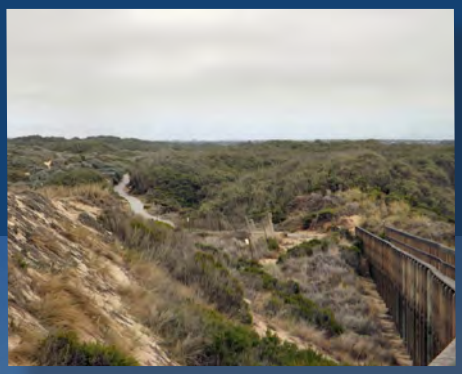


Draft
Environmental Impact Report

Habitat Conservation Plan for the Oceano Dunes District

February 2020

California Department of Parks and Recreation
Oceano Dunes District
Habitat Conservation Plan

Draft
Environmental Impact Report

SCH No. 2018011012

February 2020

This page intentionally left blank.

California Department of Parks and Recreation
Oceano Dunes District
Habitat Conservation Plan

Draft
Environmental Impact Report
SCH No. 2018011012

February 2020

Prepared for:
California Department of Parks and Recreation
Oceano Dunes District
340 James Way, Ste. 270
Pismo Beach, CA 93449
(805) 773-7170

Prepared by:
MIG, Inc.
2055 Junction Avenue, Suite 205
San Jose, CA 95131
(650) 327-0429
www.migcom.com

This page intentionally left blank.

OCEANO DUNES DISTRICT

HABITAT CONSERVATION PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

TABLE OF CONTENTS

APPENDICES

The following appendices are presented separately in a technical appendix volume of the Draft EIR:

Appendix A. Scoping Report
Appendix B. HCP Avoidance and Minimization Measures
Appendix C. Special-Status Species Lists
Appendix D. Biological Effects of Existing Covered Activities
Appendix E. Native American Communications

FIGURES

TABLES

This page intentionally left blank.

ACRONYMS, ABBREVIATIONS, AND SYMBOLS

Acronym/Symbol	Full Phrase or Description
µg/m^3	Micrograms per cubic meter
AB	Assembly Bill
ALUP	Airport Land Use Plan
ALUC	Airport Land Use Commission
AMM	Avoidance and Minimization Measure
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
ATV	All-terrain vehicle
BCC	Birds of Conservation Concern
BMP	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CalEEMOD	California Emissions Estimator Model
CARB	California Air Resources Board
CCC	California Coastal Commission
CCR	California Code of Regulations
CDF	California Department of Forestry and Fire Prevention
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CDPR	California Department of Parks and Recreation
CDVAA	Coastal Dune Vehicle Activity Areas
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CH_4	Methane
CHRIS	California Historical Resources Information System
CLTE	California Least Tern
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
CRI	Cultural Resource Inventory

Acronym/Symbol	Full Phrase or Description
CRLF	California Red-legged Frog
CRPR	California Rare Plant Ranked
CSSC	California Species of Special Concern
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DRI	Desert Research Institute
EA	Environmental Assessment
E-BAM	Environmental Beta Attenuation Monitor
ESU	Ecologically Significant Unit
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
FC	Candidate for Federal Listing
FE	Federal Endangered
FESA	Federal Endangered Species Act
FT	Federal Threatened
GHG	Greenhouse Gas
GWP	Global Warming Potential
H_2S	Hydrogen Sulfide
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbons
HMS	Habitat Monitoring System
ITP	Incidental Take Permit
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
MCV2	Manual of California Vegetation, Second Edition
MRZ	Mineral Resource Zone
MTCO2e	Million Metric Tons of CO_2 Equivalents
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plant

Acronym/Symbol	Full Phrase or Description
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Oxides of Nitrogen
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
NWR	National Wildlife Refuge
O_3	Ozone
ODD	Oceano Dunes District
Oceano Dunes SVRA	Oceano Dunes State Vehicular Recreation Area
OHMVR	Off-Highway Motor Vehicle Recreation
OHP	Office of Historic Preservation
OHV	Off-Highway Vehicle
PI-SWERL	Portable In-Situ Wind Erosion Lab
PM	Particulate Matter
PMRP	Particulate Matter Reduction Program
PRC	Public Resources Code
PWP	Public Works Plan
ROG	Reactive Organic Gases
RUV	Recreational Utility Vehicle
RWQCB	Regional Water Quality Control Board
SAG	Scientific Advisory Group
SAO	Stipulated Order of Abatement
SB	Senate Bill
SCCAB	South Central Coast Air Basin
SHPO	State Historic Preservation Officer
SHRC	State Historic Resources Commission
SIP	State Implementation Plan
SLO	San Luis Obispo
SLOAPCD	San Luis Obispo Air Pollution Control District

Acronym/Symbol	Full Phrase or Description
SNPL	Western snowy plover
SO_2	Sulfur Dioxide
SO_x	Oxides of Sulfur
SR	State Rare
ST	State Threatened
SVRA	State Vehicular Recreation Area
SWL	State Watch List
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
UAS	Unmanned Aircraft System
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compounds
WHPP	Wildlife Habitat Protection Plan

SUMMARY

S.1 PROJECT DESCRIPTION

California Department of Parks and Recreation (CDPR or State Parks) manages and operates Pismo State Beach and Oceano Dunes State Vehicular Recreation Area (SVRA). Federally- and state-listed endangered or threatened species occur on the property, including western snowy plover (*Charadrius nivosus nivosus;* SNPL), California least tern (*Sternula antillarum browni;* CLTE), California red-legged frog (*Rana draytonii;* CRLF), and tidewater goby (*Eucyclogobius newberryi*), as well as six listed plant species. Therefore, CDPR has prepared a Habitat Conservation Plan (HCP) as part of its application for an incidental take permit (ITP), authorized under Sections 10(a)(1)(A) and 10(a)(1)(B) of the federal Endangered Species Act (FESA). The HCP provides the basis for United States (U.S.) Fish and Wildlife Service (USFWS) issuance of a 25-year permit authorizing incidental take[1] of listed species under FESA.

The 5,005-acre HCP area includes two state park units—Pismo State Beach and Oceano Dunes SVRA—which are located in San Luis Obispo County, California. The HCP area is bounded by the City of Pismo Beach to the north, the Guadalupe-Nipomo Dunes National Wildlife Refuge to the south, urban and agricultural land to the east, and the Pacific Ocean to the west. Primary access to the area is via U.S. Highway 101 and State Route 1.

Covered activities under the HCP include all activities for which CDPR has responsibility within the HCP area that could result in take of covered species. These activities include, but are not limited to, public use/recreation management, natural resources management, and park/beach management. The species selected for inclusion in the HCP are based on their potential to be affected by covered activities, their occurrence in the HCP area, and the species' listing status. The HCP is based upon the current program being implemented by CDPR at Pismo State Beach and Oceano Dunes SVRA. The HCP includes actions to achieve the biological goals and objectives and relies on several types of conservation measures, including avoidance and minimization measures (AMMs), habitat enhancement, habitat restoration, habitat creation, and population enhancement. Protection of the covered species includes minimizing human alteration or disturbance of native habitats and reducing conflicts between covered species and park users. Monitoring would be utilized to inform decision-making and management strategies to ensure program effectiveness.

The HCP includes 52 covered activities divided into five categories: park visitor activities, natural resources management, park maintenance, visitor services, and other activities. The majority of these covered activities are existing visitor uses or park operations that have been occurring in the state park for decades. These existing activities are considered part of the baseline environmental conditions of the HCP site. The HCP also includes new covered

[1] *Take*, as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct." Harm is defined as "an act which actually kills or injures wildlife," including significant habitat modification or degradation "where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." *Take*, as defined under CESA, is any action or attempt to "hunt, pursue, catch, capture, or kill."

activities, which are either proposed now as a modification to the current park operation or may be contemplated in the future.

The HCP proposes four new covered activities evaluated in this Environmental Impact Report (EIR):

- CA-12b:[2] SNPL chicks and eggs would be captured and sent to captive rearing if they cannot be reunited with an attending adult and are at risk of death or injury from covered activities not related to covered species management activities (e.g., motorized recreation, pedestrian recreation, new covered activities).
- CA-21: Mechanical trash removal would occur through beach raking or grooming in heavily used areas from Grande Avenue south to orientation marker (Post) 6.
- CA-50: Seasonal fencing erected along East Boneyard Exclosure (approximately 49 acres) would be removed and seasonal fencing along the 6 Exclosure would be incrementally reduced to allow year-round recreation in these two exclosures. The 6 Exclosure (60 acres) may be reduced in 328-foot (100-meter) increments from north to south (approximately 7.5 acres), or CDPR may implement alternative incremental reductions of similar acreage to meet management needs. The gradual progression of the 6 Exclosure reduction would be conditioned upon biological criteria being met for SNPL and CLTE, operational considerations, and other factors.
- CA-52: CDPR may use unmanned aircraft systems (UAS; e.g., drones) in the HCP area (CA-52) reduce the time and cost associated with data collection, especially in more remote areas.

The HCP also covers new activity currently being planned or which may be considered in the future that will be subject to separate environmental review for California Environmental Quality Act (CEQA) compliance (EIR section 2.5). New covered activities being planned by CDPR include dust control measures prescribed under a new Particulate Matter Reduction Plan (PMRP; Dust Control Activities – CA-44). Potential activities not proposed at this time but that may be contemplated in the future include banding adult SNPL (CA-12b), propagation and outplanting of listed plants (CA-15), replacement of the cable fence (CA-28), Pismo Creek estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center (CA-43), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49). All these activities are reasonably foreseeable projects considered in the cumulative impact analysis (also see EIR section 3.3).

S.2 PROJECT IMPACTS AND MITIGATION

Consistent with CEQA and the CEQA Guidelines, this EIR focuses on the potentially significant direct and indirect impacts that could result from implementation of the proposed HCP. Impacts that were determined to be less than significant due to absence of the evaluated resource or the nature of the proposed activity include aesthetics, agricultural and forest resources, geology and soils, greenhouse gas emissions and energy, hazards and hazardous materials, hydrology and

[2] This capture is a new covered activity proposed under the HCP, which is different than ongoing capture associated with natural resources management activities. This activity addresses capture when eggs and chicks are threatened by non-covered species management activities, such as motorized recreation.

water quality, mineral resources, noise, population and housing, public services, transportation and traffic, utilities and service systems, and wildfire (see EIR section 3.2). These impacts are discussed in EIR section 10.3.

The EIR impact analysis evaluates in detail potential impacts to land use, air quality, biological resources, cultural resources, and recreation. A summary of project impacts and mitigation is presented in Table S-1. All impacts associated with the HCP can be reduced to less-than-significant levels. There are no significant unavoidable impacts.

Table S-1. Summary of Project Impacts and Mitigation Measures

Impact	Mitigation Measure
Land Use	
Impact: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), reduction of the Boneyard Exclosure and 6 Exclosure (CA-50), and CDPR's use of UAS (CA-52) do not change the land uses within Pismo State Beach or Oceano Dunes SVRA. These activities do not constitute new development within the coastal zone or require permitting through the Local Coastal Program or other land use agencies. CA-50 would remove seasonal restrictions on up to 109 acres of open riding and camping area during the summer season. The action increases coastal recreation access to motorized and non-motorized recreation in a recognized environmentally sensitive habitat area (ESHA). Daily vehicle use numbers are limited by the current Coastal Development Permit (CDP 4-82-300) and would remain in effect. With HCP AMMs, CDP vehicle use limits, and EIR mitigations in place, the HCP does not conflict with state or local land use plans or resource plans governing the HCP area. **Less-than-Significant Impact**	**No mitigation is required.**
Air Quality	
Impact: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS (CA-52) do	**No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
not generate PM emissions and have no impact on air quality standards. **No Impact**	
Impact AIR-1: The proposed new covered activities of mechanical trash removal (CA-21) and reduction of the East Boneyard Exclosure and 6 Exclosure (CA-50) could potentially change dune surface emissivity, increase dust generation, expose persons to substantial pollutant concentrations, and cause or contribute to exceedances of $PM_{2.5}$ and/or PM_{10} ambient air quality standards. **Potentially Significant Impact**	**Mitigation Measure AIR-1A:** To ensure that implementation of the HCP does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following monitoring actions. 1) Annually, the OHMVR Division shall identify boundary changes to the 6 Exclosure implemented under CA-50 and disclose this information to the SAG convened under the Stipulated Order of Abatement Case No. 17-01. 2) Prior to initiating mechanical trash removal activities, the OHMVR Division shall divide the trash removal treatment area into appropriate subareas that take into account, but are limited to, geographic continuity and anticipated level of treatment. 3) In collaboration with the SAG, the OHMVR Division shall evaluate and establish baseline dust/ PM_{10} generation in the East Boneyard Exclosure and 6 Exclosure and in the areas proposed for mechanical trash removal. This baseline may be based on: a) Historical data; b) New data; and/or c) A combination of historical and new data. 4) Every 3 months, the OHMVR Division shall conduct emission monitoring at one or more locations within/around the reduced East Boneyard Exclosure and 6 Exclosure areas and within the designated areas that have undergone mechanical trash removal. The specific number and location(s) of the monitoring, as well as instrumentation used for the monitoring, shall be determined in consultation with the SAG, and the data produced shall be made readily available to the SAG. 5) Based on the emissions monitoring conducted pursuant to item 4) above: a) If the average values at a monitoring location associated with the 6 Exclosure show the area is experiencing an increased emission factor of three or more (compared to baseline conditions) for three or more consecutive monitoring efforts, additional annual reductions of the 6 Exclosure area shall be halted, and the OHMVR Division shall implement Mitigation Measure AIR-1B. b) If the average values at a monitoring location associated with East Boneyard show the area is experiencing an increased emission factor of three

Table S-1. Summary of Project Impacts and Mitigation Measures

	or more (compared to baseline conditions) for three or more consecutive monitoring efforts, the OHMVR Division shall implement Mitigation Measure AIR-1C. c) If the average value in an area south of Post 4 that has undergone mechanical trash removal shows any measurable increase in emission potential (compared to baseline conditions) after the area has been raked, additional mechanical trash removal of that area shall not occur until the requirements identified in Mitigation Measure AIR-1D have been met. This requirement does not supersede the requirements set for the 6 Exclosure or East Boneyard area by subsections 5a and 5b, respectively. **Mitigation Measure AIR-1B:** To ensure reduction of the 6 Exclosure does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions. 1) If, through modeling or other statistical analysis, it is determined that the increased emissions from the 6 Exclosure have caused or substantially contributed to a violation of state and/or federal air quality standards, the OHMVR Division shall, in consultation with the SAG, determine measures that offset increased emission concentrations. These measures may include, but are not limited to: a) Returning the exclosure to existing conditions, b) Administering a surface treatment on the area of the exclosure that has been reduced, or c) Controlling dust from another portion of the HCP area that is equivalent to the measured increase from the exclosure area that caused the violation. In no case shall the control measure acreage cause a loss of camping and motorized recreation that exceeds the acreage gained by reducing the 6 Exclosure. 2) Additional exclosure reduction activities may be resumed when, in consultation with the SAG, it has been determined that the change in emissions from the 6 Exclosure has not caused or substantially contributed to a violation of state and/or federal air quality standards. 3) The OHMVR Division may reduce/cease monitoring of the reduced exclosure areas being carried out pursuant to Mitigation Measure AIR-1A under the following criteria. a) Monitoring may be reduced to an interval of once every 6 months if the OHMVR Division no longer proposes to reduce the size of the 6 Exclosure, the monitoring has demonstrated emissions in the

Table S-1. Summary of Project Impacts and Mitigation Measures

	reduced exclosure area have stabilized over a period no less than 1 year, and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above. b) Monitoring may cease if the OHMVR Division no longer proposes to reduce the size of the 6 Exclosure, the monitoring has demonstrated emissions in the reduced exclosure area have stabilized over no less than 2 years, and modeling/statistical analysis is not being conducted for that emissions rate pursuant to item 1) above. c) If at any time an exclosure is reduced, monitoring shall resume pursuant to Mitigation Measure AIR-1A at a rate of once every 3 months. Conditions 3a) and 3b) must be met again to decrease the frequency of the monitoring after reducing an area of an exclosure. **Mitigation Measure AIR-1C:** To ensure reduction of East Boneyard does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions. 1) If, through modeling or other statistical analysis, it is determined that the increased emissions from the East Boneyard have caused or substantially contributed to a violation of state and/or federal air quality standards (i.e., independent of larger meteorological phenomena), the OHMVR Division shall, in consultation with the SAG, determine another portion of the HCP area outside of the open riding area to control dust. The area controlled shall be equivalent to the measured amount of PM increased from the exclosure area that caused the violation; however, in no case shall the control measure acreage cause a loss of camping and motorized recreation that exceeds the acreage gained by reducing the Boneyard Exclosure. 2) The OHMVR Division may reduce/cease monitoring of the reduced exclosure areas being carried out pursuant to Mitigation Measure AIR-1A under the following criteria. a) Monitoring may be reduced to an interval of once every 6 months if the monitoring has demonstrated emissions in the reduced exclosure area have stabilized over a period no less than 1 year, and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above. b) Monitoring may cease if it has been demonstrated that emissions in the reduced exclosure area have stabilized over no less than 2 years, and

Table S-1. Summary of Project Impacts and Mitigation Measures

	modeling/statistical analysis is not being conducted for that emissions rate pursuant to item 1) above. **Mitigation Measure AIR-1D:** To ensure that implementation of mechanical trash removal does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions. 1) If mechanical trash removal has increased emissivity in an area south of Post 4 (or other area determined by the SAG), the OHMVR Division shall, in consultation with the SAG, identify and implement measures that offset the increased emission concentrations. These measures may include, but are not limited to: a) Permanently discontinuing mechanical trash removal activities in the area that has experienced an increase in emissivity so it can return to baseline conditions, or b) Controlling dust from another portion of the HCP area that is equivalent to the measured increase in emissivity from the raked area; however, in no case shall the control measure cause a loss of camping and motorized recreation acreage. 2) Mechanical trash removal activities may be resumed when, in consultation with the SAG, it has been determined the change in emissions from the area that underwent mechanical trash removal has been fully offset. 3) The OHMVR Division may reduce/cease monitoring being carried out pursuant to Mitigation Measure AIR-1A for areas that have undergone mechanical trash removal under the following criteria. a) Monitoring may be reduced to an interval of once every 6 months if the monitoring has demonstrated that emissions in the mechanically raked area have stabilized over a period no less than 1 year (i.e., new maximum emissivity values are not being recorded), control measures have been implemented that fully offset the maximum increase in emissions after the mechanical trash removal has occurred (i.e., immediately after the area has been raked), and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above. b) Monitoring may cease if the OHMVR Division no longer proposes to mechanically rake an area, or the monitoring has demonstrated that emissions in the mechanically raked area have stabilized over no less than 2 years (i.e., no new maximum emissivity values have been recorded), and modeling/statistical

Table S-1. Summary of Project Impacts and Mitigation Measures	
	analysis is not being conducted for that emissions rate pursuant to item 1) above. c) If at any time a new area of the HCP area is proposed for mechanical trash removal, its baseline emissivity shall be documented, and monitoring shall occur pursuant to Mitigation Measure AIR-1A at a rate of once every 3 months. Conditions 3a) and 3b) must be met again to decrease the frequency of the monitoring after a mechanically raked area has recorded an increased emissivity factor compared to baseline conditions. **Less than Significant with Mitigation Incorporated**
Biological Resources	
Impact: The proposed SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) would remove SNPL in areas where covered activities not related to covered species management, including new proposed activities, would likely result in death or injury of SNPL eggs or chicks. Capture for captive rearing would be incorporated as new AMM 22 and would be limited to 12 chicks and 12 eggs per year. Capture associated with AMM 22 is a new covered activity proposed under the HCP that is different than ongoing capture associated with natural resources management activities (incorporated as AMM 90). CDPR would contact the USFWS prior to meeting relocation thresholds to discuss modified or additional AMMs (e.g., expanding the exclosure along the shoreline to provide additional protected foraging habitat, increasing monitoring along the shoreline, increasing signage in the breeding area) to ensure additional take does not occur. Capture and relocation would be subject to available capacity at a rearing facility. Handling of chicks and eggs causes disturbance and risk of injury/mortality, and although these eggs and chicks are already at risk of take, this covered activity could potentially increase annual SNPL take by up to four eggs and four chicks above existing baseline take levels occurring in the HCP	All AMMs apply as appropriate. **No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
area. The potential for increased take of four chicks and four eggs is significant to a federally-listed threatened species. Given the breeding success of the established conservation program, however, the potential increased take of SNPL would not impair the continuation of successful nesting seasons or the SNPL population stability. In addition, capture for captive rearing could prevent an injury or mortality. Removal of SNPL chicks or eggs could remove these individuals from the Oceano Dunes SNPL population but would protect the SNPL from harm, thus resulting in a benefit to the individuals. AMM 22 SNPL chick and egg removal for captive rearing if observed to be threatened by recreational activities or other non-covered species management activities would have minimal to no impact on other special-status species. **Less-than-Significant Impact**	
Impact: Mechanical trash removal (CA-21) would occur on the open sand areas above the wrack line (high water mark) and would not occur in vegetated areas, within 500 feet of known nesting areas, or near natural creek or dune areas. Equipment would observe all speed limits and not exceed 10 mph. CDPR staff would inspect the area prior to equipment use. These restrictions are incorporated as AMMs. As a result, no direct impacts on special-status species would occur. Mechanical trash removal could remove organic debris deposited on the beach potentially affecting the quality of habitat available for foraging and sheltering special-status birds. Continual grooming could reduce organic material supporting food source populations for foraging shorebirds. CDPR provides supplemental wrack inoculated with talitridae (beach hoppers) in the seasonal exclosure during breeding season. However, this is not provided in the winter season. Mechanical trash removal during the winter could alter the beach ecosystem such that invertebrate populations, which are an important prey source for	All AMMs apply as appropriate. AMMs specific to CA-21 include: SNPL AMMs 104 through 109; CLTE AMMS 91 through 95 **No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
shorebirds including SNPL, are reduced. CDPR will implement AMM 109, which includes conducting a study to establish baseline conditions of invertebrate populations and to determine the impact of mechanical trash removal on these populations. In addition, if CDPR finds a significant decline in invertebrate numbers in mechanical trash removal areas, additional measures would be implemented (e.g., conducting habitat enhancement, reducing the frequency of mechanical trash removal, and/or reducing the locations). **Less-than-Significant Impact**	
Impact: Reduction of the Boneyard Exclosure (CA-50) would eliminate approximately 49 acres of seasonally protected nesting habitat in East Boneyard. CLTE has not nested in East Boneyard since 2005. This action would have no impact on nesting CLTE. SNPL use of East Boneyard is low and infrequent with one nest occurring in six seasons since 2005. Any nests discovered in East Boneyard would be protected with single-nest exclosures. Removal of the East Boneyard Exclosure would allow year-round pedestrian access through the Boneyard gate leading to the South Oso Flaco area; the gate is otherwise inaccessible from the riding area during the breeding season. This could increase OHV use in the southern portion of the riding area and potentially increase disturbance of SNPL nesting in South Oso Flaco. The fencing along South Oso Flaco would be adjusted to maintain blocked access to the Boneyard gate during the breeding season. Removal of the East Boneyard Exclosure would allow recreation activity to occur adjacent to SNPL and CLTE nests along the east side of the West Boneyard Exclosure. Additional fencing would be installed as described in the SNPL and CLTE AMMs to ensure that disturbance in this area is minimized. With implementation of AMMs, removing the East Boneyard Exclosure fencing would not result in new take of SNPL	All AMMs apply as appropriate. **No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
and CLTE above baseline levels. The East Boneyard Exclosure would have no impact on other special-status species. **Less-than-Significant Impact**	
Impact: Reduction of the 6 Exclosure (CA-50) could eliminate up to 60 acres of seasonally protected high-value nesting habitat for SNPL and CLTE in annual 328-foot increments (approximately 7.5 acres) if biological and operational criteria are met. Reduction of the 6 Exclosure could result in increased nesting in the open riding area outside of the protective exclosure fencing, increasing risk of mortality or injury from covered activities of chicks and eggs. The reduced exclosure area size could increase nesting density and brood density on the shoreline resulting in increased brood aggression or decreased breeding productivity. The 6 Exclosure would be restored if monitoring shows adverse impacts to SNPL and CLTE breeding success and species population. AMMs have been incorporated into the HCP to minimize potential impacts to individual SNPL and CLTE, including routine monitoring and use of single nest exclosures and bumpouts. As a result, the impact of the 6 Exclosure reduction on CLTE and SNPL breeding success would be less than significant. No additional take of SNPL adults/juveniles above baseline levels is expected. Reducing the 6 Exclosure could potentially increase annual SNPL take by up to four eggs or four chicks above existing baseline take levels occurring in the HCP area. The potential for increased take of four chicks and four eggs is significant to a federally-listed threatened species. Given the breeding success of the established conservation program, the potential increased take of SNPL would not impair the continuation of successful nesting seasons or the SNPL population stability. As a result, the impact of reducing the 6 Exclosure on the SNPL population within the HCP area would be less than significant.	All AMMs apply as appropriate. **No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
No increase in CLTE take is expected from the 6 Exclosure reduction due to low occurrence of CLTE nesting attempts outside of exclosure fencing and because CLTE do not travel to the shoreline from the nest location once hatched. Reduction of the 6 Exclosure would have no impact on other special-status species. **Less-than-Significant Impact**	
Impact: CDPR's use of UAS (CA-52) could potentially affect SNPL and CLTE and other birds nearby. Monitoring would occur before every flight, and flight altitudes would be maintained at least 100 feet above ground and 328 feet away from known nest locations. During testing, UAS did not cause flushing or crouching. With AMMs incorporated, UAS use is not expected to adversely impact SNPL, CLTE and other special-status birds. **Less-than-Significant Impact**	SNPL AMMs 123 through 140 and CLTE AMMs 112 through 125 apply. **No mitigation is required.**
Impact: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), reducing the Boneyard Exclosure and 6 Exclosure (CA-50), and CDPR's use of UAS (CA-52) would have no or negligible impact on wildlife movement corridors, sensitive natural communities, and jurisdictional waters and wetlands. **No Impact**	**No mitigation is required.**
Cultural Resources	
Impact: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS (CA-52) do not involve ground-disturbance activity and would have no impact on cultural resources. **No Impact**	**No mitigation is required.**
Impact: Mechanical trash removal (CA-21) would only occur in areas that are already disturbed by vehicular recreation and would not be allowed in any areas with known	**No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
covered or uncovered cultural sites. A cultural monitor would review all proposed trash removal areas to confirm all known cultural sites, including sites that are currently buried, are avoided. Should an unknown cultural resource site be discovered, it would be recorded, assessed, and protected from further disturbance. **Less-than-Significant Impact**	
Impact: Reduction of the 6 Exclosure (CA-50) would not occur within an area of medium or high cultural sensitivity. Two sites partially within the East Boneyard boundary are covered by the mobile dune environment and were not relocated during a 2011 survey. The sites are not fenced off. Recreational access already occurs in the East Boneyard Exclosure and 6 Exclosure areas 5 months out of the year during the non-breeding season for CLTE and SNPL. No significant impacts to cultural resources would occur from the proposed fencing changes allowing year-round access to the East Boneyard Exclosure and 6 Exclosure areas. **Less-than-Significant Impact**	**No mitigation is required.**
Recreation	
Impact: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS (CA-52) would not affect recreation activities or access. Mechanical trash removal (CA-21) is a temporary and transient maintenance activity to remove trash from the beach surface and would not block or otherwise impede access to the ocean. **No Impact**	**No mitigation is required.**
Impact: Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50) would allow year-round recreation on up to 109 coastal acres that are otherwise seasonally closed for 7 months (March 1 through September 30). No change would occur to the	**No mitigation is required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
camping or visitor limits established by CDP 4-82-300. This lifted restriction expands recreation opportunity and access and would be a beneficial effect to public coastal access to Pismo State Beach and Oceano Dunes SVRA. **Beneficial Impact**	

