, but have not been observed in Elkhorn Slough or documented within 2 miles of project area (CDFW 2020). The species may at times stray into the Elkhorn Slough, but occurrences are deemed sufficiently infrequent that the proposed project would be unlikely to impact the species. |

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| Central California coast steelhead<br>*Oncorhynchus mykiss* | FT / - | Anadromous. Spawns in freshwater in areas with suitable spawning gravels. Juveniles require cool, clean water, cover, and sufficient dissolved oxygen. | Possible. Steelhead of unknown run/ESU have occasionally been observed in Elkhorn Slough. Documented from within 2 miles of project area (CDFW 2020). |
| Central Valley Spring-run Chinook Salmon ESU<br>*Oncorhynchus tshawytscha* | FT / CT | Anadromous. Inhabit major rivers in central California. Migrate into headwaters in February through July and hold in pools until spawning period. Spawn in central valley. | Possible. Chinook salmon of unknown run/ESU have occasionally been observed in Elkhorn Slough. Although the species may at times stray into the project area, their occurrences are deemed sufficiently infrequent that the proposed project would be unlikely to impact the species. |
| Sacramento River Winter-run Chinook Salmon ESU<br>*Oncorhynchus tshawytscha* | FE / CE | Anadromous. Inhabit major rivers in central California. Spawn in the Sacramento River watershed. | Possible. Chinook salmon of unknown run/ESU have occasionally been observed in Elkhorn Slough. Although the species may at times stray into the project area, their occurrences are deemed sufficiently infrequent that the proposed action would be unlikely to impact the species. |
| Central Valley Fall/Late Fall-run Chinook Salmon ESU<br>*Oncorhynchus tshawytscha* | - / CSC | Anadromous. Inhabit major rivers in central California. Spawn in central valley. | Possible. Chinook salmon of unknown run/ESU have occasionally been observed in Elkhorn Slough. Although the species may at times stray into the project area, their occurrences are deemed sufficiently infrequent that the proposed action would be unlikely to impact the species. |
| North American green sturgeon, Southern Distinct Population Segment (DPS)<br>*Acipenser medirostris* | FT / CSC | Within the marine environment, the Southern DPS occupies coastal bays and estuaries from Monterey Bay, California, to Puget Sound, Washington. | Not expected. There is very little data on green sturgeon presence in, and use of, Elkhorn Slough. Based on available data their occurrences are deemed sufficiently infrequent that the proposed action would be unlikely to affect the species. |
| Tidewater goby<br>*Eucyclogobius newberryi* | FE / CSC | Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels. | Not expected. Documented from within 2 miles of project area and known to occur in Bennett and Moro Cojo sloughs within the Elkhorn Slough Complex (CDFW 2020). Project area lacks shallow lagoons and is not within designated critical habitat for this species. |

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| Longfin smelt<br>*Spirinchus thaleichthys* | FC / ST | Anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Prefers temperatures in the range of 16-18°C and salinities ranging from 15-30 ppt. | Not expected. One individual reported by CNDDB from Moss Landing Harbor in 1980 (CDFW 2020). |
| **AMPHIBIANS** | | | |
| **Common Name<br>Scientific Name** | **Listing Status<br>(Federal/State)** | **General Habitat** | **Potential for<br>Occurrence in Project Area** |
| California Tiger Salamander<br>*Ambystoma californiense* | FT / CT | Freshwater ponds and wetlands in annual grasslands and grassy understory of valley-foothill hardwood forests. Use underground refuges, usually ground squirrel burrows. | Not Expected. This species has not been documented within 2 miles of the project area (CDFW 2020). No suitable freshwater habitat or upland estivation habitat within project area. |
| Santa Cruz Long-Toed Salamander<br>*Ambystoma macrodactylum croceum* | FE / CE, FP | Wet meadows, coastal woodlands and chaparral near ponds and freshwater marshes. Breeds in shallow, temporary freshwater ponds. | Not Expected. Freshwater habitat for this species is located 0.5-mile north of the project area in McClusky slough. Species is not expected to migrate into the project area where ponds are too saline to support amphibians. |
| California red-legged frog<br>*Rana draytonii* | FT / CSC | Lowlands or foothills in or near sources of water with shrubby or emergent riparian vegetation. | Not Expected. 9 CNDDB documented occurrence within a 2-mile radius of the project area (CDFW 2020). Freshwater habitat for this species is located 0.5-mile north in McClusky slough. Species is not expected to migrate into the project area where ponds are too saline to support amphibians. Salinity levels Pond 1 fluctuated from about 20 ppt to 76 ppt in 2017 and frogs cannot breed in water with levels greater than 7 ppt. |
| **REPTILES** | | | |
| **Common Name<br>Scientific Name** | **Listing Status<br>(Federal/State)** | **General Habitat** | **Potential for<br>Occurrence in Project Area** |
| Northern California legless lizard<br>*Anniella pulchra* | - / CSC | Inhabit areas with sandy or loose loamy soils such as under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, cottonwoods, or oaks that grow on stream terraces. | None. No suitable sand dune habitat occurs within the project area. Four CNDDB occurrences from 2 mile radius of project area (CDFW 2020). |
| Black legless lizard<br>*Anniella pulchra nigra* | - / CSC, FP | Sand dunes and moist sandy soils with bush lupine and mock heather as dominant plants | None. No suitable sand dune habitat. No documented occurrences from 2 mile radius of project area (CDFW 2020). |
| Western pond turtle | - / CSC | Found in ponds, marshes, rivers, | Not Expected. Pond water is too |