S.3 CUMULATIVE PROJECT IMPACTS

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. The approach taken in this EIR to address the cumulative impact analysis is presented in EIR section 3.3. The EIR determined that the proposed new covered activities would not result in incremental effects that are cumulatively significant when combined with other past, present, or future projects that are reasonably foreseeable.

S.4 PROJECT ALTERNATIVES

CEQA Guidelines section 15126.6 states that an EIR shall describe a range of reasonable alternatives to a project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. As described in Chapter 3 through Chapter 8 of this EIR, the project has the potential to result in significant effects during implementation of the HCP. All impacts would be reduced to a less-than-significant impact level through identified mitigation measures.

S.4.1 Alternatives Considered but Rejected

CDPR considered various strategies to avoid and minimize impacts to protected special-status species prior to selection of the proposed project. The proposed HCP is based on a multi-year process of data collection and consultation with resource agencies. Alternatives that were considered but rejected in favor of the proposed HCP include: 1) No Take Park Operations; 2) Off-site Mitigation in-lieu of Nesting Exclosures; 3) Changes in Oceano Dunes SVRA Access; 4) Restricted Riding Times; and 5) Increased Vehicle Use Limits. These alternatives would not clearly reduce the potential for adverse impacts on air quality or SNPL and CLTE associated with HCP covered activities. Therefore, they are rejected from further consideration. These alternatives are discussed in Alternatives (EIR section 9.1).

S.4.2 Alternatives Further Considered

Four alternatives are considered in this EIR: 1) No Project Alternative; 2) Reduced Disturbance in High PM_{10} Emissivity Areas; 3) Permanent Year-Round Exclosures; and 4) Reduced Vehicle Use Limits. These alternatives are discussed in detail in Alternatives (EIR section 9.2). Maintain 6 Exclosure Boundary is considered the environmentally superior alternative as described in EIR section 9.3.

No Project Alternative. Under this alternative, the USFWS would not issue an ITP for the Oceano Dunes District parklands. Incidental take of SNPL, CLTE, CRLF, and tidewater goby

that may occur from visitor uses and park operations, whether occurring presently or in the future, would be unauthorized, leaving the violation of FESA unresolved. CDPR would maintain its current park operations and continue implementation of its current conservation program, including its annual strategy to avoid take. No changes would be made to current park operations.

The No Project Alternative conflicts with CDPR's responsibility of managing state parkland in a manner consistent with governing laws. Given the failure of the alternative to meet basic project objectives of FESA compliance and recreation management (EIR section 2.3.2), the No Project Alternative is not a viable option and is rejected by CDPR in favor of the proposed HCP project.

Reduced Disturbance in High PM_{10} Emissivity Areas. Under this alternative, the proposed change to the northern boundary of the seasonal exclosure identified in CA-50 would be eliminated from the HCP and proposed mechanical trash removal described in CA-21 would be prohibited south of Post 4. The purpose of this alternative would be to avoid activities with the potential to increase particulate emissions from the HCP area. The East Boneyard Exclosure would still be eliminated as proposed in the HCP.

This alternative conflicts with the Consent Decree (see CA-50 discussion in EIR section 2.4.2.2) by maintaining the northern boundary of the seasonal exclosure at Post 6. CDPR rejected this exclosure boundary location when preparing the HCP (HCP section 8.3). CDPR determined the conservation program proposed under the HCP provides adequate AMMs, and the biological criteria and other factors that are required to reduce the 6 Exclosure (HCP section 5.2.3) ensure that any take of SNPL and CLTE occurring as a result of reducing the exclosure would be minimized. Further, this alternative eliminates the incremental restoration of recreation opportunity on 60 acres at this location from 5 months per year to year-round and eliminates the benefits of debris removal in recreation areas. This alternative conflicts with project objectives to preserve, manage, and expand recreation opportunities and to manage, maintain, and maximize access to unique coastal camping and recreation amenities. The alternative preserves existing but not historic recreation opportunity. Given these considerations, the Reduced Potential Air Quality Impact Alternative is rejected in favor of the proposed HCP.

Permanent Year-Round Exclosures. Under this alternative, the riding area boundary would be permanently modified to provide year-round exclosures for wintering bird protection (including SNPL) and to improve SNPL and CLTE nesting habitat quality by limiting recreation disturbance. The permanent exclosure would not be actively managed by CDPR and would thus likely become less productive habitat over time. Given the success of the current conservation program using the existing seasonal exclosure size, establishing permanent year-round exclosures is unnecessary to achieve project biological objectives. This alternative would shift the riding area away from the shoreline and reduce beach access for OHV recreation and camping. This alternative conflicts with project objectives to balance conservation and recreation demands, particularly to preserve, manage, and expand recreational opportunities and to manage, maintain, and maximize unique coastal camping and recreational amenities. The Permanent Year-Round Exclosures Alternative is rejected in favor of the proposed HCP.

Reduced Vehicle Use Limits. Under this alternative, day use vehicle and OHV use limits would be decreased to reduce environmental impacts associated with motorized recreation. The alternative would reduce vehicle access to Oceano Dunes SVRA. The acreage of the riding area open to vehicle use would not be changed. It is unknown whether a decrease in vehicle activity could reduce PM_{10} emissivity levels and offset potential project impacts. Reducing vehicle

activity could lower the risk of take of SNPL and CLTE caused by new covered activities; however, the reduction in risk is difficult to assess and may not result in actual reduced take. The reduced number of vehicles combined with the potential opening of up to 60 access of shoreline access (6 Exclosure) suitable for camping would reduce congestion during peak visitation months beyond the density reduction achieved by the proposed exclosure reduction alone. This alternative conflicts with project objectives to balance conservation and recreation demands, particularly to preserve, manage, and expand recreational opportunities and to manage, maintain, and maximize unique coastal camping and recreational amenities. The Reduced Vehicle Use Limits Alternative is rejected in favor of the proposed HCP.

S.5. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

CEQA Guidelines § 15123(b) requires the EIR Summary to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public and issues to be resolved, including choice among alternatives and whether and how to mitigate the significant effects. These issues are discussed below.

Existing Park Operations. The effects of the existing park operation are controversial, including use of motor vehicles on the beach and in sensitive dune habitat, dust and sand blown off site and downwind, and impacts to protected species. These concerns are associated with the ongoing park operation and its recreational use; these are not concerns generated by new HCP actions and a possible take permit. The park activities causing impact and controversy have been previously authorized and established as allowable uses under the adopted State Park General Plan. The HCP approval and take permit issuance is not responsible for authorizing the underlying park activities, which are otherwise approved. It could be perceived as controversial by some to allow these existing uses to continue without greater restrictions; however, it is not the goal of this EIR to evaluate existing authorized uses, the parameters of park operations, or regulatory permit conditions.

Balance of Resource Protection and Recreation Opportunity. The main controversy concerning the HCP is striking an acceptable balance between motorized recreation opportunity and protection of natural resources. State Parks' mission is to provide both high-quality recreation opportunity (Public Resources Code [PRC] § 5090.01 *et seq.*) including motor vehicle recreation and resource protection that conserves and improves habitat over time (SB249). The HCP represents State Parks' efforts to balance these competing needs. Some conservation interests and those opposed to motorized recreation at Oceano Dunes would like to see State Parks reduce park access to OHVs through a complete ban or through increased riding restrictions in either hours, open area, or vehicle numbers. Conversely, motorized recreation interests have seen multiple sizable reductions in park acreage open to OHV recreation and camping and would like to see both the existing area preserved and previously closed areas reopened.

Size of the 6 Exclosure. The HCP proposes a gradual elimination of the 6 Exclosure, which is a highly productive nesting area for SNPL and CLTE. The proposal would reduce the amount of seasonally protected breeding habitat in 328-foot or similar increments (approximate 7.5-acre phases; 60 acres total) correspondent with demonstrating maintained breeding success and a sustained population. The reduction would be reversed and the eliminated exclosure reinstated if subsequent breeding and population targets are not met. The potential response of SNPL and CLTE to the reduced exclosure is unknown. The phased reduction based on adaptive

management is a prudent approach to testing the SNPL and CLTE response to the exclosure change and the degree of impact. The elimination of 6 Exclosure may be controversial in that groups opposed to OHV use would argue that this action is reducing highly productive habitat and contrary to conservation progress toward recovery. Reducing the size of protected nesting habitat could be viewed as increasing the potential for take of individual SNPL and CLTE, reducing the breeding success, and impeding species recovery. Conversely, breeding in the HCP area has been very successful and should allow for some modification to current management protocols.

The phased elimination of 6 Exclosure is included in the HCP, consistent with the Consent Decree issued by the U.S. District Court (2005). In November 2001 Sierra Club filed a petition with the U.S. District Court alleging operation of Oceano Dunes SVRA in violation of FESA by facilitating vehicle recreation activities that cause unauthorized take of SNPL, CLTE, and steelhead trout. As a term of the Consent Decree, CDPR agreed to immediately expand the boundaries of the seasonal exclosure north to Post 6 and south by 1 mile to their current locations. The Consent Decree further stipulated that the CDPR HCP application to the USFWS would support a northern boundary of the seasonal exclosure at Post 7 (7 Exclosure). The elimination of 6 Exclosure proposed by the HCP satisfies this Consent Decree requirement.

Uncertainty of Air Quality Impacts. As described in the EIR, it is unknown whether the HCP proposals to implement mechanical trash removal or to increase recreational access to East Boneyard Exclosure and 6 Exclosure from seasonal (5 months per year) to year-round will affect dust (particulate matter [PM_{10}]) emissivity levels. The EIR includes mitigation to assess the potential impact through monitoring and address any observed impact through prescribed actions such as discontinuing the activity or providing dust control treatments at alternate park locations. Until the activities can be monitored, the amount of impact, if any, and the scale of mitigation needed to offset impacts (i.e., location and size of offset areas) is unknown and speculative.

Future Public Works Plan (PWP) Projects. State Parks is in the midst of a planning process to upgrade park infrastructure and operations. Potential projects were identified during a public scoping process (see Cumulative impacts in EIR section 3.3.3 for further discussion). State Parks has not yet made a final selection of project components to be included in the PWP. One potential project that could impact the HCP covered habitat and species is the development of a new campground and/or day use area in the Oso Flaco area. Until design of such uses is further along, the project effects cannot be adequately addressed by the HCP.

State Parks is still conducting PWP planning and design as of Winter 2019/2020. The PWP projects will be subject to a separate environmental review process and could require coverage under the HCP for impacts to federally protected species. The HCP anticipates that some future PWP projects may require amendments to the HCP, whereas others could be incorporated without amendment. Amendments would be considered at the time they are proposed for implementation (see HCP section 2.2.7).

This page intentionally left blank.

Chapter 1 INTRODUCTION

1.1 PROJECT OVERVIEW

California Department of Parks and Recreation (CDPR) Oceano Dunes District (ODD) manages Pismo State Beach and Oceano Dunes State Vehicular Recreation Area (SVRA). Park operations, including visitor uses, visitor services, facility maintenance, and resource management, may affect federally- and state-listed endangered or threatened species, including western snowy plover (*Charadrius nivosus nivosus*; SNPL), California least tern (*Sternula antillarum browni*; CLTE), California red-legged frog (*Rana draytonii*; CRLF), and tidewater goby (*Eucyclogobius newberryi*) as well as four federally- and two state-listed plant species.

CDPR has prepared a draft Habitat Conservation Plan (HCP) for the Oceano Dunes District in support of its application to the U.S. Fish and Wildlife Service (USFWS) for issuance of an incidental take permit (ITP) for federally-listed animal species authorized under Sections 10(a)(1)(A) and 10(a)(1)(B) of the federal Endangered Species Act (FESA; 16 USC § 1531 et seq). Additionally, the HCP addresses federally- and state-listed plant species.

In a separate action, CDPR intends to prepare a Natural Community Conservation Plan (NCCP) in support of an application to California Department of Fish and Wildlife (CDFW) for issuance of a permit authorizing incidental take of state-listed animal and plant species under California Fish and Game Code sections 2800 *et seq.*, including section 2835.

1.2 LEAD AGENCY CONTACT INFORMATION

The California Environmental Quality Act (CEQA; PRC § 21000 *et seq.*) and the CEQA Guidelines (14 California Code of Regulations [CCR] § 15000 *et seq.*) establish CDPR as the Lead Agency for the project. The Lead Agency is defined in CEQA Guidelines section 15367 as "the public agency which has the principal responsibility for carrying out or approving a project." The Lead Agency is responsible for preparing the appropriate environmental review documentation. As described below, CDPR has determined that an Environmental Impact Report (EIR) is the appropriate CEQA document for the project and has prepared this Draft EIR in accordance with CEQA and the CEQA Guidelines.

The contact person for CDPR Oceano Dunes District is:

Mr. Ronnie Glick, Senior Environmental Scientist
California Department of Parks and Recreation, Oceano Dunes District
340 James Way, Suite 270
Pismo Beach, CA 93449

1.3 INTENDED USES AND TYPE OF EIR

An EIR is an objective, informational document that informs government agency decision makers and the public of the potential for significant project effects, including possible ways to minimize those effects, and describes reasonable alternatives to the project (CEQA Guidelines § 15121(a)). An EIR must be prepared with a sufficient degree of analysis to provide decision makers with information enabling them to make a decision that intelligently considers the project's potential direct and indirect environmental consequences. The evaluation of the

environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible (CEQA Guidelines § 15151).

This EIR will be used by CDPR to evaluate the environmental effects associated with the HCP when considering its approval. No other state or local agencies are Responsible Agencies (see HCP section 2.6). Trustee Agencies, defined by CEQA Guidelines section 15386 as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California," may review this EIR for potential impacts related to natural resources under their governance. Trustee Agencies with jurisdiction over the resources potentially affected by the proposed HCP include CDFW.

CEQA Guidelines section 15379 excludes federal government agencies from the definition of a "public agency." Thus, USFWS is not a Responsible Agency or a Trustee Agency for the purposes of CEQA. USFWS is the permitting agency conducting separate environmental analysis under the National Environmental Policy Act (NEPA), which is not limited to threatened and endangered species.

This EIR is a Project EIR intended to cover the direct and indirect environmental effects associated with implementing the Oceano Dunes District HCP as described in the HCP and summarized in EIR Chapter 2, Project Description. It is not the role of this EIR to evaluate existing authorized uses, the parameters of park operations, or regulatory permit conditions. The EIR impact analysis is limited to the environmental assessment of activities proposed by the HCP that would result in a physical change to the environment.

The HCP identifies potential park improvement projects that may be considered by CDPR in the future during the 25-year term of the ITP. The inclusion of future projects in the HCP as covered activities allows CDPR to address both existing and reasonably anticipated future park operations in one federal permit review process. Issuance of a federal ITP covering future projects does not entitle these future projects to the subsequent approvals necessary from CDPR or other agencies or obviate future environmental review of these projects pursuant to CEQA. Other authorizations that may be required for future park actions are described in EIR section 2.5. This EIR does not provide a program-level or project-level CEQA review for these future activities.

1.4 SCOPING OF ENVIRONMENTAL ISSUES

CDPR published a Notice of Preparation (NOP) for the EIR on January 11, 2018 to invite comment on the scope and content of the environmental review of the Oceano Dunes District HCP; the comment period closed on March 12, 2018. Simultaneously, the USFWS published a Notice of Intent (NOI) to prepare an environmental review of the HCP pursuant to NEPA (42 USC § 4321 *et seq.*) and to invite public comment. Both notices announced a joint public scoping meeting on February 7, 2018 for the purpose of inviting public comments on the project. Public notice of the scoping period and public meeting was distributed to local community agencies and interested groups and individuals. Notice was also published in a newspaper of local circulation.

Twelve distinct comment letters, emails, or comment cards were received in response to the NOP and NOI. Also, one form letter was submitted by 2,053 individuals with some containing additional unique comments. Oral comment was received from the meeting attendees at large.

The NOP and NOI, scoping meeting presentation, summary of comments, and comment letters are presented in Appendix A.

Some of the comments related to the HCP rather than the environmental document, and some comments expressed support or opposition to certain aspects of the proposed HCP. Some comments pertained only to the federal agency environmental review under NEPA (specifically requesting preparing an Environmental Impact Statement [EIS] instead of an Environmental Assessment [EA], assessing environmental justice, and co-equal evaluation of alternatives). Only those comments relating to the scope of the environmental analysis under CEQA are addressed. As summarized below in Table 1-1. Scoping Comment Received, the comments focused on air quality, biological resources, cultural resources, water quality/hydrology, recreation opportunity, the alternatives analysis, and cumulative impacts. The EIR section that addresses the comments is also listed in Table 1-1. Scoping Comment Received.

Table 1-1. Scoping Comment Received

Comment	Where Addressed in EIR
Document Type and Review Process	
• Specify whether the EIR will be used as a programmatic "tiering" document or provide project-level review. • An NCCP is needed for CLTE since it is a Fully Protected Species.	Chapter 1, Introduction
General Comments Applying to Entire Document	
• Base environmental review on the best available science and survey data following established protocols.	Chapter 3, Impact Analysis Methodology
Project Description	
• Identify the purpose and need and rationale for the proposed action. • HCP and CEQA/NEPA documents must clearly identify enforcement provisions.	Chapter 2, Project Description
Air Quality	
• Address general impacts of motorized recreation on air quality, dust, and particulates. • For air quality analysis, quantify emissions, identify emissions sources, and include construction emissions mitigation, including fugitive dust source controls, stationary equipment source controls, and administrative controls. • Demonstrate project emissions of air basin pollutants in nonattainment or maintenance status are accounted for in the State Implementation Plan.	Chapter 5, Air Quality
Greenhouse Gas (GHG)	
• Address general impacts of motorized recreation on GHG emissions.	Chapter 10, Other CEQA Considerations, EIR section 10.3.4

Biological Resources	
• Address general impacts of motorized recreation on the loss of surface soils and vegetation and trash. (also see Chapter 5, Air Quality and Chapter 10, Other CEQA Considerations; Section 10.3.3 Geology and Soils) • Include direct, indirect, and cumulative impacts to all wildlife and habitat, and measures to avoid impacts. • Discuss the HCP's consistency with other HCPs or recovery plans in the area. • Address invasive species impacts and impacts to steelhead and leatherback sea turtle. • Address other protected species not covered in the HCP. • Take into account the impacts of climate change and dogs off leash on covered species. • Incorporate findings of USFWS 2017 report to improve protections for SNPL and CLTE. • Address impacts from dust control mitigation on increased vegetation that attracts predators, threatening endangered species. • Address sand density in the preferred nesting habitat assessment. Take into account injured birds in take totals. • Apply a correction factor for detection of juvenile and adult SNPL mortality caused by vehicle strikes. • Express losses to take of SNPL eggs, chicks, and juveniles as adult equivalents to better identify cumulative impacts. • Address nighttime vehicle threat to juvenile and adult SNPL. • Consider rates of sea level rise in impact analysis for SNPL habitat. • Address impacts of fertilizer used for revegetation projects.	Chapter 6, Biological Resources; Appendix C; Appendix D
Cultural Resources	
• Describe tribal consultation process. • Address Indian sacred sites that exist in the project area. • Consult with California Native American tribes affiliated with the geographic area per Senate Bill (SB) 18 and Assembly Bill (AB) 52, particularly in regard to dust mitigation projects and planning.	Chapter 7, Cultural Resources
Hazardous Materials	
• Address general impacts of motorized recreation from oil and gas spills.	Chapter 10, EIR Other CEQA Considerations, EIR section 10.3.5
Hydrology and Water Quality	
• Describe the drainage patterns in the area, including the 50- and 100-year flood plains. • Address water quality and flow rates of Oso Flaco Lake and Arroyo Grande Creek.	Chapter 10, Other CEQA Considerations, EIR section 10.3.6

Land Use Planning	
• Discuss project consistency with objectives of federal, state, tribal, or local land use plans, policies, and controls in the plan area.	Chapter 4, Land Use Planning
Recreation	
• Consider a range of recreation opportunity, including no loss in recreation opportunity and more restrictions to vehicle use. Evaluate night riding impacts.	Chapter 2, Project Description; Chapter 8, Recreation; and Chapter 9, Alternatives
Alternatives	
• Evaluate all reasonable alternatives that fulfill the project's purpose and need in detail and protect imperiled wildlife and health of nearby communities. • Include a clear discussion of reasons for elimination of any alternatives not discussed in detail. • Include alternatives with expanded SNPL and CLTE exclosures and permanent exclosures. • Consider an alternative area for permanent fences, alternative access during the wet season, alternative areas for off-highway vehicle (OHV) use in non-sensitive areas, riding closure during breeding season, staggering use of OHV days and hours, and off-site mitigation for CLTE/SNPL as alternatives. • Establish visitor capacity limits and consider as an alternative. • Address return of the seasonal exclosure boundary to Post 7 in compliance with the 2003 Settlement Agreement.	Chapter 9, Alternatives
Cumulative Impacts	
• Evaluate the effects of other past, present, and reasonably foreseeable actions, and consider those impacts on a cumulative level. • Discuss future changes that may affect covered species and their habitats. • Evaluate all potential Oceano Dunes SVRA operations and configurations and consider future uncertainties due to temporary Coastal Development Permit (CDP) and PWP being developed.	Chapter 3, Impact Analysis Methodology, EIR section 3.3; and Cumulative Impacts discussion in Chapters 4–8

1.5 SEPARATION OF CEQA AND NEPA DOCUMENTS

This document is a Draft EIR, prepared pursuant to CEQA, for the Oceano Dunes District HCP. USFWS is preparing an environmental review of the Draft HCP pursuant to NEPA in a separate EA document. Both the Draft EIR and the USFWS EA will have distinct public review periods and opportunities to provide comment on the respective environmental review document.

CEQA and NEPA documents differ from each other in structure and content. One primary difference is seen in the analysis of alternatives. CEQA requires only that the proposed project be analyzed in detail; a reasonable range of project alternatives is to be discussed in lesser detail. Only feasible alternatives that can at least partially obtain the project objectives need to be

considered. NEPA requires co-equal treatment and environmental analysis of alternatives; the proposed action is one of several alternatives equally evaluated for consideration. NEPA considers environmental justice or socioeconomic issues, whereas CEQA focuses on project impacts causing a physical change in the environment. CEQA and NEPA documents also use different terminology when describing the significance of impacts. CEQA describes impacts in terms of significant or less than significant. NEPA describes an impact as likely or not likely to adversely affect a resource.

Given these differences, public review comments made on the CEQA document may or may not be relevant to the NEPA document. Both this Draft EIR and the USFWS NEPA document should be separately reviewed for relevant comment under CEQA and NEPA. Comments on the Draft EIR should be submitted to CDPR. Comments on the NEPA document should be submitted to the USFWS.

1.6 INCORPORATED BY REFERENCE

The HCP is incorporated into this document by reference and is summarized in the EIR Project Description (Chapter 2).

Chapter 2 **PROJECT DESCRIPTION**

2.1 LOCATION AND SITE DESCRIPTION

The proposed HCP covers two coastal Oceano Dunes District park units managed by CDPR, located in San Luis Obispo County, California (Figure 2-1 Regional Location). The 5,005-acre HCP area comprises Pismo State Beach and Oceano Dunes SVRA. The covered park units, and portions thereof, fall under three different classifications: State Beach (PRC § 5019.56(c)), Natural Preserve (PRC § 5019.17), and SVRA (PRC § 5090.43). The HCP area is bounded by the City of Pismo Beach to the north, the City of Grover Beach and Oceano community to the east, agricultural land also to the east, the Guadalupe-Nipomo Dunes National Wildlife Refuge to the south, and the Pacific Ocean to the west. Primary access to the area is via U.S. Highway 101 and State Route 1 (Figure 2-2 HCP Area Overview).

Pismo State Beach and Oceano Dunes SVRA comprise approximately 25 percent of the 18-mile linear shoreline of the overall Guadalupe-Nipomo Dunes complex. The Guadalupe-Nipomo Dunes complex extends from Pismo Beach south to Point Sal, and roughly from State Route 1 to the Pacific Ocean in San Luis Obispo and Santa Barbara counties. The Guadalupe-Nipomo Dunes complex is a relatively intact coastal dune and dune scrub ecosystem varying in width from 2 to 5 miles.

The HCP area lands are owned by CDPR, except for 584 acres known as the La Grande property, which is owned by San Luis Obispo County and interspersed with small, privately-owned parcels; 34 acres owned by Union Oil; and approximately 642 acres owned by Phillips 66 and closed to all public access (Figure 2-2). All of these lands are managed by the Oceano Dunes District. Uses of lands owned or managed by CDPR are shown in Table 2-1. HCP Area Land Use Acreages.

Pismo State Beach. Pismo State Beach includes five somewhat distinct areas: the beach area; Pismo Dunes Natural Preserve (Dunes Preserve); Pismo Lake; the monarch butterfly grove; and a developed portion, including two campgrounds, a golf course with restaurant, ranger station/maintenance yard, and park residence area (Figure 2-3 HCP Area Land Use and Facilities and Figure 2-4 HCP Area Land Use and Facilities Detail). The entire Pismo State Beach unit is 1,515 acres and is adjacent to the cities of Pismo Beach and Grover Beach and the community of Oceano.

The City of Pismo Beach has operated the northern portion of the state beach (from approximately Addie Street to the northern CDPR boundary) in accordance with an operating agreement in place since 1951. Although the City of Pismo Beach operates this portion of the state beach, when needed, CDPR staff assist with lifeguard operations on the City-operated beach and CDPR environmental scientists conduct resource work in this area.

Some areas of Pismo State Beach are closed to vehicles, some areas are open to street-legal vehicles only, while other areas are open to OHVs and street-legal vehicles. The portion of Pismo State Beach north of Grand Avenue is closed to vehicle traffic. The public is allowed to drive motorized vehicles through Pismo State Beach south of Grand Avenue to access Oceano Dunes SVRA. Visitors and CDPR staff can also drive onto the beach via sand ramps at the western terminus of Grand Avenue and Pier Avenue (Figure 2-4; Figure 2-5, Site Photographs 1 and 2). CDPR staff also have access to the beach via an entrance from Oceano Campground,

which is north of Pier Avenue (i.e., Midramps). Motorized vehicles, including OHVs, and open camping (no designated spaces) are allowed on the portion of Pismo State Beach south of orientation marker Post 2 (Figure 2-4). Pismo State Beach offers a variety of motorized and non-motorized recreational opportunities (Figure 2-5, Photograph 5).

The Pismo Dunes Natural Preserve is a 695-acre subunit of Pismo State Beach with undisturbed sand dunes, dune slack, and freshwater wetlands. The preserve extends from the south bank of Arroyo Grande Creek south to the northern boundary of Oceano Dunes SVRA. It is bounded on the west by the seaward toe of the foredune at Pismo State Beach (Figure 2-2). The preserve is open to pedestrian and equestrian access and closed to vehicle use.

The 70-acre Pismo Lake area (Figure 2-2) is inland of and disconnected from the rest of Pismo State Beach. While it is currently open to the public, the public is not encouraged to visit the area because designated access points have not been established, and the area is treated as closed to the public in this EIR for mapping purposes. No management plan or future development design is currently in effect for the area.

Oceano Dunes SVRA. Oceano Dunes SVRA is 3,490 acres and is contiguous with Pismo State Beach. As a result, the vehicle operations at Pismo State Beach and Oceano Dunes SVRA are managed as an SVRA. As noted above, motorized vehicles access Oceano Dunes SVRA via sand ramps in Pismo State Beach at Grand and Pier avenues (Figure 2-2). Between the two park units (i.e., Pismo State Beach and Oceano Dunes SVRA), approximately 1,305 acres are set aside for OHV use in what is called the "open riding area." Over 2,000 acres of the SVRA are outside of the open riding area and maintained in a largely natural state of bare and vegetated sand dunes (e.g., Oso Flaco Lake, Phillips 66 Leasehold, vegetated islands, etc.) (Figure 2-5, Photographs 3 and 4).

The open riding area allows open area (non-trail) riding and camping in non-designated spaces. Riding and camping are prohibited in vegetated areas (Figure 2-6 Recreational Restrictions). The open riding area is heavily used for vehicle related recreation and camping (Figure 2-5, Photograph 5). The safety and education center kiosk is a landmark within the SVRA (Figure 2-5, Photograph 6). Roughly 300 acres of the riding area are seasonally restricted (March through September) from vehicle recreation by exclosure fencing and signage (Figure 2-7 Western Snowy Plover and California Least Tern Management) to provide protected nesting habitat (Figure 2-5, Photographs 7, 8, 9, and 10). Wind fencing also occurs within the open riding area (Figure 2-5, Photographs 11 and 12). A complete description of riding area acreage is presented in Recreation (Chapter 8).

The Oso Flaco pedestrian area is located at the southern portion of Oceano Dunes SVRA open riding area and offers hiking trails and boardwalk (Figure 2-5, Photographs 13 and 14). Access to this area is from Oso Flaco Lake Road off State Route 1, as well as from an entrance in the open riding area at Boneyard gate during the non-breeding season (Figure 2-8 Proposed New Covered Activity). This area can also be accessed from the shoreline during the non-breeding season for SNPL and CLTE when shoreline access is not restricted by fencing (i.e., seasonal exclosure) erected by CDPR to protect breeding SNPL and CLTE.

The Phillips 66 Leasehold east of the Oceano Dunes SVRA open riding area is closed to all visitors. Oceano Dunes District staff manages the leasehold area (e.g., maintains fences and manages resources) as needed. This area can be used for emergency access. Phillips 66 maintains the road through the leasehold property to ensure access for pipeline maintenance. CDPR leases

some Oceano Dunes SVRA land to local agricultural operators (Figure 2-3) near Oso Flaco Lake. This 202-acre leased portion of Oceano Dunes SVRA is also included in the project HCP. No public access is allowed on those lands leased for agricultural operation.

Table 2-1. HCP Area Land Use Acreages

Land Use	Acres
Total HCP area[1]	5,005
Open riding area[2]	1,305
Beach open to street-legal vehicles only	65
Closed to beach driving, OHVs, and open camping[3]	3,634
Open to pedestrians[4]	4,065
Open to equestrians[5]	2,802
Closed to all public visitors[6]	940
Campgrounds (Oceano and North Beach)	58
Ranger station and yard	6
Pismo State Beach Golf Course	25
Grand Avenue parking lots and facilities	11
Pismo Lake	70
Phillips 66 Leasehold	658
Agricultural lease area	211

Notes:
[1]Comprises Pismo State Beach (1,515 acres), including the Pismo Dunes Natural Preserve and Pismo Lake, and Oceano Dunes SVRA (3,490 acres)
[2]Includes 300 acres of riding area seasonally closed March 1 through September 30 for SNPL and CLTE nesting; excludes 48 acres fenced off for future foredune development
[3]Area closed to camping is 3,607 acres due to closure of foredune alleys to camping
[4]Entire HCP area except Pismo Lake, Phillips 66 Leasehold, and agricultural lease area
[5]Includes Pismo State Beach (except Pismo Lake, Golf Course, and Ranger Station), open riding area within Oceano Dunes SVRA, and vegetation islands
[6]Phillips 66 Leasehold, agricultural lease area, and Pismo Lake (Pismo Lake is not formally closed but public access is not encouraged)

2.2 BACKGROUND OF PARK OPERATIONS

2.2.1 Mission of California State Parks

CDPR has several parks within San Luis Obispo County, encompassing large sections of the central California coastline, extensive watersheds, and upland terrestrial environments.

The mission of CDPR is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor

recreation. Balancing the need to protect California's natural resources while providing recreational access to the parks requires the development of sound management strategies that are based on the best available scientific, demographic, and economic information. This is particularly important considering the number of endangered plant and animal species that use these parks as a last safe refuge at the same time that a growing population puts increasing demand on parks.

The Off-Highway Motor Vehicle Recreation (OHMVR) Act of 2003, as amended (PRC § 5090.01 *et seq.*), provides CDPR's mandate for OHV recreation. The OHMVR Division is charged with administering the state's OHMVR Program to provide high-quality OHV recreation opportunities in a manner that is safe, environmentally responsible, and sustainable.

The OHMVR Division's mission statement is as follows:

> The mission of the OHMVR Division is to provide leadership statewide in the area of OHV recreation; to acquire, develop, and operate state-owned vehicular recreation areas; and to otherwise provide for a statewide system of managed OHV recreational opportunities through funding to other public agencies. The OHMVR Division works to ensure quality recreational opportunities remain available for future generations by providing for education, conservation, and enforcement efforts that balance OHV recreation impacts with Programs that conserve and protect cultural and natural resources. (CDPR, 2009)

SVRAs are selected, developed, and operated to provide OHV recreation opportunities. SVRAs must be developed, managed, and operated for the purpose of providing the fullest appropriate public use of the vehicular recreational opportunities present in accordance with the OHMVR Act (PRC § 5090.01 *et seq.*), while providing for the conservation of cultural resources and the conservation and improvement of natural resource values over time (PRC § 5090.43 (a)). If OHV use results in damage to any natural or cultural resources or damage within sensitive areas, appropriate measures must be taken to protect these lands from any further damage. These measures may include erecting physical barriers and must include restoring natural resources and repairing damage to cultural resources (PRC § 5090.43 (c)).

Oceano Dunes SVRA is committed to present and future protection of the sensitive habitat and species that call the Oceano Dunes District home. Oceano Dunes SVRA's challenge is to balance the needs of the ecological resources and the 2 million people who visit Oceano Dunes SVRA annually for a variety of recreational opportunities, including driving vehicles on the beach and dunes.

2.2.2 History of Park Conservation Planning

Conservation efforts originated at Oceano Dunes SVRA in 1990 with the discovery of CLTE at Oso Flaco Lake (Burton & Kutilek 1991a). The following year, biologists found a relatively small colony of CLTE nesting within the off-highway vehicle riding area boundary, and CDPR immediately protected the colony with a large fenced exclosure (Burton & Kutilek 1991b). After consulting with USFWS and CDFW Biologists, CDPR agreed to annually monitor breeding CLTE at the park and provide active nest protection through a research grant to San Jose State University. The same level of monitoring and protection was extended to SNPL, although at the time the species was not listed under the California Endangered Species Act (CESA) or FESA.

Since the start of annual monitoring of CLTE and SNPL in 1991, conservation efforts at Oceano Dunes SVRA have evolved and expanded over the years to include increased protections, habitat enhancements, and avoidance measures. The proposed HCP reflects the conservation program currently implemented by CDPR, which is based on over 25 years of data and experience. Notable developments in park management and conservation planning at Oceano Dunes SVRA are presented in Table 2-2..

Table 2-2. Timeline of Key Events in Oceano Dunes SVRA Recreation Management and Conservation Planning

Year	Event
1975	CDPR adopts Pismo State Beach and Pismo Dunes SVRA General Development Plan and Resource Management (CDPR, 1975).
1982	CDPR amends General Development Plan to include Grover Beach Lodge at Grand Avenue (CDPR, 1982b).
1982	California Coastal Commission (CCC) issues Coastal Development Permit (CDP #4-82-300) to install fence in the SVRA and construct entrance station kiosks (CCC, 2001).
1988	California OHMVR Act of 1988 (SB 877) requires plant and animal inventories, wildlife habitat protection programs, and monitoring of SVRAs (Kutilek, Shellhammer, & Bros, 1991).
1989–1990	A comprehensive baseline survey of flora and fauna is conducted by Dr. Michael Kutilek and others from San Jose State University. Study provides basis for the wildlife habitat protection plan and the monitoring program for Oceano Dunes SVRA (Kutilek, Shellhammer, & Bros, 1991).
1990	Discovery of CLTE at Oso Flaco Lake
1991	Discovery of CLTE nesting in the SVRA riding area. CDPR consults with USFWS and CDFW and agrees to begin annual monitoring of CLTE. First nest exclosures were erected for CLTE.
1991	CDPR publishes Draft EIR for Pismo Dunes SVRA Access Corridor Project to satisfy Coastal Development Permit (CDP #4-82-300) condition to identify the least damaging entrance and staging area to the SVRA. Five alternative entrance corridors were evaluated. Grand Avenue is identified as the least environmentally damaging and therefore the preferred alternative (CDPR, 1994).
1991	CDPR completes first WHPP for Pismo Dunes SVRA (Kutilek, Shellhammer, & Bros, 1991).
1992	First nest exclosures were erected for SNPL not yet listed.
1993	USFWS lists SNPL as a threatened species under FESA (USFWS, 1993); USFWS lists marsh sandwort and Gambel's watercress as endangered (USFWS, 1993).
1994	State Park and Recreation Commission approves Final EIR and the General Plan Amendment for the Pismo Dunes SVRA Access Corridor Project (CDPR, 1994), which concluded that the Grand and Pier Avenue entrances were the Environmentally Preferred alternative, together with the staging area that remains in use today (CDPR, 2004).
1994	USFWS lists tidewater goby as threatened species under FESA (USFWS, 1994).

Table 2-2. Timeline of Key Events in Oceano Dunes SVRA Recreation Management and Conservation Planning

Year	Event
1995	CDPR attempts to organize and coordinate multi-stakeholder group to develop conservation strategies for CLTE and SNPL throughout the greater Guadalupe-Nipomo Dunes Complex. The effort proves unsuccessful.
1996	First Wildlife Habitat Monitoring System (HMS) is designed for Oceano Dunes SVRA based on biological survey work completed (Kutilek, Shellhammer, & Bros, 1991).
1996	USFWS lists CRLF as a threatened species under FESA (USFWS, 1996).
1996	USFWS authorizes incidental take of CLTE and SNPL at Oceano Dunes SVRA pursuant to a Section 7 consultation from the U.S. Army Corps of Engineers (USACE) regarding permitted maintenance of the sand ramps at the SVRA. Since sand ramps used as primary vehicle access to beach, the biological opinion extended take authorization throughout the portion of SVRA open to vehicles (USFWS, 2016a).
1997	Following an apparent take of a SNPL chick in a closed area of the SVRA, CDPR agrees to develop an HCP for portions of the SVRA closed to vehicle use and not under the USFWS and CDFW take authorizations.
1999	CDPR initiates a separate multi-species HCP for the San Luis Obispo (SLO) Coast units.
2001	USACE relinquishes jurisdiction over the maintenance of the sand ramps at the SVRA and the Section 7 take authorization for the SVRA expires (USFWS, 2016a).
2001	CDFW withdraws any take authorization afforded by the 1996 CDFW biological opinion.
2001	Santa Lucia Chapter of the Sierra Club files suit with U.S. District Court for injunctive relief, alleging unauthorized take of CLTE, SNPL, and steelhead trout in violation of FESA.
2001	CDPR combines the SLO Coast and Oceano Dunes SVRA HCP.
2001	CDPR begins daily monitoring of the riding area for CLTE and SNPL (HCP sections 3.3.1.7 and 3.3.2.7).
2001	CCC amends CDP #4-82-300 (Amendment 5) establishing daily limits on vehicles within Oceano Dunes SVRA: up to 2,580 street-legal vehicles; 1,000 street-legal vehicles for camping; and 1,720 OHVs and requiring formation of a Technical Review Team and Scientific Subcommittee (CCC, 2001).
2001	CDPR convenes an interagency Scientific Subcommittee per CCC requirement to identify, develop, and evaluate the scientific information needed by decision-makers (Gardner, 2001) (CCC, 2002).
2002	Scientific Subcommittee begins annual recommendations of management and research questions and priorities concerning Oceano Dunes SVRA. Eight-member team of biologists representing state, federal, and county agencies as well as independent biologists. Purpose of subcommittee is to analyze technical data and

Table 2-2. Timeline of Key Events in Oceano Dunes SVRA Recreation Management and Conservation Planning

Year	Event
	provide scientific recommendations to the CCC Technical Review Team (Scientific Subcommittee Oceano Dunes SVRA, 2002).
2002	CDPR implements CLTE and SNPL predator management program (HCP sections 3.3.1.7 and 3.3.2.7).
2003	CDPR extends seasonal exclosure boundary north [from Post 8] to Post 6 and south 1 mile [Boneyard extension] per Consent Decree and Agreement with Sierra Club (U.S. District Court, 2005).
2003	First banding of CLTE chicks (HCP section 3.3.2.4).
2003	CDPR commences first annual monitoring of the fishery in Arroyo Grande Creek (Rischbieter D. , 2004).
2004	USFWS proposes critical habitat listing for steelhead in the HCP area.
2005	CDPR issues NOP and USFWS issues NOI for SLO Coast and Oceano Dunes District HCP EIS/EIR. CDPR and USFWS jointly hold public scoping meeting (CDPR, 2005b) (USFWS, 2005).
2005	Consent Decree between CDPR and Santa Lucia Chapter of the Sierra Club finalized. CDPR agrees to allocate funding for SNPL recovery and habitat improvement, evaluate alternatives to vehicle crossing of Arroyo Grande Creek, and prepare an HCP supporting reduction of the seasonal exclosure to Post 7 (U.S. District Court, 2005).
2005	CDPR expanded HCP area to include Pismo Creek portion of Pismo State Beach and reopened discussion with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) to evaluate need for incidental take coverage for steelhead.
2005	Discovery of tidewater goby in Arroyo Creek (Rischbieter D. , 2006). CDPR adds tidewater goby to the HCP covered species list.
2005	CDPR evaluates recreational disturbance to water birds at SVRA (Neuman, Page, & George, 2005). CDPR evaluates effects of nighttime riding on shorebirds at SVRA (Mad River Biologists, 2005).
2006	CDPR commissioned study completed, evaluating alternate vehicle access to park rather than current route crossing Arroyo Creek (Condor, Environmental Planning Services Inc., 2006).
2008	NOAA Fisheries determines covered HCP activities unlikely to cause take of steelhead. ITP is not recommended (NOAA Fisheries, 2008).
2012	CDPR removed SLO Coast District from Oceano Dunes HCP effort.
2016	USFWS Ventura Fish and Wildlife Office and Office of Law Enforcement Staff meets with State Parks at Oceano Dunes SVRA to discuss the recent violations of FESA and steps to move forward and requests CDPR documentation of avoidance and minimization measures (USFWS, 2016c).
2017	CDPR completes draft Wildlife Habitat Protection Plan (WHPP) for the Oceano Dunes SVRA, as required by PRC section 5090.35 (CDPR, 2017b).

Table 2-2. Timeline of Key Events in Oceano Dunes SVRA Recreation Management and Conservation Planning

Year	Event
2018	CDPR issues NOP and USFWS issues NOI for joint EIS/EIR and holds scoping meeting.
2018-2019	CDPR signs Stipulated Order of Abatement from SLO Air Pollution Control District (SLOAPCD) requiring CDPR to expand revegetation and seasonal wind fencing and reduce particulate matter (PM) emissions by 50 percent. Scientific Advisory Group (SAG) appointed to advise on preparation of a new Particulate Matter Reduction Plan (SLOAPCD, 2018). SOA amended in 2019 further specifying closure and vegetation requirements and prompting CDPR to administratively reduce the number of camping units in Oceano Dunes SVRA.