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| *Emys (Clemmys) marmorata* | | streams, brackish estuarine water and irrigation ditches, usually with aquatic vegetation and below 6,000 feet elevation. | saline to support this species. No CNDDB documented occurrences within a 2-mile radius of the project area (CDFW 2020). |
| **BIRDS** | | | |
| **Common Name<br>Scientific Name** | **Listing Status<br>(Federal/State)** | **General Habitat** | **Potential for<br>Occurrence in Project Area** |
| Double-crested Cormorant *Phalocrocorax auritus* | - / WL | Aquatic habitats such as lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, swamps, seacoasts and coastal cliffs. | Present. Suitable nesting and roosting habitat in eucalyptus trees adjacent to the project area. |
| California Gull *Larus californicus* | - / WL | Habitat generalist in non-breeding season. Breeds in lakes, farms, and marshes. Nests on gravel islands in large rivers or lakes. | Present. Suitable habitat present in and adjacent to project area. |
| Long-billed Curlew *Numenius americanus* | - / WL | Coastal mudflats and marshes. Breeds in dry grasslands and shrub savannah. | Present. Suitable foraging habitat present in the project area. |
| California Brown Pelican *Pelicanus occidentalis californicus* | DL / FP | Pelagic. Beach and nearshore waters. Roosts during daytime on area beaches. | Present. Roosts in open water in Elkhorn Slough. Species has been delisted from ESA due to recovery. |
| Western Snowy Plover *Charadrius alexandrinus nivosus* | FT / CSC | Inhabit coastal beaches above the normal high-tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent. | Present. Nests in former salt ponds within project area. Project activities would directly impact breeding habitat for plover. |
| California Least Tern *Sterna antillarum browni* | FE / CE, FP | Nearshore beaches with bare or sparse vegetation, including sandy beaches, alkali flats, paved areas or landfills. Salt marshes. | Possible. Observed in Elkhorn Slough during migration. Does not nest in project area. No CNDDB documented occurrences within a 2-mile radius of the project area (CDFW 2020). |
| California Ridgway's Rail *Rallus longirostris obsoletus* | FE / CE, FP | Saltwater and brackish marshes traversed with tidal sloughs. Associated with abundant growths of pickleweed. | None. Last recorded in the area in 1972 near Kirby Park. Restricted to salt marsh habitats in San Francisco Bay. |
| California Black Rail *Laterallus jamaicensis coturniculus* | - / CT, FP | Salt and freshwater marshes, grassy wet meadows. | None. No suitable freshwater grassy meadow habitat. Not known from within 2 miles of project area (CDFW 2020). |
| White-tailed Kite *Elanus leucurus* | - / FP | Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Feeds primarily on California voles. Year-round resident of Central and Coastal California. Breeding begins in February; sometimes double-brooded. | Possible. Known from within 2 miles of project area near South Marsh (CDFW 2020). No suitable nesting habitat present but adjacent eucalyptus trees do provide suitable nesting habitat for this species. |
| Northern Harrier | - / CSC | Inhabits both freshwater and | Present. Suitable nesting and |