2.3 PROJECT OBJECTIVES

2.3.1 Purpose of HCP

The HCP details the conservation effort initiated by the OHMVR Division to protect, conserve, and restore the natural resources of Pismo State Beach, Pismo Lake, and Oceano Dunes SVRA. The purpose of the HCP is to describe the measures the Oceano Dunes District will undertake to avoid, minimize, and mitigate specified visitor- and park operations-related impacts to several listed species. Avoidance and minimization of take of listed species will continue to be the primary HCP objective. Consistent with CDPR's and the OHMVR Division's missions, the HCP is designed to accommodate recreational use within the covered parks while protecting and benefiting numerous populations of threatened and endangered species occurring within those parks.

The primary goals of the HCP are to provide habitat-level protection and management and to minimize human-related impacts to key threatened or endangered wildlife, including the SNPL, CLTE, CRLF, tidewater goby, and six state- and/or federally-listed plant species.

The HCP will provide the basis for issuance of an ITP by the USFWS pursuant to section 10(a)(1)(B) of FESA. The HCP, which is a priority objective of management, establishes allowable levels of incidental take of the covered species that may occur as the unintended result of the otherwise lawful activities of park visitors and/or park staff and describes measures to minimize and mitigate the incidental take to the maximum extent practicable. The conservation program in the HCP also supports issuance of a FESA section 10(a)(1)(A) Recovery and Interstate Commerce Permit, which permits take that arises during measures taken to enhance the propagation or survival of a listed species.

Another goal of the HCP is to have certain elements of the program assist the Oceano Dunes District with meeting resource management goals and objectives identified in the parks' general plan.

2.3.2 Project Objectives

CDPR Oceano Dunes District is responsible for managing the state's parkland in a manner that both protects natural resources consistent with governing laws and promotes accessible recreation. CDPR's objectives for the proposed Oceano Dunes District HCP are to:

- Avoid, minimize, and mitigate the effects of take of the covered species
- Implement biological goals and objectives for covered species (HCP section 5.5) to promote species and habitat conservation
- Obtain a permit from the USFWS to authorize incidental take of covered species and ensure FESA compliance
- Operate the covered park units in a manner that provides for public use and enjoyment while conserving park resources, consistent with the overall mandate of CDPR and the specific unit classifications, as prescribed by the Public Resources Code
- Preserve, manage, and expand, as appropriate, motorized and non-motorized recreational opportunities
- Manage, maintain, and maximize, as appropriate, access to the unique coastal camping and recreational amenities in the HCP area
- Facilitate implementation of permit, legal settlement, and judicial or quasi-judicial order conditions and obligations applicable to one or both covered units (Pismo State Beach and/or Oceano Dunes SVRA).

2.4 PROJECT CHARACTERISTICS

The project involves implementation of an HCP to manage plant and animal species for compliance with FESA. The HCP formalizes the conservation program for these species that has developed over time and is presently implemented. The HCP covers existing lawful activities occurring at the park as authorized under the park enabling legislation as well as proposed changes and contemplated future changes to park operations. The HCP is not a program for managing general operations at Pismo State Beach and Oceano Dunes SVRA. Decisions concerning park unit operations are governed by existing laws and regulations, superintendent orders, agency permits and agreements, and court orders. The purpose of the HCP is limited to establishing a conservation program for avoidance and minimization of impacts to species covered by an ITP. The HCP governs park operations impacting covered federal species.

2.4.1 HCP Covered Species

Covered species were chosen based on their listing or potential listing status as a federally-listed threatened or endangered species and the potential for take within the HCP area. Table 2-3. HCP Covered Species lists the species addressed by the HCP. Four of these species are listed animals and six are listed plants. Although FESA does not prohibit take of listed plant species, CDPR has included them in the HCP and requests assurances for them under USFWS's "No Surprises" assurances rule, discussed in HCP section 6.5.

CLTE is both a state-listed endangered species under CESA and a fully protected state species under the California Fish and Game Code in addition to being a federally-listed endangered

species. As a fully protected state species, incidental take of CLTE can only be authorized under California law via an NCCP. See EIR section 2.5 below for further discussion.

In addition to the covered species, other special-status species have either been documented within 5 miles of the HCP area and/or are included on the USFWS Resource Report for the HCP area. Appendix A of the HCP lists these species along with an explanation as to why each species is not included as a covered species. These or other species could be added to the ITP via an amendment to the HCP if they become listed and/or otherwise require incidental take authorization during the duration of the permit.

Table 2-3. HCP Covered Species

Species Common Name (*Scientific Name*)	Listing Status	
	State	Federal
Animals		
Western snowy plover (*Charadrius nivosus nivosus*)	CSSC	FT
California least tern (*Sternula antillarum browni*)	SE, SP	FE[1]
California red-legged frog (*Rana draytonii*)	CSSC	FT
Tidewater goby (*Eucyclogobius newberryi*)	CSSC	FE[2]
Plants[3]		
Marsh sandwort (*Arenaria paludicola*)	SE	FE
La Graciosa thistle (*Cirsium scariosum* var. *loncholepi*s)	ST	FE
Surf thistle (*Cirsium rhothophilum*)	ST	–
Beach spectaclepod (*Dithyrea maritima*)	ST	–
Nipomo Mesa lupine (*Lupinus nipomensis*)	SE	FE
Gambel's watercress (*Nasturtium* [*Rorippa*] *gambelii*)	ST	FE

Listing Status:
FE Federally listed as endangered
FT Federally listed as threatened
SE State listed as endangered
ST State listed as threatened
CSSC California species of special concern
SP California fully protected

[1]The USFWS has recommended, but not formally proposed, downlisting to "threatened."

[2]On March 13, 2014, the USFWS proposed to downlist from federal endangered to threatened (USFWS, 2001).

[3]Listed plants are addressed by this HCP, but no take authorization is requested from the USFWS or required under FESA.

Note: Steelhead (*Oncorhynchus mykiss irideus*; South-Central California Coast Ecologically Significant Unit) is not proposed for coverage per 12/23/2008 letter from NOAA Fisheries (NOAA Fisheries 2008) concluding that covered activities are not likely to take steelhead with the implementation of avoidance and minimization measures (AMMs); therefore, an ITP is not required.

2.4.2 HCP Covered Activities

Together, Pismo State Beach and Oceano Dunes SVRA are visited by almost 2 million people each year. Visitors come to enjoy wide-ranging pursuits, from OHV recreation and camping to bird watching and horseback riding. To support this high level and diversity of visitation, the

Oceano Dunes District has an extensive operational program, providing visitor services, public safety, facilities maintenance and repair, and resource management addressing protection and enhancement of native ecosystems and cultural resources. Operations and maintenance activities may be performed by CDPR personnel, contractors, concessionaires, lessees, and/or other non-CDPR entities. All of the components of this operational program are covered activities under the HCP. In addition, certain management activities that are HCP-required management actions may also result in take and are considered covered activities.

HCP covered activities are summarized below and described in detail in Chapter 2 of the HCP. Most of the HCP covered activities listed below have been ongoing in the HCP area for many years. SNPL chick and egg capture for captive rearing, mechanical trash removal, a change in the seasonal exclosure boundaries, and CDPR's use of UAS for data collection are new activities specifically proposed under the HCP. Potential future activities contemplated by CDPR are proposed for coverage under the HCP and federal ITP. A summary of all activities proposed for coverage under the HCP is presented in Table 2-4.

2.4.2.1 Continuance of Existing Park Operations

Park Visitor Activities. Close to 2 million people visit the Oceano Dunes District every year engaging in pedestrian, camping, and motorized vehicle activities. Park visitor activities covered by the HCP (CA-1 through CA-11) include motorized recreation; camping; pedestrian activities such as picnicking, sunbathing, swimming, and hiking; bicycling and golfing; fishing; dog walking (on leash only); equestrian recreation; boating/surfing; and aerial/wind-driven activities including kiteboarding. Any increased visitation during holidays and special events is included as covered activities (although visitation never exceeds CDP limits). Examples of past permitted special events include poker runs, hucking (vehicles driving up and jumping off the top of sand dunes), vintage car races, concerts, group campfires and receptions, sports, weddings, video production, and still photography. These visitor activities presently occur at the park; no changes to these types of activities are proposed by the HCP. The areas where various park visitor activities are allowed are shown on Figure 2-3. See HCP section 2.2.1 for a complete description of park visitor activities.

Natural Resources Management Program. Natural resources management activities covered by the HCP (CA-12 through CA-19) include covered species management (e.g., habitat protections/fencings, surveys, monitoring, banding, salvage and rescue, predator control), vegetation planting and habitat restoration, habitat monitoring, invasive plant and animal control, prescribed fire management, installation of fences and signs to prevent trespass in sensitive areas, and water quality monitoring projects. These natural resource management activities occur as existing park operations. With the exception of SNPL chick and egg capture for captive rearing, no changes to the natural resource management activities are proposed by the HCP.[3] See HCP section 2.2.2 for a complete description of the natural resources management program.

Park Maintenance. Park maintenance activities include maintaining campgrounds, ramps, roads, and trails; collecting garbage; erecting and maintaining fences; and riparian vegetation maintenance. Park maintenance activities covered under the HCP (CA-20 through CA-31)

[3] Although chick and egg capture is a natural resource management activity, it is proposed as a method of avoiding take caused by recreation and other park operations.

address the following facilities: campgrounds, general facilities, trash bins, wind fencing, sand ramp, beach entrances from street, spillway and drainages, perimeter and vegetation island fencing, cable fencing, and boardwalks. Covered activities include the use of heavy equipment in all areas of the SVRA and minor grading (less than 50 cubic yards). These maintenance activities occur as existing park operations. They vary in frequency dependent upon the maintenance needed. Previous CEQA review has been completed for routine riparian maintenance activities (CA-26) (TRA Environmental Sciences, Inc., 2012), and the continuation of this activity is permitted by CDFW via a Streambed Alteration Agreement (1600-2012-0001-R4). The HCP proposes one addition to general maintenance activities (mechanical trash removal; CA-21) as described below in EIR section 2.4.2.2. No other changes to park maintenance activities are proposed by the HCP. See HCP section 2.2.3 for a complete description of park maintenance activities.

Visitor Services. General park operations include patrolling beaches and trails; conducting public safety, law enforcement, medical aid, and emergency response activities; and providing other visitor services. These services may be conducted by CDPR personnel, contractors, other agencies, for-profit and not-for-profit entities, concessionaires, or lessees. Visitor services covered by the HCP (CA-32 through CA-39) include ranger, lifeguard, and park aide patrols; emergency response by CDPR staff; access by non-CDPR vehicles; American Safety Institute (ASI) courses, including all-terrain vehicle (ATV) and recreational utility vehicle (RUV) courses; concessions; Pismo Beach Golf Course operations; Grover Beach Lodge and Conference Center; and natural history and interpretation programs, including stationary programs, roving interpretation, interpretive walks, and driving tours. These activities are all ongoing park operations except for the Grover Beach Lodge and Conference Center (CA-38), which has been previously reviewed under CEQA (SWCA Environmental Consultants, 2012) and approved for development but not constructed. No changes to the existing park visitor services are proposed by the HCP. See HCP section 2.2.4 for a complete description of visitor services.

Other Activities. The HCP identifies additional covered activities that are not confined to a single category listed above or that may fall outside of the general categories. Motorized vehicle crossing of Pismo/Carpenter, Arroyo Grande, and Oso Flaco creeks (CA-40); dust control activities (CA-44); cultural resources management (CA-45); CDPR management of agricultural lands (CA-46); maintenance of a bioreactor on agricultural lands (CA-47); and pesticide use (CA-51) are ongoing activities in the HCP area. No changes to these covered activities are proposed in the HCP. New or modified covered activities are described below in EIR section 2.4.2.2. See HCP section 2.2.5 for a complete description of these other activities.

2.4.2.2 Proposed Changes to Park Operations

The following activities are changes to existing park operations proposed in the HCP. Activity locations are shown in Figure 2-8 Proposed New Covered Activity.

SNPL/CLTE Management (CA-12b) – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activities and Other Non-Covered Species Management Activities. As part of the ongoing SNPL and CLTE management program, CDPR currently collects for captive rearing some SNPL chicks or eggs identified as abandoned and considered vulnerable because of unusual circumstance (e.g., an attending adult being predated). However, to date, CDPR does not collect SNPL chicks or eggs if they are observed to be

threatened by covered activities, such as motorized or pedestrian recreation. Instead, CDPR staff attempt to protect nests in vulnerable locations (e.g., with single-nest exclosures) and direct chicks out of harm's way (e.g., back to the seasonal exclosure). To further minimize loss of eggs and chicks in the HCP area, CDPR proposes to expand captive rearing to include SNPL chicks or eggs that are deemed threatened by covered activities that are not related to covered species management (e.g., new proposed activities and motorized recreation). Therefore, in the future, if SNPL chicks are deemed to be threatened by a covered activity (e.g., motorized recreation), despite CDPR's efforts to direct chicks back to the protection of the seasonal exclosure and reunite them with attending adults, CDPR staff may collect SNPL chicks and transfer them to an approved wildlife facility. Similarly, if an SNPL nest is initiated in an area that is deemed vulnerable to covered activities, such as motorized recreation, CDPR may opt to transfer those eggs to an approved wildlife facility. In these instances, captive rearing would be the only option to prevent mortality or injury to those eggs or chicks deemed vulnerable by the covered activity. These activities would only be conducted by a USFWS-approved or 10 (a)(1)(A) permitted biologist. All chicks will be raised in a manner where they will not imprint on humans.

If sufficient bands are available and other logistics are satisfied, all fledglings will be color-banded to individual prior to releasing them back into the wild to assist in tracking bird movements, survival, and future reproductive success. In all cases, the need for captive care will be determined by a qualified Environmental Scientist, will be used selectively, and will be dependent on an approved facility having the capacity to accept the eggs and/or chicks. If time permits, CDPR staff will confer with USFWS prior to conducting salvage and rescue activities. See HCP section 2.2.2.1.2 for a discussion of captive rearing.

General Facilities Maintenance (CA-21) – Mechanical Trash Removal. CDPR proposes adding mechanical trash removal to its maintenance operations. CDPR would use a tractor-towed rake to collect nails, broken glass, and other debris that may pose a hazard to visitors or wildlife from open sand areas. Mechanical trash removal would occur year-round in the most heavily used beach areas from the Grand Avenue entrance south to Post 6. Mechanical trash removal would only occur above the active wrack line, would not occur in vegetated areas or within 500 feet of any known SNPL or CLTE nesting area, and would be set back from creeks. Equipment operating speed would be 5 to 10 miles per hour (mph). Collected debris would be deposited in the dumpsters. Work is expected to be conducted in the morning to avoid peak visitation. Up to approximately 24 acres could be treated on any 1 day. Given time constraints, speed limits, and other factors, fewer acres may be treated. Some areas could be treated several times per month during a busy season, whereas others may be treated only once or twice a year, if at all. Although trash removal would focus on a narrow (200- to 300-foot-wide), approximately 140-acre band running from Grand Avenue to Post 6, other areas may be treated pending resource staff review and within the above setback parameters. See HCP section 2.2.3.2 for a discussion of general facilities maintenance.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). CDPR is proposing a management change associated with the seasonal exclosure for the SNPL and CLTE for the purpose of providing additional opportunity for year-round recreation if HCP conservation targets for SNPL and CLTE can be met.

The Boneyard Exclosure is located at the southern end of the riding area near Oso Flaco (Figure 2-3). CDPR proposes to refrain from fencing off the approximately 49-acre East Boneyard Exclosure during the first breeding season under the HCP. The eastern fence line of East

Boneyard is currently not being maintained as a predator fence due to the rapidly shifting open sand dunes in the area that make fencing difficult to maintain. Although the Boneyard Exclosure historically played a more significant role in CLTE and SNPL nesting, since 2005 it has only been used seven times by SNPL for nesting and has not been used by CLTE. As a result, the Boneyard Exclosure does not appear to contribute to CLTE and SNPL reproductive success in the HCP area. Currently, visitation by park users in South Oso Flaco is light during the breeding season because there is no public access via the open riding area. Pedestrian access from the riding area to South Oso Flaco is through Boneyard gate (Figure 2-3), which is seasonally inaccessible due to Boneyard exclosure fencing. When East Boneyard fencing is removed, the Oso Flaco fence at the south end of East Boneyard would be arranged to maintain blocked access to the East Boneyard gate during the breeding season.

The 6 Exclosure comprises the area between Post 6 and Post 7, which extends 0.5 mile of shoreline and covers approximately 60 acres. The Southern Exclosure was initially extended north to Post 6 in 2003 as a result of a Consent Decree that CDPR entered into with a local Sierra Club chapter in 2005.[4] Specific to the HCP process, the Consent Decree stipulated that CDPR "shall support a northern [seasonal exclosure] boundary of Distance Marker Number 7, notwithstanding the terms of this consent decree." Consistent with this stipulation, if CDPR determines that exclosure reductions are supported by appropriate considerations, CDPR may reduce the 6 Exclosure in 328-foot increments (approximately 7.5 acres) from Post 6 south toward Post 7 (or CDPR may implement alternative incremental reductions of similar acreage to meet management needs). At CDPR's discretion, and in consideration of specific criteria for SNPL and CLTE nesting success and population size and other factors (see HCP section 5.2.3 for a more detailed explanation of the criteria for reducing the exclosed area), CDPR may ultimately no longer fence the 60-acre exclosure. Based on this approach, a minimum of 8 years would be required to completely unfence the 6 Exclosure. If the criteria are not met for either species, the 6 Exclosure would be restored in the following breeding season in coordination with the USFWS. Decisions to restore the 6 Exclosure fence to ensure the criteria are met would be based on the best available science and could include additional management actions (e.g., predator management) along with restoring the exclosure size. Proposing a reduction in the 6 Exclosure is consistent with the 2005 Consent Decree and the OHMVR Division's mission to balance recreation and natural resource management.

See HCP section 2.2.5.11 for a discussion of the East Boneyard Exclosure and 6 Exclosure reductions.

CDPR Unmanned Aircraft System (UAS) Use for Park Activities (CA-52). CDPR may use UAS (drones) in the HCP area to reduce the time and cost associated with data collection, especially in more remote areas. All UAS operations will be consistent with CDPR policies regarding UAS use. The immediate need for UAS use is for assessing habitat for habitat enhancement activities. CDPR may use UAS for other activities as staff experience and accessibility increases. Specific practices are being developed to allow UAS work to occur with

[4] Although the Consent Decree was not finalized until 2005, it included implementation of exclosure boundary adjustments in 2003. The initial extension, in 2003, was narrower than the current configuration, which began in 2004.

a minimum amount of disturbance as described in the UAS AMMs. See HCP section 2.2.5.13 for a discussion of CDPR's use of UAS.

2.4.2.3 Contemplated Future Changes to Park Operations

The HCP covered activities include potential future activities being contemplated by CDPR and subject to separate CEQA review. Other than New Particulate Matter Reduction Plan (PMRP; CA-44), these activities are not currently planned. These activities include:

- SNPL Adult Banding (CA-12b; HCP Section 2.2.2.1.2)
- Propagation and Outplanting of Listed Plant Species (CA-15; HCP section 2.2.2.1.5)
- Cable Fence Replacement (CA-28; HCP section 2.2.3.9)
- Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41; HCP section 2.2.5.2)
- Riding in 40 Acres (CA-42; HCP section 2.2.5.3)
- Safety and Education Center Replacement (CA-43; HCP section 2.2.5.4)
- Dust Control Activities – New PMRP (CA-44; HCP section 2.2.5.5)
- Oso Flaco Lake Boardwalk Replacement (CA-48; HCP section 2.2.5.9)
- Special Projects (CA-49: HCP section 2.2.5.10)

These activities may or may not be proposed by CDPR in the future. One of these projects (Pismo Creek Estuary seasonal [floating] bridge; CA-41) has been considered in the past by CDPR (TRA Environmental Sciences, Inc., 2013) and may be considered again. Riding in 40 Acres (CA-42) is being actively contemplated and may be included in CDPR's PWP, which is being prepared in a separate park improvement planning process. Additionally, CDPR is preparing a PMRP, which would modify the park's dust control activities (CA-44). Separate CEQA review of the PMRP is underway. The safety and education center (CA-43) and Oso Flaco Lake boardwalk (CA-48) are existing facilities with recognized future maintenance needs. Special projects (CA-49) is a broad category that covers replacement or expansion of existing facilities within the existing facility footprint and new facilities consistent with existing facilities, not to exceed a cumulative total of 35 acres over the HCP permit term.

By including these six potential projects as covered activities in the HCP now, it is CDPR's goal to be proactive administratively and to avoid a future ITP amendment process and NEPA review of the changed ITP should these activities become proposed projects that require ITP coverage. Including these contemplated projects in the HCP as covered activities does not constitute authorization by CDPR. These projects require a subsequent proposal by CDPR, environmental review pursuant to CEQA, and permit issuance by other agencies where warranted (EIR section 1.3 and section 2.5). Accordingly, these potential covered activities are evaluated in the cumulative impact analysis in each environmental chapter (see EIR section 3.3).

Table 2-4. Summary of Existing, Proposed, and Potential Future Covered Activities under HCP

Existing Activity[1]	Proposed New Activity[2]	Contemplated Future Activity[3]
Park Visitor Activities		
CA-1: Motorized Recreation; CA-2: Camping; CA-3: Pedestrian Activities (such as picnicking, sunbathing, swimming, and hiking); CA-4: Bicycling and Golfing; CA-5: Fishing; CA-6: Dog Walking (on leash only); CA-7: Equestrian Recreation; CA-8: Boating/Surfing; CA-9: Aerial/Wind-Driven Activities; CA-10: Holidays; and CA-11: Special Events.	**None.** The types of visitor uses or special events occurring in the HCP area would not be modified by the HCP. Areas open to visitor uses would be modified as described below in Other Covered Activities. Special events sporadically occur on an ongoing basis. Individual events are reviewed by CDPR when proposed, to determine suitability of the proposed use and the appropriate level of environmental review pursuant to CEQA.	**None.** CDPR does not anticipate new categories of park visitor uses beyond those that are presently occurring.
Natural Resources Management		
CA-12a: SNPL/CLTE Protection Fences; CA-12b: SNPL/CLTE Monitoring and Management; CA-13: Tidewater Goby and Salmonid Surveys; CA-14: CRLF Surveys and Associated Management (invasives control); CA-15: Listed Plant Monitoring, Propagation, and Habitat Enhancement; CA-16: Habitat Restoration Program (including seed collection, propagation, planting, monitoring, and minor grading to access work areas); CA-17: Invasive Plant and Animal Control (including prescribed fire, herbicide application, and hand clearing of paths to access work areas); CA-18: HMS (including small mammal trapping, point counts, shorebird counts, and coverboards); CA-19: Water Quality Monitoring Projects.	CA-12b: SNPL/CLTE Management: SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activities and Other Non-Covered Species Management Activities	CA-12b: SNPL Adult Banding CA-15: Listed Plant Management – Propagation and Outplanting
Park Maintenance		
CA-20: Campground Maintenance (including mowing, hazardous tree program, restroom upkeep, and housekeeping); CA-21: General Facilities Maintenance; CA-22: Trash Control; CA-23: Wind Fencing Installation, Maintenance, and Removal; CA-24: Sand Ramp and Other Vehicular Access Maintenance (including roadway resurfacing); CA-25: Street Sweeping; CA-26: Routine Riparian Maintenance (including	CA-21: General Facilities Maintenance: Mechanical Trash Removal	CA-28: Cable Fence Maintenance – Replacement CA-48: Oso Flaco Lake Boardwalk Replacement could be a potential future park maintenance activity (discussed below in Other Covered Activities) depending

Table 2-4. Summary of Existing, Proposed, and Potential Future Covered Activities under HCP

Existing Activity[1]	Proposed New Activity[2]	Contemplated Future Activity[3]
spillway maintenance, culvert maintenance, vegetation management along trails and roads, emergent vegetation control, and minor flood control maintenance for ditch function and vegetation control); CA-27: Perimeter and Vegetation Island Fence Installation, Maintenance, and Removal; CA-28: Cable Fence Maintenance; CA-29: Heavy Equipment Response; CA-30: Minor Grading (less than 50 cubic yards); CA-31: Boardwalk and Other Pedestrian Access Maintenance.		upon the type of project selected.
Visitor Services		
CA-32: Ranger, Lifeguard, and Park Aide Patrols; CA-33: Emergency Response (including accidents, injuries, distressed vessels, search and rescue); CA-34: Access by Non-CDPR Vehicles; CA-35: ASI Courses, (including ATV and RUV courses); CA-36: Beach Concessions; CA-37: Pismo Beach Golf Course Operations; CA-39: Natural History and Interpretation Programs (including stationary programs, roving interpretation, interpretive walks, driving tours).	**None.** The types of visitor services activities occurring in the HCP area would not be modified by the HCP. Visitor services would continue at the same frequency and intensity and in the same area as presently occurring.	CA-38: Grover Beach Lodge and Conference Center (an approved use that is not yet built)
Other Activities		
CA-40: Motorized Vehicle Crossing of Pismo/Carpenter, Arroyo Grande, and Oso Flaco Creeks; CA-44: Dust Control Activities; CA-45: Cultural Resources Management; CA-46: CDPR Management of Agricultural Lands; CA-47: Maintenance of a Bioreactor on Agricultural Lands; CA-51: Use of Pesticides	CA-50: Reduction of the Boneyard Exclosure and 6 Exclosure; CA-52: CDPR UAS Use for Park Activities	CA-41: Pismo Creek Estuary Seasonal (Floating) Bridge; CA-42: Riding in 40 Acres; CA-43: Replacement of the Safety and Education Center; CA-44: Dust Control Activities – New PMRP; CA-48: Oso Flaco Lake Boardwalk Replacement; CA-49: Special Projects.

Notes:

[1] Existing Covered Activity includes those activities that are already occurring in the park. No changes are proposed to these activities by the HCP. These activities are considered environmental baseline in the EIR analysis.

[2] New Proposed Activity includes those activities that are proposed by CDPR in the HCP. These activities are considered new project actions subject to full environmental review in the EIR analysis.

[3] Potential Future Activity includes those activities that could be proposed by CDPR in the future. These future activities will be assessed to determine the need for further environmental review under CEQA. This also includes Grover Beach Lodge and Conference Center (CA-38), which has been approved and permitted but has not yet been constructed.

2.4.3 HCP Program Details

The HCP conservation program will be implemented to protect and promote recovery for listed and covered species in the HCP area by protecting and, where appropriate, enhancing their populations. The conservation program is a program of conservation measures (i.e., actions taken to avoid or minimize take, compensate for loss of habitat, or provide for the conservation of covered species) that, when implemented, will achieve the biological goals and objectives of the HCP while meeting the other primary project objectives described in EIR section 2.3.2. The conservation program relies on several types of conservation measures including avoidance and minimization, habitat enhancement, habitat restoration, habitat creation, and population enhancement. The HCP conservation program is described in detail in Chapter 5 of the HCP and is summarized below.

2.4.3.1 Biological Goals and Objectives for Covered Species

HCPs must establish biological goals and objectives (USFWS and NOAA Fisheries, 2016). The biological goals of an HCP are the broad, guiding principles for the operating conservation program and the rationale behind the minimization and mitigation strategies. The purpose of the biological goals is to ensure that the operating conservation program in the HCP is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the applicant an understanding of why these actions are necessary. These goals are developed based upon the species' biology, threats to the species, the potential effects of the covered activities, and the scope of the HCP. The biological objectives of an HCP are the different component or measurable targets needed to achieve the biological goals.

The biological goals and objectives of the HCP for covered species are listed below in Table 2-5. HCP Goals and Objectives. Performance standards and success criteria are used to determine whether the goals and objectives are met and the success of the overall conservation program. These standards and criteria are described in HCP section 5.5.

Table 2-5. HCP Goals and Objectives

Western Snowy Plover	
Goal 1: Continue to contribute to SNPL recovery locally and range-wide.	
Objective 1.1:	Manage the SNPL population breeding in the HCP area to meet or exceed the CDPR target of 155 breeding SNPL averaged over a moving 3-year window.
Objective 1.2:	Maximize the reproductive success of SNPL in the HCP area to maintain a 3-year moving average of at least 1.0 fledgling per male.
Objective 1.3:	Increase the habitat quality through habitat enhancement and restoration.
Objective 1.4:	Reduce predation.
Objective 1.5:	Reduce disturbance by recreational users and predators.
Goal 2: Minimize conflicts between park users, park operations, and SNPL through a combination of avoidance and minimization measures and enforcement of park rules and regulations.	
Objective 2.1:	Provide effective outreach and education to CDPR staff, volunteers, concessionaires operating in the HCP area, and the public on the ecology of SNPL, the significance of the HCP area habitats for this species and its recovery, the importance of CDPR's

Table 2-5. HCP Goals and Objectives	
	protection and monitoring efforts, the impacts of predators on these species, and the importance of working together to conserve these species and their habitat.
Objective 2.2:	Provide adequate enforcement to ensure that park visitors do not violate restrictions that protect SNPL and their habitat.
Objective 2.3:	Implement recreation and other use restrictions to avoid and minimize take of SNPL.
Objective 2.4:	Conduct all maintenance and other park operations in a manner that avoids and minimizes take of SNPL.
California Least Tern	
Goal 1: Continue to contribute to CLTE recovery locally and range-wide.	
Objective 1.1:	Maintain a five-year running average of 35 breeding pairs of CLTE in the HCP area.
Objective 1.2:	Maximize the reproductive success of CLTE in the HCP area to maintain a 3-year moving average of at least 1.0 fledgling per nesting pair.
Objective 1.3:	Increase the habitat quality through habitat enhancement and restoration.
Objective 1.4:	Reduce predation.
Objective 1.5:	Reduce disturbance by recreational users and predators.
Goal 2: Minimize conflicts between park users, park operations, and CLTE through a combination of avoidance and minimization measures and enforcement of park rules and regulations.	
Objective 2.1:	Provide effective outreach and education to CDPR staff, volunteers, concessionaires operating in the HCP area, and the public on the ecology of CLTE, the significance of the HCP area habitats for this species and its recovery, the importance of CDPR's protection and monitoring efforts, the impacts of predators on these species, and the importance of working together to conserve these species and their habitat.
Objective 2.2:	Provide adequate enforcement to ensure that park visitors do not violate restrictions that protect CLTE and their habitat.
Objective 2.3:	Implement recreation and other use restrictions to avoid and minimize take of CLTE.
Objective 2.4:	Conduct all maintenance and other park operations in a manner that avoids and minimizes take of CLTE.
California Red-legged Frog	
Goal 1: Minimize the effects of park operations, park visitor activities, and management activities on suitable CRLF habitat.	
Objective 1.1:	When necessary to limit encroachment, close suitable habitat with symbolic fencing and signage, including Pismo Creek Lagoon, Pismo Lake, Meadow Creek, Carpenter Creek, Oceano (Meadow Creek) Lagoon, Arroyo Grande Creek, Arroyo Grande Creek Lagoon, Oso Flaco Lake, Oso Flaco Creek, and numerous unnamed water bodies within the dune system that provide existing and potential CRLF habitat.
Objective 1.2:	Protect habitat by closing informal trails adjacent to occupied aquatic habitat.
Goal 2: Manage invasive plants and animals to enhance suitable habitat and protect all CRLF life stages.	
Objective 2.1:	Control invasive aquatic predators of CRLF.
Objective 2.2:	Enhance CRLF habitat by managing aquatic vegetation.

Table 2-5. HCP Goals and Objectives	
Goal 3: Minimize upstream water quality and quantity effects on CRLF and suitable habitat within the HCP area by facilitating cooperative management efforts with willing landowners.	
Objective 3.1:	Conduct outreach to, and work with, willing landowners upstream of the HCP area and the Regional Water Quality Control Board (RWQCB), whose activities affect water quality and quantity in the HCP area. Outreach and cooperative efforts with upstream land managers will seek to reduce impacts to water quality and quantity in target watersheds.
Tidewater Goby	
Goal 1: Minimize the effects of park operations, park visitor activities, and management activities on tidewater goby habitat.	
Objective 1.1:	Protect tidewater goby habitat by closing informal trails in and adjacent to occupied and potential habitat. Informal trails found within riparian habitat adjacent to Arroyo Grande and Pismo creeks will be blocked and restored to original conditions.
Objective 1.2:	Protect tidewater goby habitat in Arroyo Grande Creek by enforcing crossing guidelines.
Objective 1.3:	Protect tidewater goby habitat in Pismo Creek Lagoon by pursuing installation of proposed improvements to Pismo Creek.
Goal 2: Manage invasive animals to protect all life stages of tidewater goby.	
Objective 2.1:	Control invasive aquatic predators of tidewater goby.
Goal 3: Minimize the effects of upstream water quality and quantity to tidewater goby suitable habitat within the HCP area by facilitating cooperative management efforts with willing landowners and water agencies.	
Objective 3.1:	Conduct outreach to, and work with, willing landowners upstream of the Oceano Dunes District whose activities affect water quality and quantity in the HCP area, working in conjunction with the RWQCB.
Goal 4: Evaluate the suitability of potential tidewater goby habitat in the HCP area.	
Objective 4.1:	CDPR will cooperate with USFWS efforts to evaluate habitat conditions of other potential tidewater goby habitat within the HCP area.
Listed Plants	
Goal 1: Protect and enhance habitat for marsh sandwort, La Graciosa thistle, surf thistle, beach spectaclepod, Nipomo Mesa lupine, and Gambel's watercress within the HCP area to sustain or increase their populations.	
Objective 1.1:	Restore listed plant habitat.
Objective 1.2:	Protect listed plants from public encroachment.
Objective 1.3:	Close informal trails in and adjacent to listed plant species habitats and restore to original conditions.
Goal 2: Manage invasive plants to protect listed plant species habitat.	
Objective 2.1:	Control non-native invasive plant species. Invasions of non-native plants create a serious threat to ecosystem function, native biological diversity, and many listed plant species.

Table 2-5. HCP Goals and Objectives	
Goal 3: Minimize upstream water quality effects on marsh sandwort and Gambel's watercress and suitable habitat within the HCP area by facilitating cooperative management efforts with willing landowners.	
Objective 3.1:	Conduct outreach to, and work with, willing landowners upstream of the HCP area whose activities affect water quality and quantity at Oso Flaco Lake. The Oceano Dunes District will collaborate with willing upstream landowners and the RWQCB to improve water quality in the Oso Flaco drainage to improve habitat for marsh sandwort and Gambel's watercress. If a watershed assessment or other watershed-based program commences that could help the Oso Flaco watershed, then the Oceano Dunes District will evaluate the benefits of participation in such a program for the covered species.
Goal 4: Collaborate with external agencies and institutions to propagate and outplant listed plants to HCP area lands.	
Objective 4.1:	Coordinate with USFWS and other agencies and institutions, including botanical gardens, to explore opportunities for propagation and outplanting of listed plants in the HCP area to enhance existing populations and to support new populations of listed plant species in currently unoccupied but suitable habitat.

2.4.3.2 Avoidance, Minimization and Mitigation Measures

Section 10(a)(2)(A) of FESA requires that an HCP specify the measures that the permittee will undertake to minimize and mitigate to the maximum extent practicable the impacts of the take. The HCP adheres to a hierarchical requirement to first implement avoidance and minimization and then, if necessary, implement mitigation measures. AMMs for each covered species are listed in HCP section 5.3.1. A summary listing of the AMMs are presented in Appendix B. Most of the AMMs are currently in effect as part of the ongoing conservation program implemented by CDPR. The HCP includes new AMMs for covered activities as listed in Table 2-6..

The AMMs include educational efforts that foster public awareness of covered species and their protection by CDPR as well as provide training for park-related operations staff (concessions, emergency responders, etc.). Measures also enforce covered species protection regulations, such as the implementation and regulation of closed nesting areas and buffer zones, traffic rules, dog leash and waste rules, littering rules, and aerial/wind-driven activities. Furthermore, the AMMs specify ways to avoid disturbance during routine riparian maintenance, excavation for cultural resource management purposes, CDPR's use of UAS, prescribed fire activities, and potential future construction projects, such as Oso Flaco Lake boardwalk replacement.

AMMs include habitat protection, enhancement, and restoration measures. Protection measures include preventing/removing predators or invasive species, providing natural shelters, and restricting park visitor access in sensitive areas. Habitat management and restoration measures include managing both native and non-native vegetation, conducting botanical and wildlife surveys, monitoring habitat conditions, and use of pesticides.

Table 2-6. New AMMs for Existing and New Covered Activities

Covered Activity	Avoidance and Minimization Measure
Motorized Recreation (CA-1)	**SNPL AMM 22.** When, despite CDPR's efforts[5] to protect nests and/or move chicks back into the safety of the seasonal exclosure, chicks and eggs are still at risk of being injured or killed by covered activities not related to covered species management (e.g., motorized recreation or new proposed activities), CDPR may capture up to 12 eggs (i.e., 4 nests) and/or 12 chicks (i.e., 4 broods) for captive rearing each year. In all cases, the need for captive care is determined by a qualified Environmental Scientist and is used selectively. It is also dependent on an approved facility having the capacity to accept the eggs and/or chicks. If CDPR has captured 8 eggs or 8 chicks for captive rearing during one breeding season pursuant to this AMM, CDPR will contact the USFWS and discuss whether modified or additional AMMs (e.g., expanding the exclosure along the shoreline to provide additional protected foraging habitat, increasing monitoring, and/or increasing signage) are appropriate to minimize risk of additional injury or mortality and ensure no more than 12 eggs and 12 chicks are captured for captive rearing[6]. Because this measure involves capture, which is considered take under FESA, it is included within CA-12b. **SNPL AMM 46/CLTE AMM 37.** The Superintendent may consider implementing additional habitat enhancement measures if Environmental Scientists determine such measures may aid in meeting the criteria laid out in biological objectives for SNPL/CLTE (HCP section 5.2.1). If implemented, the value of any additional habitat enhancement measures to nesting SNPL/CLTE will be studied to evaluate the measure's effectiveness at improving reproductive success and to determine whether and how the measures should be implemented in future seasons.
Special Events (CA-11)	**SNPL AMM 65/CLTE AMM 54.** All UAS operators will follow the current CDPR policies regarding UAS use. **SNPL AMM 66/CLTE AMM 55.** Specific AMMs for UAS use will be included in the permit that all UAS operators must obtain from CDPR. For example, UAS will not be allowed south of Post 5 during the breeding season and will be limited year-round along the shoreline. In addition, a USFWS-approved monitor will accompany non-CDPR UAS operators at any time of year if it is determined there is potential to impact covered species. Stable flight paths are preferred to minimize the UAS being perceived as a predator.
General Facilities Maintenance (CA-21)	**SNPL AMM 104/CLTE AMM 91.** Mechanical trash removal will not occur in areas where any SNPL/CLTE are present. **SNPL AMM 105/CLTE AMM 92.** Mechanical trash removal will only occur above the highest high tide, avoid all wrack/surf cast kelp, avoid all live vegetation, and avoid lagoons and flowing creeks.

[5] At times, based on Senior Environmental Scientist professional discretion, CDPR may determine that SNPL eggs and/or chicks should be collected and transferred to an approved wildlife facility without an attempt to protect them on site because protecting eggs and/or directing chicks back to the exclosure will not eliminate the threat of covered activities.

[6] Capture associated with this AMM is different than capture associated with natural resources management activities. This AMM addresses capture when eggs or chicks are threatened by non-covered species management activities, such as motorized recreation.

Table 2-6. New AMMs for Existing and New Covered Activities

Covered Activity	Avoidance and Minimization Measure
	SNPL AMM 106/CLTE AMM 93. Equipment will observe all speed limits and will not exceed 10 mph. **SNPL AMM 107/CLTE AMM 94**. Mechanical trash removal will not be conducted within 500 feet of any known nesting area. **SNPL AMM 108/CLTE AMM 95.** Natural resources staff will inspect and approve the area subject to mechanical trash removal prior to each deployment. Natural resources staff will remain on site or be immediately available for monitoring purposes. **SNPL AMM 109.** In conjunction with mechanical trash removal, CDPR will implement a study to establish baseline conditions of invertebrate populations, including talitrids, and to determine the impact of mechanical trash removal on these populations. The study will, at a minimum, compare invertebrate abundance in mechanical trash removal areas to baseline conditions prior to start of mechanical trash removal to areas where mechanical trash removal is absent. If CDPR finds a significant decline in invertebrate numbers in mechanical trash removal areas, additional measures will be implemented (e.g., habitat enhancement measures, reduction in frequency of mechanical trash removal, and/or reduction in mechanical trash removal locations).
Routine Riparian Maintenance (CA-26)	**CRLF AMM 27.** CRLF life-stages found in the work area will be relocated upon determination by the USFWS-approved biologist that an appropriate relocation site exists and relocation is the preferred avoidance method. The biologist will be allowed sufficient time to move CRLF from the work site before activities begin. Only USFWS-approved biologists will participate in activities associated with capturing, handling, and monitoring CRLF. The biologists will follow safe-handling practices as outlined in the Declining Amphibians Population Task Force Code of Practice (HCP Appendix K). **Tidewater Goby AMM 38.** A USFWS-approved biologist will continue to conduct a pre-activity survey for tidewater goby in occupied tidewater goby habitat prior to commencing activities. If tidewater goby is observed in the work area or water is present in the work area and it cannot be determined if tidewater goby is present, the Environmental Scientist will continue to determine the appropriate measures taken to protect the tidewater goby population. These measures could include, but are not limited to, establishing fencing or otherwise demarcating a barrier between the work site and the tidewater goby population and/or relocation by a USFWS-approved biologist.
Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41)	**SNPL AMM 114/CLTE AMM 101**. If, in the opinion of the Senior Environmental Scientist or monitors, visitor activities are significantly disrupting SNPL/CLTE foraging and/or roosting behavior, the bridge will be closed to public use until the birds have left the area. **Tidewater Goby AMM 45.** To allow movement of all fish species as well as an exchange of fresh and saltwater, the interlocking pieces of the bridge will be constructed to create wide openings under the bridge. Openings will be designed as wide as possible while maintaining structural integrity to ensure water flow even when the bridge sits on the bed of the estuary during low flows. **Tidewater Goby AMM 46.** If water levels are so low that the bridge is not allowing the free movement of fish in the estuary, the bridge will be removed until there is sufficient water to allow the bridge to float.

Table 2-6. New AMMs for Existing and New Covered Activities

Covered Activity	Avoidance and Minimization Measure
Oso Flaco Lake Boardwalk Replacement (CA-48)	**CLTE AMM 102.** As feasible, boardwalk construction activities will be scheduled when CLTE are unlikely to be present (generally mid-September to mid-April). **CLTE AMM 103**. If boardwalk replacement activities are scheduled when CLTE are known to be present, qualified biologists will monitor construction activities. If CLTE are not foraging nearby or biologists observing CLTE foraging activity determine that CLTE will not be disturbed by the activities, work may proceed as planned. However, if CLTE is present and has the potential to be disturbed, the biologist will continue to direct activities within 250 feet of the CLTE to stop until it leaves on its own accord. **CRLF AMM 14.** If CRLF are injured or killed during surveys, it will be reported to the USFWS as a part of the annual report (HCP section 5.7). **CRLF AMM 38.** Boardwalk replacement will be constructed during a period when egg masses are unlikely to occur in the project area. A USFWS-approved biologist will survey the work site 2 weeks before the onset of activities. If CRLF adults, tadpoles, or eggs are found, work will not commence until avoidance measures are in place. **CRLF AMM 39.** Any CRLF life-stages found in the project work area may be relocated upon determination by the USFWS-approved biologist that an appropriate relocation site exists and relocation is the preferred avoidance method. The approved biologist will continue to be allowed sufficient time to move CRLF from the work site before work activities begin. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of CRLF **CRLF AMM 40.** Before any project activities occur, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and its habitat, the importance of the CRLF and its habitat, the general measures that are being implemented to conserve the CRLF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided a qualified person is on hand to answer any questions. **CRLF AMM 41.** A USFWS-approved biologist will be present at the work site until the removal of all CRLF, instruction of workers, and habitat disturbance has been completed. After this time, the contractor or permittee will designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist will ensure that this individual receives training outlined in AMM 34 and in the identification of CRLF. The monitor and the USFWS-approved biologist have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS.
CDPR UAS Use for Park Activities (CA-52)	***Year-Round*** **SNPL AMM 123/CLTE AMM 112.** UAS will be flown with remote control and a built-in screen that shows battery life. The UAS will be equipped with software or other safeguard to ensure it will alert the operator when it reaches a minimum safe amount of battery life required for a return flight. **SNPL AMM 124/CLTE AMM 113.** UAS operators will attend a formal training and be certified as a Pilot in Command prior to conducting solo flights.

Table 2-6. New AMMs for Existing and New Covered Activities

Covered Activity	Avoidance and Minimization Measure
	SNPL AMM 125/CLTE AMM 114. UAS operators will have an established flight plan with a specific purpose determined following all Federal Aviation Administration (FAA) regulations. **SNPL AMM 126/CLTE AMM 115.** UAS will be kept in view of the operator at all times. **SNPL AMM 127/CLTE AMM 116.** UAS operators will not conduct flights in the HCP area without approval from the Senior Environmental Scientist. ***Breeding Season*** **SNPL AMM 128/CLTE AMM 117.** All flights within 328 feet of SNPL/CLTE nesting or brood-rearing habitat will require a USFWS-approved monitor to pilot or assist with flight logistics and monitoring, regardless if birds are confirmed in the area prior to flight. **SNPL AMM 129/CLTE AMM 118.** Prior to flying the UAS into or near (within 328 feet of) nesting or chick-rearing areas, the permittee will follow all existing monitoring guidelines that have been established with USFWS. **SNPL AMM 130/CLTE AMM 119.** UAS will not enter or fly within 328 feet of the SNPL/CLTE nesting areas if the wind speed is above 15 mph or strong enough to move sand (or will be before or after completion of set up and exit from the exclosure), the sand temperature is 83 ^{o}F, or if it is raining. **SNPL AMM 131/CLTE AMM 120.** UAS flights will be initiated at least 328 feet from the closest known SNPL/CLTE nest. The take-off and landing area will be clearly marked. If possible, take-off and landing areas will be out of direct sight from known nests. **SNPL AMM 132/CLTE AMM 121.** UAS will only be deployed when a qualified biologist is confident the activity will not jeopardize the safety of SNPL/CLTE individuals, nests, eggs, and young. **SNPL AMM 133/CLTE AMM 122.** Prior to every UAS flight, a qualified biologist will scan the area for SNPL/CLTE. If no birds are observed, the UAS flight can commence with monitoring, as appropriate. If a SNPL/CLTE is observed in the area, it must be monitored by a qualified biologist during the remainder of the flight. If significant disturbance to SNPL/CLTE is observed, the biologist may recommend increasing the altitude of the drone (but still remain below 400 feet to follow FAA guidelines) and/or guiding the drone to a safer area. **CLTE AMM 123**. When CLTE are present in the area of interest, the UAS will fly at the highest possible altitude to collect the necessary data. If any CLTE show an inclination to mob, the UAS will be directed upward (but still below the FAA ceiling of 400 feet) and quickly away from the incoming CLTE. Until a qualified biologist deems the UAS is not a threat to their colony the flight will be aborted. **SNPL AMM 134/CLTE AMM 124**. The UAS will be kept at least 100 feet above the ground at all times to reduce disturbance to nesting birds and below 400 feet to follow FAA guidelines. **SNPL AMM 135/CLTE AMM 125.** The flight plan will not include erratic flight patterns that could be interpreted as an avian predator by SNPL/CLTE.