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| *Circus cyaneus* | | saltwater marshes and adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows. Breeding begins in March; single-brooded. | foraging habitat in marsh habitat within project area. Documented foraging from project area. |
| Bald Eagle<br>*Haliaeetus leucocephalus* | DL, EPA, / SE, FP | Winters at lakes, reservoirs, river systems and some rangelands and coastal wetlands. Nests in large conifers near aquatic sources. Breeding begins in May; single-brooded. | Not Expected. Suitable foraging habitat in project area. No documented nesting from the project area and only 1 or 2 historical sightings from the region. |
| Golden Eagle<br>*Aquila chrysaetos* | EPA / FP | A large diurnal raptor that nests on cliffs and in large trees in open areas. Forages in open terrain including grasslands, deserts, savannahs and early successional stages of forest and shrub habitats. | Possible. Suitable foraging habitat in vicinity of project area. This species is occasionally observed soaring over ESNERR. No suitable nesting habitat in or near project area. |
| Osprey<br>*Pandion haliaetus* | - / 3503.5 | Inhabits rivers, lakes and coastal habitats. Nest in tall trees near water bodies with sufficient prey. Range is almost cosmopolitan throughout California. | Possible. Suitable foraging habitat in Elkhorn Slough adjacent to project area. Suitable nesting habitat in eucalyptus trees adjacent to project area. |
| Peregrine Falcon<br>*Falco peregrinus anatum* | - / CE, FP | Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands; open grasslands, meadows or marshes. | Not Expected. Documented from within 2 miles but as migrant only. Nesting not documented from Elkhorn Slough (CDFW 2020). |
| Short-eared Owl<br>*Asio flammeus* | - / CSC | Inhabits open grasslands, prairies, marshes and agricultural fields with sufficient vegetative cover and abundant small mammal prey. Nests on the ground in a shallow depression. | Possible. Suitable open marsh habitat. Known from 4.6 miles to SW (CDFW 2020). |
| Western Burrowing Owl<br>*Athene cunicularia hypugaea* | - / CSC | Valley bottoms and foothills with low vegetation and fossorial mammal activity. | Possible. Suitable bare ground habitat. Has been documented from within 2 miles of the project area (CDFW 2020). |
| Bank Swallow<br>*Riparia riparia* | - / CT | Riparian and other lowland habitats. Requires vertical banks/cliffs with fine/ sandy soils near streams, rivers, lakes, or ocean for breeding. | Not Expected. No suitable bank habitat present in project area. Has been documented from within 2 miles of the project area (CDFW 2020). |
| Black Swift<br>*Cypseloides niger* | - / CSC | Nests on canyon walls near water and sheltered by overhanging rock or moss, preferably near waterfalls or on sea cliffs. | Not Expected. No suitable nesting habitat in project area. Has been documented from within 2 miles of the project area (CDFW 2020). |
| Tricolored Blackbird<br>*Agelaius tricolor* | - / CSC | Highly colonial species, most numerous in central valley. Largely endemic to California. Nest in emergent vegetation within aquatic and riparian habitats. | None. No suitable emergent vegetation within project area. Extirpated occurrence from 1.5 mile NE of project area (CDFW 2020). |

**MAMMALS**

| Common Name<br>Scientific Name | Listing Status<br>(Federal/State) | General Habitat | Potential for<br>Occurrence in Project Area |
|---|---|---|---|
| Salinas harvest mouse<br>*Reithrodontomys megalotis distichilis* | - / - | Fresh and brackish water wetlands and adjacent uplands. | Not expected. Known from Elkhorn Slough Reserve and known from Cemetery Hill ~0.9 mile south. Project area lacks freshwater wetland habitat to support this species. |
| Monterey Shrew<br>*Sorex ornatus salaries* | - / CSC | Ornate shrews are typically found in brackish water marshes; along streams; in brushy areas of valleys and foothills; and in forests. They especially favor low, dense vegetation that forms a cover for worms and insects. | Not expected. No suitable brushy vegetation within project area. Documented from within 2 miles of project area, in Elkhorn Slough in 2002 (CDFW 2020). |
| Southern sea otter<br>*Enhydra lutris nereis* | FT, MMPA / FP | An aquatic mustelid that inhabits shallow nearshore waters with rocky or sandy bottoms that support large populations of benthic invertebrate prey. | Present. Inhabits Elkhorn Slough year round. |
| Harbor seal<br>*Phoca vitulina* | MMPA / - | Marine mammal found in temperate coastal habitats. Uses rocks, reefs, beaches, and drifting glacial ice as haul-out and pupping sites. Found near shore in estuaries or protected waters, but may range far out to sea in deep pelagic waters or up freshwater rivers and into lakes. | Present. Inhabits Elkhorn Slough year round. Three known haul out sites located just east of project area, in Seal Bend and across Elkhorn Slough. |
| American badger<br>*Taxidea taxus* | - / CSC | A large mustelid that inhabits open areas with friable soils within woodland, grassland, savannah and desert habitats. A fossorial mammal that preys predominately on ground squirrels and pocket gophers. | Not expected. Marginal habitat within project area, limited fossorial mammal activity. This species has not been documented from within 2-miles of project area. |

Source: CDFW 2020, USFWS 2020.
STATUS CODES:
FEDERAL
FE = Listed as Endangered
FT = Listed as Threatened
DL = Delisted
MMPA = Marine Mammal Protection Act
EPA = Bald Eagle and Golden Eagle Protection Act
STATE
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
PT = Proposed for Listed as Threatened
CSC = California species of special concern
FP = California Fish and Game Code §4700 (fully protected species)
WL = California Fish and Game Watch List
3503.5 = California Fish and Game Code §3503.5 (no harm to raptor nests or eggs)