Table 2-6. New AMMs for Existing and New Covered Activities	
Covered Activity	**Avoidance and Minimization Measure**
	Non-breeding Season **SNPL AMM 136.** UAS will only be deployed when a qualified biologist is confident that the activity will not jeopardize the safety of SNPL individuals. **SNPL AMM 137.** Prior to every UAS flight, a qualified biologist will scan the area for SNPL. If no birds are observed, the UAS flight can commence with monitoring, as appropriate. If an SNPL is observed in the area, it must be monitored by a qualified biologist during the remainder of the flight. If significant disturbance to SNPL is observed, the biologist may recommend increasing the altitude of the drone (but still remain below 400 feet to follow FAA guidelines) and/or guiding the drone to a safer area. **SNPL AMM 138.** Take-off and landing areas will be clearly marked in the field and should be out of sight from known individuals. **SNPL AMM 139.** If SNPL are present, the UAS will fly at least 100 feet above ground at all times to reduce disturbance to SNPL and will be kept at below 400 feet to follow FAA guidelines. **SNPL AMM 140.** The flight plan will not include erratic flight patterns that could be interpreted as an avian predator by SNPL.

2.4.3.3 Monitoring and Enforcement

There are three types of monitoring: (1) compliance monitoring, which tracks the permit holder's compliance with the requirements specified in the HCP and ITP; (2) effects monitoring, which tracks the impacts of the covered activities on the covered species; and (3) effectiveness monitoring, which tracks the progress of the conservation program in meeting the HCP's biological goals and objectives (includes species surveys, reproductive success, etc.). The monitoring program described in HCP section 5.4 provides data serving all three types of monitoring, as appropriate.

The provisions of the HCP are enforceable through the terms and conditions of the ITP issued by the USFWS (HCP section 6.7).

2.4.3.4 Adaptive Management

The HCP uses an adaptive management strategy to address the uncertainty in the conservation of a covered species. Adaptive management is an iterative decision-making process used to examine the effectiveness of the conservation program (e.g., AMMs and monitoring) for meeting the HCP's biological goals and objectives and, if necessary, adjusting management actions based on what is learned. CDPR would monitor the outcomes of management through the performance standards and success criteria and use the collected information and data to assess the effectiveness of the conservation program in meeting the HCP's biological goals and objectives. Management actions would be adjusted based on the relative success of the management actions in meeting the biological goals and objectives.

Based on ongoing adaptive management and monitoring of the covered species and scientific information currently available, CDPR expects that the management actions contained in the

HCP represent the best management practices at this time. The adaptive management strategy recognizes uncertainty in the responses of species to natural systems, and new different management techniques not identified in the HCP may become available that may be more effective in achieving the biological goals and objectives of the HCP. Use of adaptive management is proposed to provide management flexibility to best afford protection for the covered species. Adaptive Management is described in HCP section 5.6.

2.4.3.5 HCP Implementation

CDPR is the Permittee. The HCP would be implemented out of the Oceano Dunes District, with the District Superintendent having implementation responsibility supported by District and other CDPR staff. HCP implementation is described in detail in HCP chapter 6.

2.5 REQUIRED PERMITS AND APPROVALS

2.5.1 Oceano Dunes Habitat Conservation Plan

The following approvals are required for the proposed HCP:

- USFWS, Ventura Fish and Wildlife Office: Issuance of an ITP to California State Parks, Oceano Dunes District for four endangered or threatened wildlife species: CLTE, SNPL, CRLF, tidewater goby
- CDPR, Oceano Dunes District: Approval of the Oceano Dunes District HCP; certification of the EIR pursuant to CEQA

CDFW is not a permitting agency for the federal ITP supported by this HCP. It is anticipated, however, that CDFW will consult this HCP as part of its review of supporting documents in consideration of issuing an ITP pursuant to California Fish and Game Code section 2835 (NCCP) as described below in EIR section 2.5.2. CDPR may also seek coverage for take of state-listed plants via Fish and Game Code section 2081 (b).

2.5.2 Natural Community Conservation Plan

In a related but separate action, CDPR is preparing an application to CDFW for approval of a NCCP and issuance of an ITP for take of CLTE, which is a state-listed endangered species and a state fully protected species under California Fish and Game Code. The NCCP is in an early stage of development and will be subject to separate CEQA review.

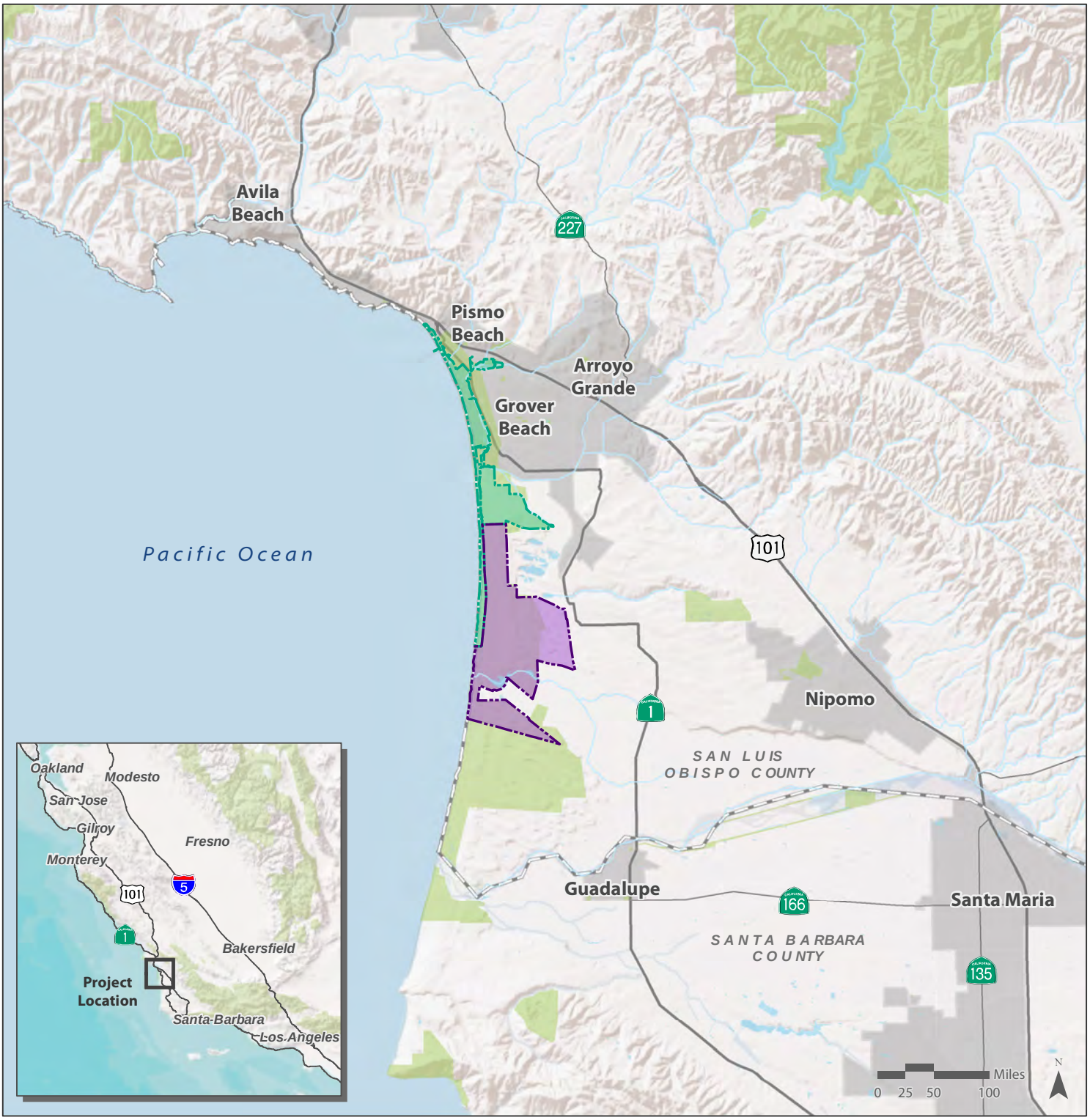
2.5.3 New Proposed and Future HCP Covered Activities

No subsequent approvals are required for the HCP proposed new covered activities of SNPL chick and egg capture for captive rearing (CA-12b), mechanical trash removal (CA-21), reduction of the Boneyard Exclosure and 6 Exclosure boundaries (CA-50), and CDPR's use of UAS (CA-52).

Potential future activities covered by the HCP may require subsequent review or approvals from the following agencies at the time the activities are proposed.

- CDPR: Environmental review and approval pursuant to CEQA
- USACE: Nationwide Permit or Individual Permit under the Clean Water Act, section 404

- RWQCB: Water Quality Certification under Clean Water Act section 401
- CDFW: Streambed Alteration Agreement under Fish and Game Code section 1600 *et seq.*
- CCC: CDP
- SLO County: CDP under the County Local Coastal Program (LCP)
- City of Pismo Beach: CDP under the Pismo Beach LCP
- City of Grover Beach: CDP under the Grover Beach LCP
- State Lands Commission: for projects that extend into state waters
- SLOAPCD: compliance review with Abatement Order and future PMRP



HCP Area

- Oceano Dunes SVRA
- Pismo State Beach

Base Map Features

- Public park land
- Urban area
- County boundary
- Waterbody
- Stream
- Highway
- Major road

February 2020
Source: CDPR, 2020; SLO Co Open GIS, 2017; MIG, 2020

Figure 2-1 Regional Location

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

HCP Area Boundaries

- Oceano Dunes SVRA
- Pismo State Beach

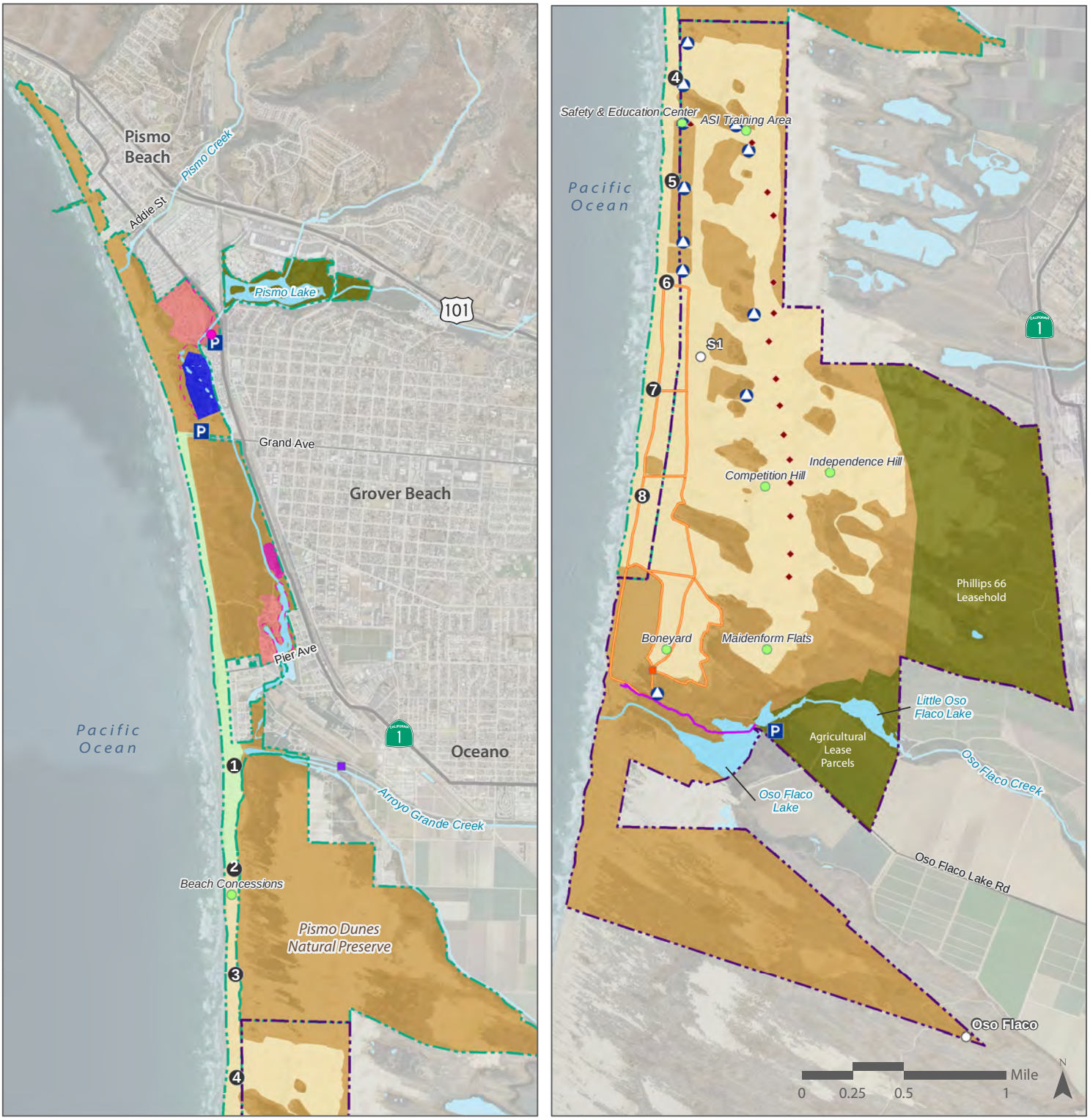
Base Map Features

- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-2 HCP Area Overview

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



Land Use & Facilities

- Campground
- Golf course
- Ranger station
- Street legal vehicles only
- Open to riding and camping
- Closed to motorized vehicles
- Closed to all public use
- Trail
- Oso Flaco boardwalk

- Parking
- Restrooms
- Boneyard gate
- Guiton crossing
- Air quality monitor
- OHV landmark
- Monarch butterfly grove
- Sand Highway*

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Seasonal exclosure
- Marker post
- Waterbody
- Stream
- Highway
- Access road

*Approximate location

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-3 Land Use and Facilities

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Land Use & Facilities

- Campground
- Golf course
- Ranger station
- Street legal vehicles only
- Open to riding and camping
- Closed to motorized vehicles
- Closed to all public use
- Trail
- Unofficial trail*
- Wind fencing
- Parking
- Guiton crossing
- Monarch butterfly grove
- Pismo Lake spillway

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

*Approximate location

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-4 Land Use and Facilities Detail

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Photograph 1: Park entrance at Grand Avenue

Photograph 2: Park entrance at Pier Avenue

Figure 2-5 Photographs of Site

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Photograph 3: Sand dune formation in open riding area

Photograph 4: Vegetated sand dunes in southern portion of open riding area








Photograph 5: Recreational uses at Pismo State Beach and Oceano Dunes SVRA

Figure 2-5 Photographs of Site

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Photograph 6: Safety and Education Center kiosk

Photograph 7: Shoreline west of 6 Exclosure looking south

Photograph 8: Seasonal exclosure fencing in southern portion of SVRA riding area near Oso Flaco Lake

Photograph 9: Seasonal exclosure signage

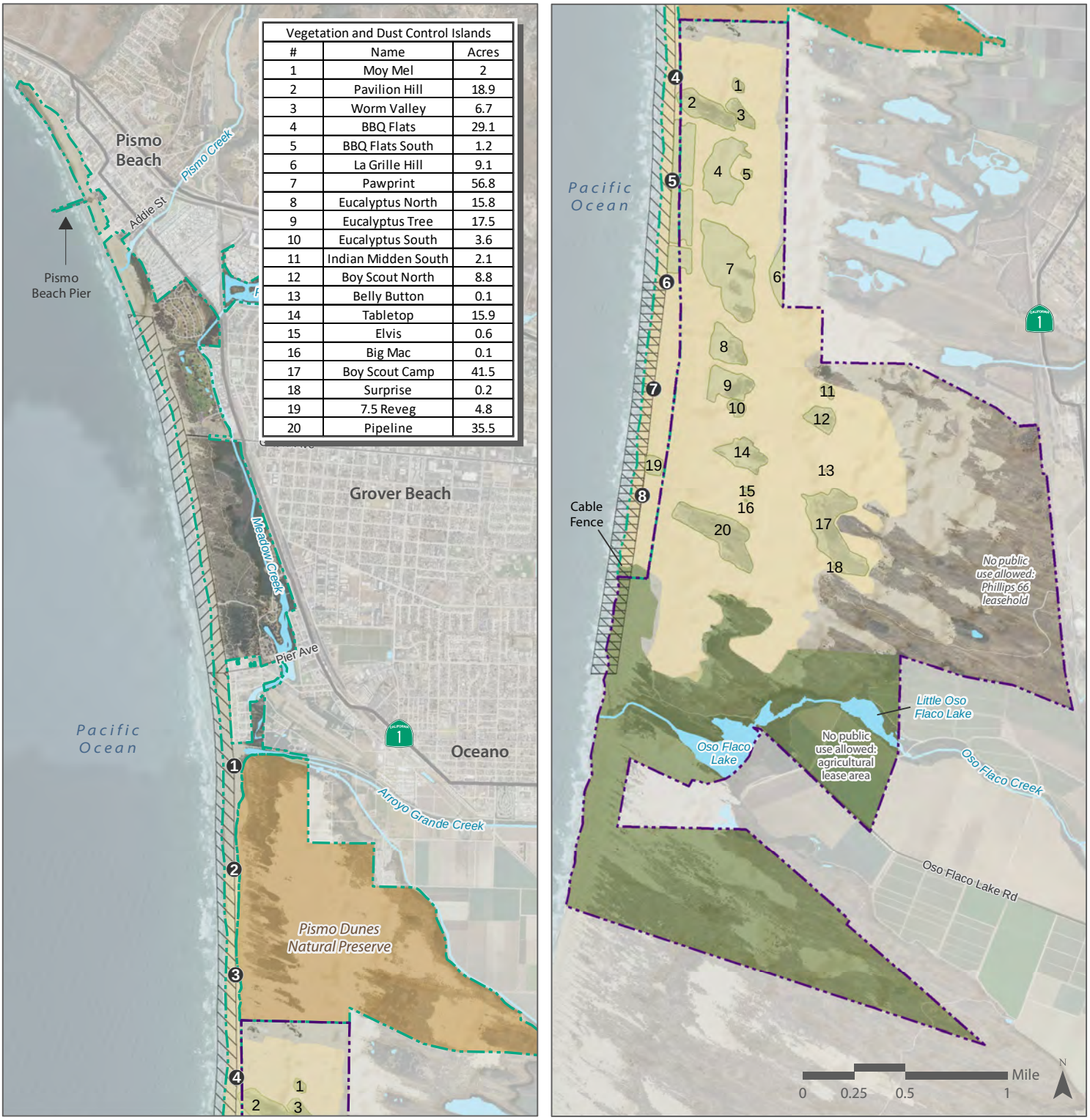
Photograph 10: Seasonal exclosure bumpout

Photograph 11: Dust control program wind fencing at Eucalyptus Tree

Photograph 12: Dust control program wind fencing at Tabletop

Photograph 13: Oso Flaco Lake Boardwalk

Photograph 14: Oso Flaco Boardwalk kiosk and dune access



Recreational Restrictions

- Dogs prohibited
- Dogs and horses prohibited
- Open to riding and camping
- Vegetation and dust control islands - closed to riding and camping

Kiteboarding landing/launching

- Wet/dry allowed
- Wet only
- Seasonal

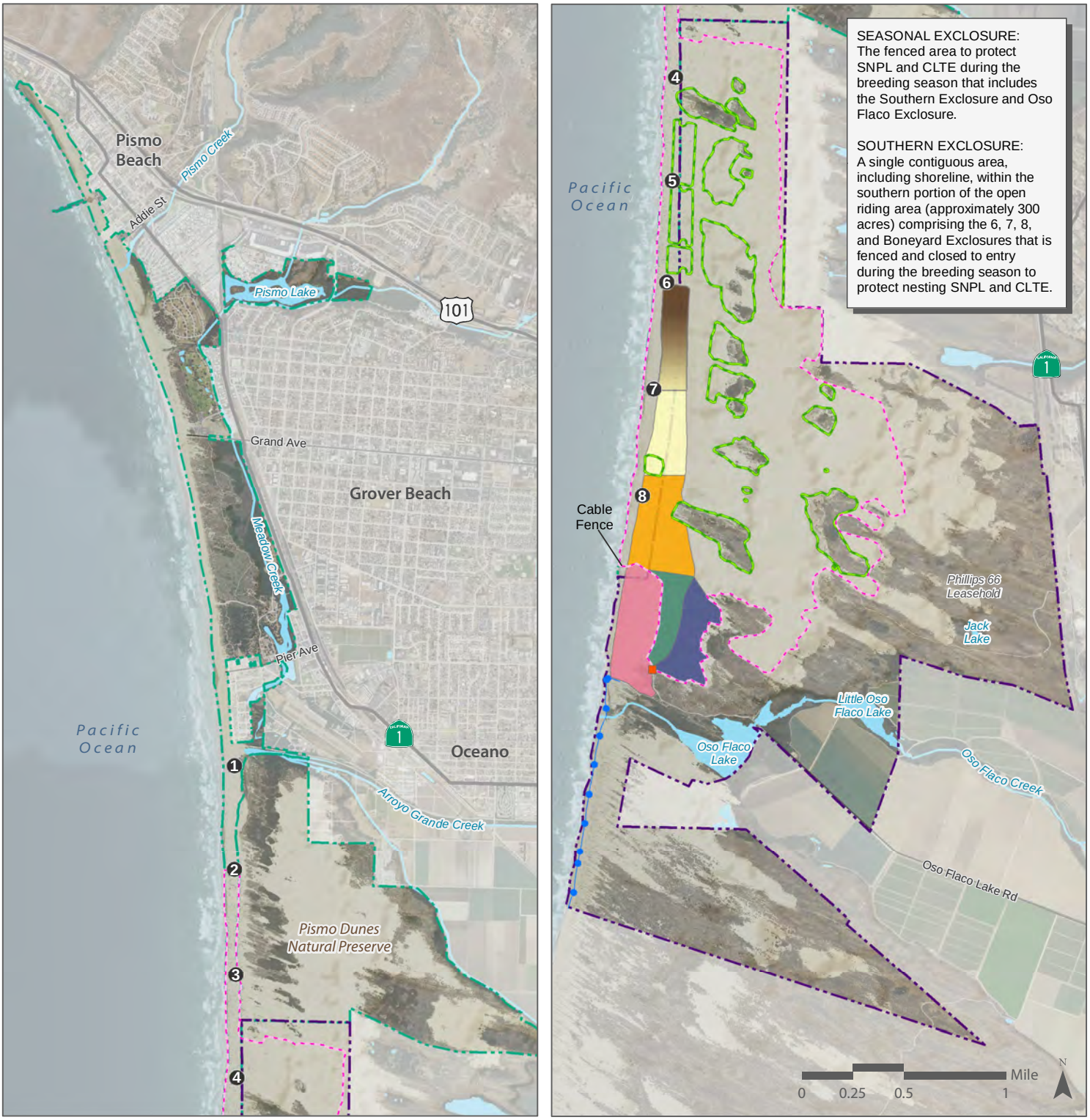
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-6 Recreational Restrictions

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



Seasonal Exclosures
- 6 Exclosure
- 7 Exclosure
- 8 Exclosure
- East Boneyard
- West Boneyard
- North Oso Flaco

Fencing & Boundaries
- Vegetation island and dust control fencing
- Riding area boundary
- S. Oso Flaco symbolic fence
- Boneyard gate

Base Map Features
- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-7 Western Snowy Plover and California Least Tern Management

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Proposed New Covered Activities

- CA-21 Mechanical trash removal*
- CA-50 6 Exclosure reduction*
- CA-50 Boneyard Exclosure reduction*

*Approximate location

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Seasonal exclosure
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 2-8 Proposed New Covered Activity

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Chapter 3 IMPACT ANALYSIS METHODOLOGY

3.1 ANALYTICAL METHODOLOGY

In evaluating the proposed HCP's potential impacts, CDPR employed the following analytical methodology:

Step 1: Incorporation of Avoidance and Minimization Measures (AMMs). The EIR incorporates AMMs identified in the proposed HCP as project components that are designed to minimize impacts to the existing environmental setting. The application of AMMs is presumed and therefore they are not considered mitigation measures but rather resource protection measures that are part of the proposed HCP. Thus, the application of these measures is considered prior to making a finding of significance for project impacts.

Step 2: Compliance with Applicable Laws, Ordinances, Statutes, and Regulations. The EIR presumes, unless specifically noted, that actions covered by the HCP would be designed, constructed, operated, and maintained in accordance with the applicable requirements described in the regulatory setting discussion. The regulatory setting is not intended to be exhaustive; rather, it is intended to provide a summary of key regulatory requirements that materially affect the relationship between the project's design, construction, operation, and maintenance and potential environmental impacts. In addition, the regulatory setting does not summarize regulations that do not apply to the proposed HCP's components and activities.

Step 3: Identification of Existing Physical Conditions. The EIR identifies the existing physical environmental conditions that exist in the proposed HCP area that could change as a result of the HCP activities and components. The environmental setting generally reflects the physical environmental conditions of the HCP area as they currently exist. Existing park operations are part of the environmental setting, including visitor use, visitor services, park operations and maintenance, and natural resource management. Any environmental impacts that may be associated with current park operations are part of the environmental setting. This setting constitutes the baseline physical conditions by which CDPR is determining whether the physical change that occurs to the environment as a result of the proposed HCP is significant. In accordance with CEQA Guidelines section 15125(a), the environmental setting describes only those physical environmental conditions necessary to understand the significant effects of the proposed HCP and its alternatives.

Step 4: Identification of EIR Scope and Treatment of Future Activity. The EIR impact analysis is limited in scope to the environmental assessment of activities proposed by the HCP (Table 2-4.) that would result in a physical change to the environment. Existing park operations are part of the existing physical setting of the HCP project site and are baseline conditions for evaluating the proposed HCP project and do not need to be authorized. Therefore, existing park operations are not evaluated for impacts as new activities. The HCP identifies both immediate and potential future actions that would modify park operations and cause a physical change to the environment. The impacts associated with future activities are assessed in the cumulative impacts to the degree that detail is known. HCP approval and issuance of a federal permit for biological impacts does not constitute approval or commitment by subsequent permitting agencies to approve future activities. The purpose of the EIR is to address the environmental effects of approving the HCP, which supports a federal permit for incidental take of federal protected species. Therefore, the scope of the EIR is limited in its assessment of future activities

and does not include a project-level assessment of future activities proposed by the HCP. Because they are well defined and may be implemented upon ITP issuance, the EIR does fully address all potential impacts of the new HCP proposed activities identified in Table 2-4. These activities include mechanical trash removal (CA-21), reduction of 6 Exclosure and Boneyard Exclosure boundaries (CA-50), and CDPR's use of drones (UAS) for data collection (CA-52).

The EIR is limited in scope to activities proposed by the HCP. The purpose of the HCP is to protect, conserve, and restore the natural resources at Pismo State Beach and Oceano Dunes SVRA while allowing CDPR to continue to operate the park units for public use and enjoyment (HCP section 1.1.1). As described in EIR section 1.3, it is not the role or intent of the HCP to review or modify the parameters of existing park operations.

Step 5: Collection and Use of Scientific Data. The EIR analysis is based on the best available science and field survey data. CDPR has annually collected data on park resources and performed individual specialized studies, assisted by qualified professionals both in the public and private sector. CDPR has engaged with resource agencies (e.g., USFWS, CDFW, CCC, and SLOAPCD) and utilized a scientific advisory group comprised of agency representatives and environmental scientists during the course of the HCP preparation. The data has been used for the environmental review contained in this EIR.

Step 6: Analysis of Project Impacts. The EIR evaluates the significance of the HCP's potential impacts, (the change to the physical environmental conditions that could result from implementation of the HCP) on the full range of resources identified in Appendix G to the CEQA guidelines. Pursuant to CEQA Guidelines section 15126, this EIR analyzes the potential environmental impacts stemming from all phases of the proposed HCP. This examination is based on the incremental change to the existing physical conditions that would result from the implementation of the proposed HCP and considers the public comments submitted by agencies and interested individuals during the 30-day public review period for the 2018 NOP. The EIR's impact analyses consider the direct and indirect impacts of the proposed HCP, as well as the short-term and long-term impacts of the HCP, and enable CDPR to determine if the proposed HCP would have a beneficial impact, no impact, a less-than-significant impact, a potentially significant impact, or a significant and unavoidable impact to the environment.

Step 7: Inclusion of Mitigation Measures. The EIR describes the feasible mitigation measures proposed to avoid or minimize the HCP's significant impacts. Project mitigation measures are in addition to the standard and specific resource protection measures incorporated into the HCP, and generally require CDPR to avoid, prevent, or minimize impacts to resources, or—if impacts do occur—to rehabilitate, restore, or compensate for the impact in a manner that is proportional to the HCP impact.

3.2 PROJECT IMPACTS FOUND NOT TO BE SIGNIFICANT

CDPR has determined, using the Environmental Checklist Form contained in CEQA Guidelines Appendix G as a guide, that implementation of the proposed Oceano Dunes District HCP would clearly result in no impact or a less-than-significant impact to the following resources due to absence of the resource or the nature of the project as proposed; impacts to these resources were therefore dismissed from further detailed analysis. A discussion of these resource impacts is presented in Chapter 10.

- Aesthetics
- Agricultural and Forest Resources
- Geology and Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Transportation
- Utilities and Service Systems
- Wildfire

In addition, where applicable, Chapters 4–8 identify impacts that would not occur or would be clearly less than significant and dismissed from further evaluation. These impacts are identified under the "Thresholds of Significance" subheading of each impact analysis chapter.

3.3 CUMULATIVE IMPACTS

3.3.1 Introduction

CEQA Guidelines section 15130 requires that an EIR evaluate a project's cumulative impacts to determine if the project's incremental effect is cumulatively considerable. As defined in section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (14 CCR § 15355).

As set forth in the CEQA Guidelines, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone (14 CCR § 15130(b)). As stated in CEQA, "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable" (PRC § 21083(b)). An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR (14 CCR § 15130(a)(1)). The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable (14 CCR § 15064(h)(4)). The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects

contribute rather than the attributes of other projects that do not contribute to the cumulative impact (14 CCR § 15130(b)).

3.3.2 Geographic Scope

The geographic area that could be affected by the Oceano Dunes HCP and its proposed new activities varies depending upon the environmental resource being evaluated. The geographic scope of each resource is identified in the environmental and regulatory setting of each EIR chapter. Some resources, such as air quality, land use planning, and recreation, have a regional geographic scope. Other resources, such as cultural resources, have a localized geographic scope. Biological resources have both site-specific and regional geographic scopes, dependent upon the individual resource being evaluated.

3.3.3 Cumulative Project List

CEQA Guidelines (§ 15130(b)(1)(A)) allow for the use of a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency for the cumulative impact analysis. The cumulative analysis includes projects that would result in similar impacts as the proposed HCP due to their potential to contribute collectively to significant cumulative impacts. Sources of information on past, present, and probable future projects include OHMVR Division staff and the websites for the planning or community development departments of San Luis Obispo County, the City of Pismo Beach, the City of Grover Beach, and the Oceano Community Services District. The projects considered for the cumulative impact analysis are identified in Table 3-1. The future HCP projects with specific known locations are shown in Figure 3-1 Potential Future HCP Covered Activities. Potential CDPR projects being considered for inclusion in the PWP are shown Figure 3-2 CDPR Public Works Plan Projects.

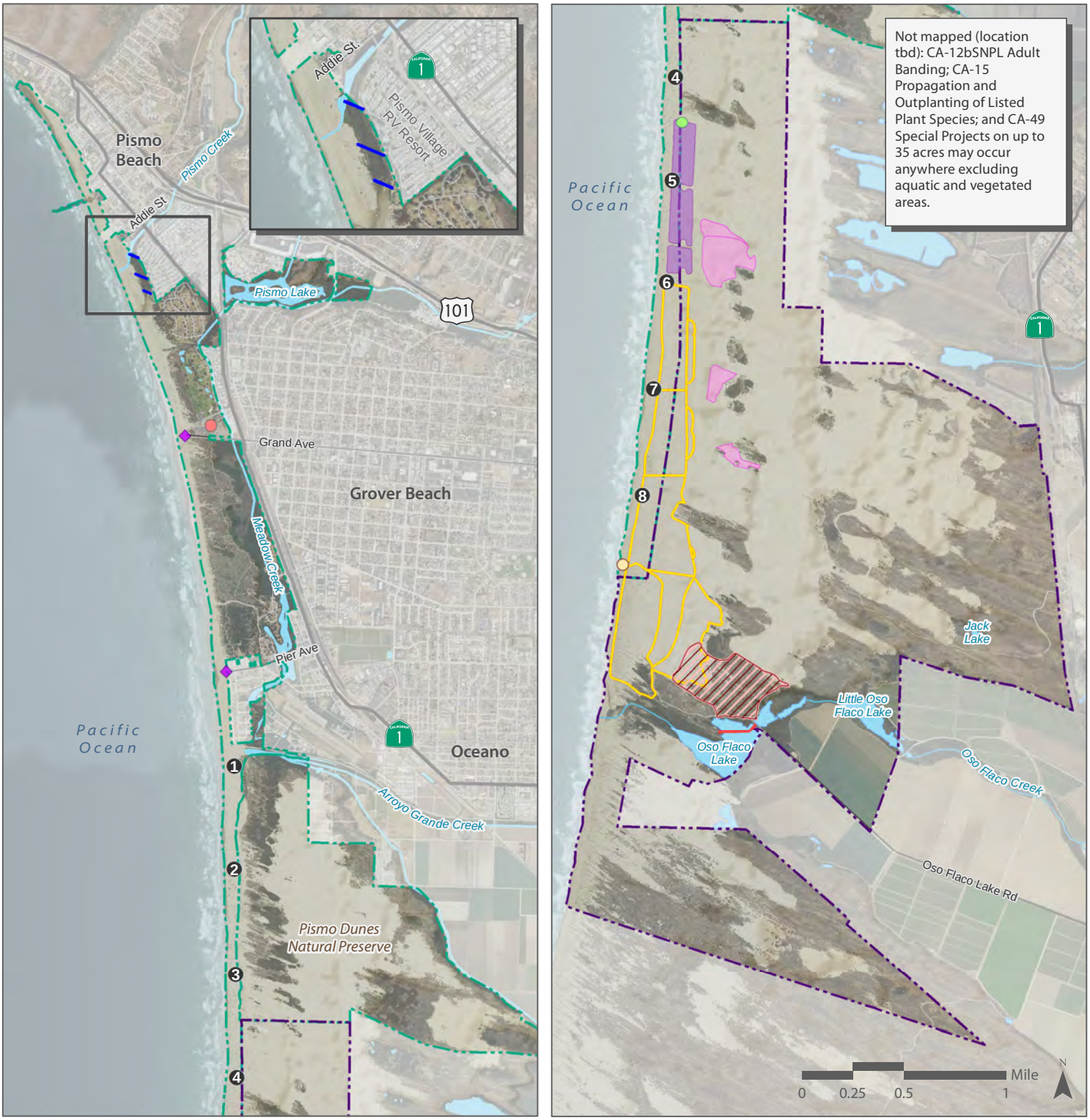
As described in HCP section 2.2.7, CDPR is currently preparing a PWP. The PWP is a long-range land use management plan for compliance with the California Coastal Act that is reviewed and certified by the CCC. The PWP will include site-specific proposed park improvement projects, including those listed in Table 3-1. CDPR has held multiple public input meetings and is further refining project concepts and preparing an EIR. The PWP projects are reasonably foreseeable future projects and included in the HCP EIR cumulative impact analysis. Because the PWP is in its planning phase, the PWP projects are not yet fully defined and are subject to revision. An “X” in Table 3-1. denotes which impacts from these projects could combine with the proposed HCP to create a cumulative impact. These cumulative impacts are addressed in the individual environmental resource chapters. Project impacts found to be absent as identified in EIR section 10.3 have no potential for cumulative impacts and are not considered in the cumulative analysis.

Table 3-1. List of Future Projects and their Potential for Cumulative Impacts with HCP Proposed New Activities

Project Type	Location	Project Impact					Status
		Land Use	Air Quality	Biology	Cultural / Tribal	Recreation	
Oceano Dunes District HCP Covered Activities – Potential Future Projects							
CA-12b SNPL Adult Banding	Oceano Dunes SVRA			X			Potential Future
CA-15 Listed Plant Management – Propagation and Outplanting	Pismo State Beach and Oceano Dunes SVRA			X			Potential Future
CA-28 Cable Fence Maintenance - Replacement	Oceano Dunes SVRA			X			Potential Future
CA-38 Grover Beach Lodge and Conference Center (150-unit lodge and conference center)	Pismo State Beach. West end of Grand Ave. in Grover Beach	X	X	X		X	Approved in 2012 but not built
CA-41 Pismo Creek Estuary Seasonal (Floating) Bridge	Pismo State Beach. Near Pismo Coast Village RV Park in Pismo Beach			X		X	Potential Future
CA-42 Riding in 40 Acres (OHV trail)	Oceano Dunes SVRA. East of Boneyard near Oso Flaco Lake		X	X	X	X	Tentative. CDPR exploring options
CA-43 Replacement of the Safety and Education Center	Oceano Dunes SVRA. Near Post 4			X	X	X	Potential Future
CA-44 Dust Control Activities – New PMRP	Oceano Dunes SVRA.	X	X	X	X	X	Active Planning. Draft Plan released June 2019. CEQA review in 2020.
CA-48 Oso Flaco Lake Boardwalk Replacement	Oceano Dunes SVRA. Oso Flaco Lake			X	X	X	Potential Future
CA-49 Special Projects	Pismo State Beach or Oceano Dunes SVRA		X	X	X	X	Potential Future
CDPR Public Works Plan Projects							
Project A: Oso Flaco Campground and Day Use Project	Oceano Dunes SVRA. Near Oso Flaco Lake	X	X	X	X	X	Potential Future

Table 3-1. List of Future Projects and their Potential for Cumulative Impacts with HCP Proposed New Activities

Project Type	Location	Project Impact					Status
		Land Use	Air Quality	Biology	Cultural / Tribal	Recreation	
Project B: Park Corporation Yard Improvement Project	Pismo State Beach Corporation Yard. Highway 1 near Grover Beach	X	X	X	X		Potential Future
Project D: Oceano Campground Infrastructure Improvement Project	Pismo State Beach. Pier Avenue near Grover Beach	X	X	X	X	X	Potential Future
Project E: Grand Avenue and Pier Avenue Kiosks, Pier Avenue Lifeguard Tower	Pismo State Beach. Pier and Grand avenues near Grover Beach	X	X	X		X	Potential Future
Project F: North Beach Campground Facility Improvements	Pismo State Beach. In Pismo Beach	X	X	X	X	X	Potential Future
Project G: Butterfly Grove Public Access	Pismo State Beach. In Pismo Beach	X		X	X	X	Potential Future
Project H: Pismo State Beach Boardwalk	Pismo State Beach. Between Grand Ave. and Pier Ave. near Grover Beach	X	X	X	X	X	Potential Future
U.S. Fish and Wildlife Service							
Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan	Guadalupe-Nipomo Dunes National Wildlife Refuge south of Oso Flaco Lake Natural Area			X		X	Approved in 2016
Local Agencies							
Arroyo Grande Creek Channel Waterway Management Plan (sediment and vegetation removal)	Arroyo Grande Creek			X			Approved in 2010



Potential Future Covered Activities

- CA-28 Cable fence replacement
- CA-38 Grover Beach Lodge
- CA-41 Pismo Creek Estuary bridge options
- CA-42 Riding in 40 Acres
- CA-43 Safety & Education Center replacement
- CA-44 PMRP, Track-out device
- CA-44 PMRP, Foredune to be planted
- CA-44 PMRP, Wind fencing converting to vegetation
- CA-48 Oso Flaco Lake boardwalk replacement

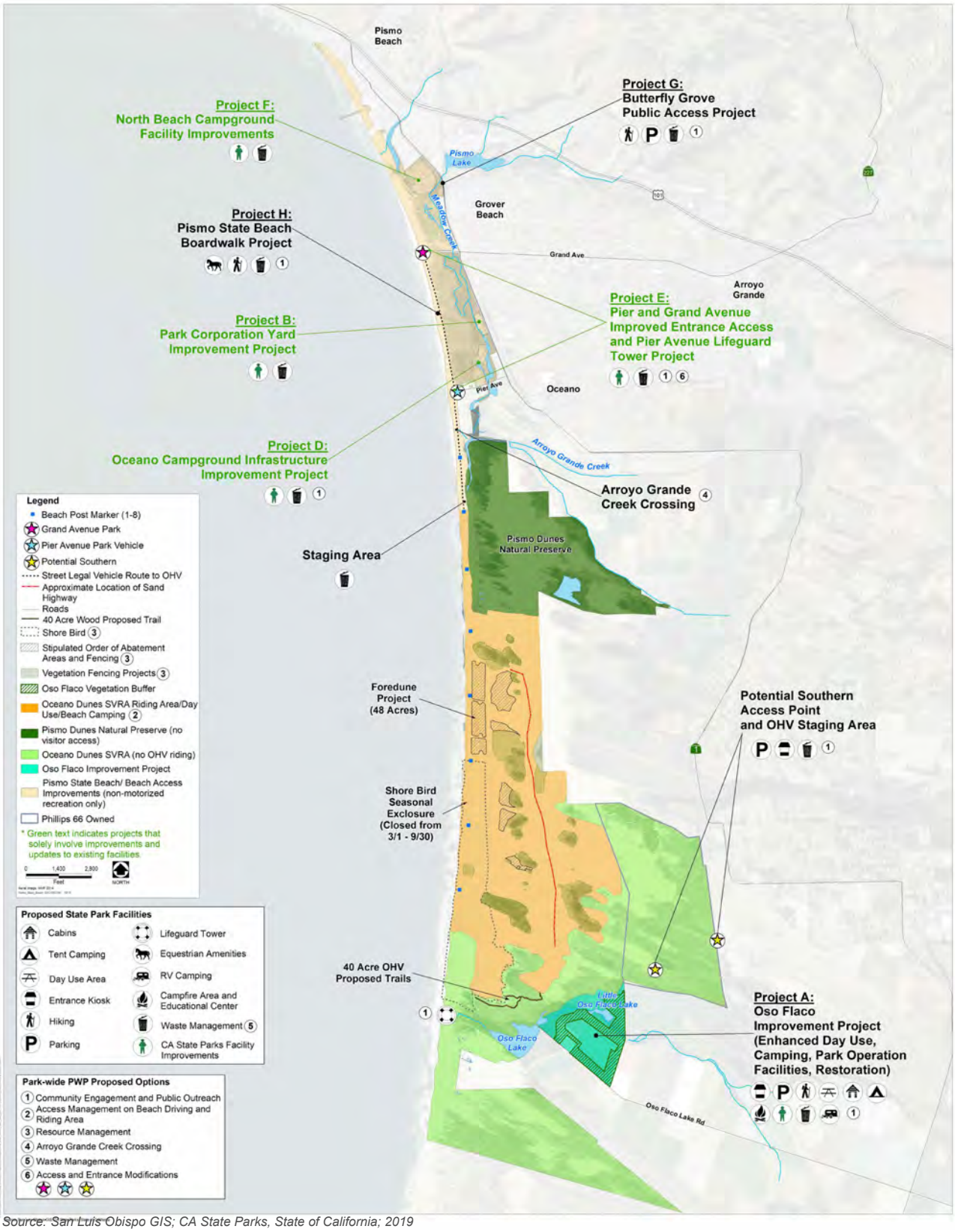
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Seasonal exclosure
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 3-1 Potential Future Covered Activity

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



Source: San Luis Obispo GIS; CA State Parks, State of California; 2019

Figure 3-2 Cumulative Projects from PWP Scoping Meetings

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

Chapter 4 LAND USE PLANS AND POLICIES

4.1 REGULATORY SETTING

The proposed HCP's new activities would be conducted on state-owned and state-operated land that, with the exception of coastal development permitting typically conducted through local agencies, is not subject to local land use restrictions and zoning regulations. None of the four HCP proposed new activities (SNPL chick and egg capture for captive rearing [CA-12b]; mechanical trash removal [CA-21]; seasonal exclosure reductions [CA-50]; or CDPR's use of UAS [CA-52]) require a new CDP. Thus, this chapter does not incorporate San Luis Obispo plans and policies that may apply to contemplated future projects proposed for ITP coverage, as those activities would be reviewed for CEQA and permitting purposes when they are proposed by CDPR (see section 2.4.2.3 and Chapter 3).

4.1.1 California State Parks – Pismo State Beach and Pismo Dunes SVRA General Development Plan and Resource Management Plan

The Pismo State Beach and Pismo Dunes SVRA General Development Plan and Resource Management Plan was approved in April 1975 (CDPR, 1975). The purpose of the plan was to address the then-overcrowded conditions at the park units and provide a guidance document to direct growth and management of park resources into the future. The General Development Plan and Resource Management Plan makes recommendations regarding controlled vehicle access, reduction in vehicle traffic on the beach, and continuity in its administration of recreational lands and expansion of park lands through acquisition of private and public lands.

The General Development Plan has been amended twice. In 1982 it was amended to allow for the Grover Beach Lodge at Grand Avenue (CDPR, 1982a). It was amended again in 1994 (CDPR, 1994) to reflect the results of the Pismo Dunes SVRA Access Corridor Project, which concluded that the Grand and Pier Avenue entrances were the Environmentally Preferred alternative, together with the staging area that remains in use today (CDPR, 2004). Pismo Dunes SVRA is now called Oceano Dunes SVRA.

Pismo State Beach and Oceano Dunes SVRA fall under three different park classifications: State Beach (PRC § 5019.56(c)), Natural Preserve (PRC § 5019.17), and SVRA (PRC § 5090.43). The PRC describes these classifications and prescribes management and operations guidelines specific to each classification (HCP section 1.5.8).

Pismo State Beach. Pismo State Beach was established in 1934 and expanded through acquisitions. It presently comprises 1,515 acres. This beach extends southward from the City of Pismo Beach for approximately 7.5 miles. The park unit encompasses beach, creeks and lagoons, natural dunes, campgrounds, and a golf course (Figure 2-4). The Resource Management Plan sets forth the following declarations for Pismo State Beach:

> **Declaration of Purpose:** The purpose of Pismo State Beach is to make available to the people an outstanding coastal area of beach and sand dunes located in and southward from the City of Pismo Beach in San Luis Obispo County. Specific recreational activities to be perpetuated and provided for include the aesthetic enjoyment of dunes and shore; beach vehicular travel, when consistent with the perpetuation of the natural values; camping, both

> in established inland facilities and on the beach in appropriate zones; fishing and clamming under appropriate applicable regulations; and walking or riding horseback in the sand dune areas.
>
> **Declaration of Management Policy:** Pismo State Beach will be managed by CDPR to perpetuate and enhance the recreational opportunities afforded by this outstanding coastline, together with the scenic and natural features upon which such recreational opportunities depend; to regulate the various uses in the interest of the safety and enjoyment of visitors; and to coordinate the various activities and uses in such a way that the resources of the area are protected and perpetuated to ensure their continuous availability to the people. All activities within Pismo State Beach shall be carried out under the guidelines established by the Resource Management Directives of CDPR.

Pismo Dunes Natural Preserve (Dunes Preserve). The Pismo Dunes Natural Preserve is managed under the Pismo State Beach park unit. The preserve was established in 1974 and comprises 695 acres of vegetated and bare sand dunes. The Resource Management Plan sets the following declarations for the Pismo Dunes Natural Preserve:

> **Declaration of Purpose:** Pismo Dunes Natural Preserve is established to perpetuate in essentially natural condition a substantial tract of sand dunes in an area where they attain outstanding development and where they may easily be visited and enjoyed by interested persons. Full protection is also afforded to all archaeological sites located within the unit and to all natural vegetation and wildlife occurring within it.
>
> **Declaration of Management Policy:** CDPR will manage the [Dunes Preserve] in accordance with the Public Resources Code 5001.5(f) and with the CDPR Resource Management Directives. It will be kept free not only of roads, structures, and other facilities, but also of dune stabilization projects of all kinds. Motorized vehicles of any type, except in cases of extreme emergency, are prohibited.

Oceano Dunes SVRA. SVRAs consist of lands selected, developed, and operated to provide OHV recreation opportunities. Areas must be developed, managed, and operated for the purpose of providing the fullest appropriate public use of the vehicular recreational opportunities present, in accordance with the Off-Highway Motor Vehicle Recreation Act of 2003 (PRC § 5090.01 *et seq.*), while providing for the conservation of cultural resources and the conservation and improvement of natural resource values over time. Oceano Dunes SVRA is 3,490 acres and is contiguous with Pismo State Beach. As a result, the vehicle operations at Pismo State Beach and Oceano Dunes SVRA are managed as an SVRA. Between the two park units, approximately 1,305 acres are set aside for OHV use in what is called the “open riding area,” the majority of which is within Oceano Dunes SVRA. Within the SVRA, well over 2,100 acres outside of the open riding area are maintained in a largely natural state and 202 acres are leased as agricultural land.

The General Development Plan provides the following Declarations of Purpose and Management Policy for Oceano Dunes SVRA:

> **Declaration of Purpose:** [Oceano] Dunes SVRA is to make available to the people opportunities for recreational use of OHVs in a large area of unstabilized sand dunes exceptionally adapted to this recreational activity; to regulate such uses in the interest of visitor safety and environmental protection; and to provide appropriate related facilities to serve the users of the area. At the same time, the area is established to afford protection to surrounding stabilized sand dunes that embrace some areas of great ecological interest and significance, including freshwater lakes. These areas are important not only in their own right, but also as key elements in the environment within which the vehicular activities will take place and in the quality of the visitor experience arising from those activities. This protection is to be afforded by exclusion of vehicular activities, by establishment of natural preserves in appropriate locations, and by other measures as required.
>
> **Declaration of Management Policy:** CDPR will manage … [Oceano] Dunes SVRA in ways that perpetuate and enhance the uses and values enumerated in the declaration of purpose, that reduce or eliminate conflicts between patterns of use arising from the kinds of resources present in the area, and that forward mutual understanding between the diverse groups of visitors and interested persons who use this area for various recreational and scientific pursuits. Operating and management procedures will provide for the protection and perpetuation of the several islands of vegetation existing within the designated vehicular use areas. All departmental activities at… [Oceano] Dunes SVRA will be carried out within the guidelines established by the Resource Management Directives of CDPR.

4.1.2 California State Parks – Department Operations Manual

The Department Operations Manual (CDPR, 2005a) states the following department policy regarding management and protection of special-status species and beach grooming relevant to SNPL chick and egg capture for captive rearing (CA-12b), exclosure reductions (CA-50), and mechanical trash removal (CA-21). The DOM does not state policy specific to drone use (CA-52).

0310.5.1 Protection of Rare, Threatened and Endangered Plants and Their Habitats Policy. It is the policy of the Department to protect rare plants and their habitats in fulfillment of its mission to help preserve the State's extraordinary biological diversity, and in accordance with the California Endangered Species Act and the California Native Plant Protection Act. These taxa and habitats will be protected in the context of the native environmental complexes in which they evolved, when feasible.

0310.5.3 Park Projects and Plant Species of Concern Policy. Prior to conducting projects such as facility development or exotic plant eradication, the Department will determine whether any plant species of concern are in the proposed project area. If plant species of concern are found, the Department will attempt to modify the project to avoid impacts to populations of these plants.

Permits, such as an Incidental Take Permit from the California Department of Fish and Game (CDFG) (California Fish and Game Code § 2081), are required if the proposed project cannot be relocated or re-designed to avoid impacts to plants listed as Threatened or Endangered under the California Endangered Species Act. Project proponents will contact the CDFG to obtain necessary permits.

If a project is proposed for an area containing plants listed under the Federal Endangered Species Act and the proposed project is on Federal property, Federal funds are being used, or a Federal permit (such as a Clean Water Act 404 Permit) is required, a Section 7 Consultation with the U.S. Fish and Wildlife Service (USFWS) or an Incidental Take Permit from the USFWS may be required. When there is such a Federal nexus, the USFWS should be consulted for guidance in fulfilling requirements of the Federal Endangered Species Act (see DOM Section 0315.3.1).

0311.4.2 Beach Grooming. Sandy coastal beaches are prime recreational assets of the State Park System but are also important ecosystems with characteristic physical and biological processes and inhabitants. Beach wrack consists of rafts of offshore kelp that are carried in by the wind and tides and deposited on the beach, providing food and shelter for the organisms that reside in and on it.

Beach grooming, or the routine mechanical removal of trash and other debris, is carried out on some coastal beaches for public safety and/or aesthetic reasons, especially on beaches that are heavily used for recreation. Beach grooming does not refer to annual beach clean-up events or one-time efforts following large storms. Evidence suggests that grooming using mechanical rakes in some instances alters natural beach processes by reducing the establishment of native beach plants, widening the portion of beach exposed to wind transport of sand and potentially exacerbating sand loss.

0311.4.2.1 Beach Grooming Policy. Where needed, coastal districts will develop beach grooming strategies that are appropriate for the primary purpose for which the unit was established, the classification of the unit, the amount of public use the beach receives, and in consideration of potential impacts to natural resource values and processes. The districts should limit the amount or type of grooming used to that necessary for public health and safety, while allowing natural physical and biological uses of beach wrack to continue.

0311.5.2.1 Special Animal Policy. It is the policy of the Department to protect species listed under the federal or state endangered species acts that are native to State Park System units. The Department will conserve listed species and avoid detrimental effects by:

a. Participating in the recovery planning process;

b. Working with other agencies to help ensure that any formal delineation of critical habitat, essential habitat, and/or recovery areas on State Park System lands is compatible with State Park System management goals; and

c. Cooperating with responsible state and federal agencies to support the protection and recovery of listed species by maintaining the species and the habitats upon which they depend and reducing negative impacts when feasible.

0311.5.2.3 Park Projects and Animals of Special Concern. Prior to conducting projects such as facility development, habitat restoration, or exotic plant eradication, the Department will determine whether any animal species of concern are found in the proposed project area. The Department will attempt to modify the project to avoid impacts to populations of sensitive

animals found in or near to the proposed project area. Permits, such as an Incidental Take Permit from the CDFG (Fish and Game Code § 2081), are required if the proposed project cannot be relocated or re-designed to avoid impacts to animals listed as threatened or endangered under the California Endangered Species Act. Departmental project proponents will consult with the CDFG to obtain any necessary permits.

If a proposed project may cause harm to animals listed under the Federal Endangered Species Act, an Incidental Take Permit from the USFWS or NOAA Fisheries may be required if the project is on Federal property, Federal funds are being used, or a Federal Permit (such as a Clean Water Act 404 Permit) is required. When there is such a federal nexus, the USFWS or NOAA Fisheries should be consulted for guidance in fulfilling requirements of the Federal Endangered Species Act.

4.1.3 California Coastal Act

The California Coastal Act (PRC § 30000 *et seq.*) identifies the Coastal Zone as a valuable natural resource that should be protected from deterioration and destruction to promote public safety, health, welfare, and to protect public and private property, wildlife, marine fisheries, other ocean resources, and natural environment. The Coastal Zone runs the length of California's coastline, from the Oregon border to the Republic of Mexico, and extends inland generally 1,000 yards from the mean high tide line. In significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline paralleling the sea or 5 miles from the mean high tide line of the sea, whichever is less. In developed urban areas, the zone generally extends inland less than 1,000 yards. The Coastal Act ensures that existing developed uses and future developments are carefully planned and developed consistent with the policies of the Coastal Act. The Coastal Act also constitutes California's Coastal Zone Management Program within the Coastal Zone for purposes of the Federal Coastal Zone Management Act of 1972 (16 U.S.C. § 1451, *et seq.*).

Relevant goals of the Coastal Act include protecting the overall quality of the Coastal Zone environment, assuring orderly, balanced utilization and conservation of Coastal Zone resources, maximizing public access and recreational opportunities consistent with resource conservation, and giving priority to coastal-dependent and coastal-related developments over other development on the coast. To achieve these goals, the Coastal Act sets forth specific policies that address issues, including, but not limited to, shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works.

The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and water in the Coastal Zone. Development activities, which include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a CDP from either the CCC or the local government. After the CCC certifies an LCP, the CCC's permitting authority is largely delegated to the local government (including appeals). The CCC retains appeal authority over certain local government permit decisions, including, but not limited to, developments between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of beach or mean high tide line where there is no beach, and developments within sensitive resource areas. It also retains original permit jurisdiction (and therefore appeal authority) over development on tidelands, submerged

lands, and public trust lands in the Coastal Zone, and it continues to enforce and consider amendments or extensions of CDPs that it issued prior to LCP certification.

4.1.3.1 Definitions

Chapter 2 of the Coastal Act (PRC § 30100 *et seq.*) defines the terms used in the Coastal Act. Relevant terms include the following:

- **"Coastal-dependent development or use"** means any development or use which requires a site on, or adjacent to, the sea to be able to function at all (PRC § 30101).
- **"Coastal-related development"** is defined as any use that is dependent on a coastal-dependent development or use (PRC § 30101.3).
- **"Development"** means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land…; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations…. As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line (PRC § 30101.3).
- **"Environmentally sensitive area"** means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments (PRC § 30107.5).
- **"Sensitive coastal resource areas"** means those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity, including: special marine and land habitat areas, wetlands, lagoons, and estuaries as mapped and designated in Part 4 of the coastal plan; areas possessing significant recreational value; highly scenic areas; archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the State Historic Preservation Officer (SHPO); special communities or neighborhoods which are significant visitor destination areas; areas that provide existing coastal housing or recreational opportunities for low- and moderate-income persons; areas where divisions of land could substantially impair or restrict coastal access (PRC § 30114).
- **"Wetland"** means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens (PRC § 30114).

4.1.3.2 Coastal Resources Planning and Management Policies

Chapter 3 of the Coastal Act (PRC § 30200 *et seq.*) sets forth the policies that constitute the standards for the adequacy of local coastal programs and development subject to the Coastal Act. Table 4-1. below summarizes the standards that apply to the proposed HCP new activities (i.e., SNPL chick and egg capture for captive rearing if in harm's way [CA-12b]; mechanical trash

removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]). Although CDPR does not seek a new or amended CDP, the HCP's consistency with these requirements is assessed below in EIR section 4.3.4 for informational purposes. It does not include Coastal Act standards that clearly do not apply to the proposed HCP new activities, such as standards related to land conversion, water-related activity, or new development.

Table 4-1. Coastal Act Planning and Management Policies Relevant to Oceano Dunes HCP

PRC Section	Title and Summary of Requirement
30210	**Access; recreational opportunities; posting:** Maximum access and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.
30213	**Lower cost visitor and recreation facilities:** Lower cost visitor and recreation facilities shall be protected, encouraged, and provided; developments providing public recreation are preferred.
30214	**Implementation of public access policies:** Public access policies shall take into account topographic and geologic site characteristics.
30223	**Upland areas:** Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.
30230	**Marine resources; maintenance:** Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance.
30231	**Biological productivity; water quality:** The biological productivity and the quality of coastal waters appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing substantial interference with surface waterflow, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.
30232	**Oil and hazardous substance spills:** Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials.
30240	**Environmentally sensitive habitat areas; adjacent developments:** Environmentally sensitive habitat areas shall be protected against significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas.
30253	**Minimization of adverse impacts:** New development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard; neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, and be consistent with requirements imposed by an air pollution control district or the State Air Resources Board.

4.1.3.3 Coastal Development Permit 4-82-300 (as amended)

Oceano Dunes SVRA operates under a CDP issued by the CCC in 1982 for installation of entrance kiosks at Grand and Pier avenues and fencing to protect wetlands and vegetated dunes. The CDP has been amended multiple times as shown in Table 4-2. The permit is subject to certain conditions related to (1) interim and permanent staging areas, (2) control of access to the park, (3) control of uses within the park, (4) restoration activities, (5) protection of archeological resources, and (6) annual review. The Oceano Dunes HCP does not propose any activities requiring an amendment to its existing CDP 4-82-300 conditions, as amended.

Table 4-2. Coastal Development Permit 4-82-300 and Amendments

Date	Permit	Purpose
June 7, 1982	4-82-300	Fencing around SVRA riding area perimeter and park entrance kiosks
August 26, 1982	4-82-300 A1	Delay effective date of implementing the 500-campsite daily limit, move location of the interim staging area, provide more specific fencing requirements
June 21, 1983	4-82-300 A2	Permit alteration of protective fence and barrier alignments within Pismo [Oceano] Dunes SVRA
August 24, 1984	4-82-300 A3	Adjust the fence line to allow for OHV use in historically unvegetated open sand areas, as well as areas that were unlikely to become revegetated after damage from past vehicular use
September 10, 1991	4-82-300 A4	Modify Special Condition 1(c) by prohibiting equestrian use in the Oso Flaco Lake area
May 7, 2001	4-82-300 A5	Amend conditions concerning appropriate limits on day use at Oceano Dunes SVRA, to establish day and overnight use limits and a Technical Review Team

4.1.4 Oceano County Airport Land Use Plan

Oceano County Airport is located in unincorporated SLO County west of State Route 1, south of Pier Avenue, and just north of the Pismo Dunes Natural Preserve (see Figure 2-2). This civil, general aviation airport averages approximately 27 aircraft per day (AirNav, 2018). The airport land use plan establishes land use planning areas, which dictate allowable land uses for areas surrounding the airport (airport overlay zone). The Oceano County Airport Land Use Plan (ALUP) covers the central portion of the HCP area, extending approximately 4,500 feet around the runway.

The SLO County Airport Land Use Commission (ALUC) provides for the orderly development of areas surrounding public use airports. In carrying out this duty, the ALUC prepares Airport Land Use Plans and reviews county and city actions that can affect the land use in the vicinity of the airport. The ALUC is an autonomous entity independent of the SLO County government.

The Oceano County ALUP is intended to protect the long-term viability of the airport by ensuring that only compatible land uses are built in the vicinity of the airport, ensuring adoption of land use regulations which minimize exposure of people to hazards associated with airport

operations, and providing a set of policies and criteria to assist the ALUC in evaluating the compatibility of proposed actions of local agencies with present and future operations at the Airport (SLOALUC, 2007). Section 4 of the ALUP, Airport Land Use Planning Areas, identifies and delineates planning areas based on their proximity to the airport and their potential to be exposed to airport-related hazards. Section 5 of the ALUP, Airport Land Use Compatibility Policies, establishes policies to minimize the exposure of new development to airport-related hazards.

The HCP proposes mechanical trash removal (CA-21) within the airport land use planning boundaries for Area OA (open space areas exposed to severe/significant airport impacts) and Area TP-2 (areas exposed to minimal airport impact). Relevant policies to this activity include the following:

- **Policy G-1 *ALUP right of review*** – No project or land use may be established within the Airport Planning Area nor may any building or use permit be issued for a proposed development unless the proposed project or land use has been reviewed by the ALUC of San Luis Obispo County and has been determined by that Commission to be consistent with this ALUP. If a project has been determined by the ALUC to be inconsistent, the project or land use may not be established and no building or use permit may be issued for such project or land use unless and until:

    a) The Board of Supervisors has voted to override the ALUC's determination of inconsistency by a four-fifths majority vote, and

    b) The Board of Supervisors has made specific findings that the proposed project or land use is consistent with the purposes of the State Aeronautics Act, as stated in Public Utilities Code section 26770(a):

    "It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards around public airports to the extent that these areas are not already devoted to incompatible uses."

    c) The Board of Supervisors has, at a time no less than 45 days prior to its decision to overrule the ALUC, provided to the ALUC and to the Division of Aeronautics of the California Department of Transportation a copy of its proposed decision and of required findings in support of such decision and has included (in its decision to overrule the ALUC) the comments from the ALUC and from the Division of Aeronautics.

With regard to Policy G-1, the Oceano County ALUP identifies that no entity other than an ALUC is empowered by state law to make a determination of consistency with respect to an adopted ALUP, but that the review of individual projects such as the proposed HCP is not a responsibility mandated to the ALUC when such projects do not require adoption or amendment of a general plan, zoning ordinance, etc.

4.2 ENVIRONMENTAL SETTING

The HCP area comprises 5,005 acres of CDPR land in Pismo State Beach and Oceano Dunes SVRA located on the central coast of California in SLO County. Adjacent communities include

the City of Pismo Beach, City of Grover Beach, and the unincorporated community of Oceano (Figure 4-1 Local Land Use Planning Areas).

The HCP area comprises the ocean shoreline with its adjoining natural landscapes and ecosystems; developed areas include campgrounds, a golf course, boardwalk trails, park entrance kiosks and parking areas, ranger station, and corporation yard, and peripheral agricultural land. A description of the land use and activities associated with park operations is presented in EIR section 2.4.2.1 and HCP section 2.2. Land use acreages are presented in Table 2-1. HCP Area Land Use Acreages.

Grand Avenue is a major arterial road that provides access to Pismo State Beach and Oceano Dunes SVRA. Between the public entrance kiosk and State Route 1, West Grand Avenue is primarily bordered by vegetated dunes (on the south) and existing commercial development (on the north). Pier Avenue in Oceano is another major arterial road providing access to Pismo State Beach and Oceano Dunes SVRA. Development on Pier Avenue west of Oceano Lagoon includes the Oceano Campground and residential and commercial uses. Other notable pedestrian access areas include Main and Cypress streets located north of the Pismo Beach Pier and Oso Flaco Lake boardwalk in the southern portion of Oceano Dunes SVRA.

4.3 PROJECT IMPACTS

4.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G, the project would have a significant impact to land use if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Oceano Dunes District HCP would not result in the construction of any physical barriers in surrounding neighborhoods. Therefore, the impact to physically divide an established community is not further discussed in this EIR.

In addition, the “project” analyzed in this EIR is the implementation of an HCP. There are no other applicable HCPs or NCCPs in effect in the HCP area. The Oceano Dunes District HCP would thus not conflict with any other HCP or NCCP plans; therefore, conflict with any applicable HCP or NCCP is not further discussed in this EIR.

4.3.2 Conformance with Pismo State Beach and Oceano Dunes SVRA General Development and Resource Management Plan

The majority of the covered activities included in the HCP are existing activities that have been occurring for many years. The proposed HCP new activities, SNPL chick and egg capture for captive rearing (CA-12b), mechanical trash removal (CA-21), seasonal exclosure reductions (CA-50), and CDPR’s use of UAS (CA-52) do not include development. The HCP identifies

potential future activities that would be covered by the federal ITP (EIR section 2.4.2.3). These future activities are as-yet-unplanned and would be subject to subsequent environmental review and approval (EIR section 1.5 and section 2.5.3). Potential future projects are considered in the cumulative impacts (EIR section 4.4).

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activities and Other Non-Covered Species Management Activities (CA-12b). CDPR monitors would capture SNPL chicks or eggs if they were threatened by covered activities not related to covered species management (e.g., motorized recreation, new proposed activities) and relocate the chicks and/or eggs to a captive-rearing facility. This activity supports the conservation efforts consistent with General Plan policy direction. SNPL chick and egg capture for captive rearing would not conflict with the General Development and Resource Management Plan and therefore would have ***no impact*** on state general plan policy.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). The HCP includes mechanical trash removal on beach sand to remove debris and trash as a new activity. This management action would have a positive impact of removing trash that could endanger people's health, pollute local water bodies, or degrade biological resources by endangering wildlife, the ocean, and shoreline habitat. Furthermore, the existing RWQCB MS4 permit requires Oceano Dunes District to prevent trash from entering waterways and the ocean. Conversely, mechanical trash removal would remove organic material from the HCP area as well as trash, and it could result in adverse impacts to biological resources on the beach (EIR section 6.3). Mechanical trash removal would be limited to areas of the beach currently open for public use outside of sensitive habitat areas. Mechanical trash removal activity could result in increased emissions of PM. Any health risk associated with a potential increase in exceedances of ambient air quality standards would be avoided through air quality monitoring or implementing dust control outside of the open riding area (see EIR sections 5.3 and 5.5; Mitigation Measure AIR-1A and AIR-1D). The proposed mechanical trash removal would not conflict with the General Development and Resource Management Plan. The impact on state general plan policy is ***less than significant.***

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). The HCP proposes incremental reduction of the 6 Exclosure, if certain conditions can be met (see EIR section 5.5 and section 6.5), and elimination of the East Boneyard Exclosure. These two areas are exclosed seasonally for 7 months of the year (March 1 through September 30) to provide protected nesting habitat for SNPL and CLTE. The proposed reduction in the size of these exclosures is consistent with the General Development Plan management policy of managing the SVRA to reduce conflicts between recreational use, congestion, safety, and health. The elimination of the East Boneyard Exclosure would expand the area used for open sand dune riding area by approximately 49 acres. The reduced 6 Exclosure would expand the flat beach area along the shoreline open to year-round camping and OHV recreation by up to 60 acres. The increase in available shoreline during the summer season would reduce congestion in a heavily used area. Combined, the two exclosure reductions would open year-round access on up to 109 coastal acres and provide recreational benefit (see EIR section 8.3).

The HCP's conservation program, including the AMMs, would ensure the exclosure reduction is conducted in such a way that nesting SNPL and CLTE breeding success is perpetuated and biological resources are protected (see EIR section 6.3). Any health risk associated with a potential increase in exceedances of ambient air quality standards would be avoided through air quality monitoring and reversal of the exclosure reduction if performance standards are not met

(see EIR sections 5.3 and 5.5; Mitigation Measure AIR-1A through Mitigation Measure AIR-1C) or implementing dust control outside of the open riding area. As such, the exclosure reductions would not conflict with the General Development and Resource Management Plan policies of protecting natural resources. The impact on state general plan policy is ***less than significant.***

CDPR UAS Use for Park Activities (CA-52). CDPR's use of UAS (e.g., drones) is proposed for data collection purposes such as monitoring of habitat conditions. This aerial equipment would be used to support the conservation program effort and is consistent with CDPR policy direction for management and protection of natural resources. UAS use would not conflict with the General Development and Resource Management Plan and therefore it would have ***no impact*** on state general plan policy.

4.3.3 Conformance with California State Parks Department of Operations Manual Grooming Policy

Trash poses a danger to people's health, wildlife, the ocean, and shoreline habitat, and it needs to be removed from the environment. CDPR has a trash control program including the availability of dumpsters at Post 2. Further, CDPR must comply with MS4 requirements from the RWQCB, which requires prevention of all trash to be removed from waterways and the ocean.

As an additional tool for removing litter from the beach, CDPR proposes using a mechanical device (CA-21) in multiple areas receiving heavy visitor use. CDPR would follow best practices, including keeping the device outside of sensitive habitat areas and above the high tide (wrack) line, avoiding all plants and animals, bypassing cultural sites, and keeping a safe distance from visitors. Mechanical trash removal would occur infrequently in any given area, allowing natural physical and biological uses of beach wrack to continue. Pismo State Beach and Oceano Dunes SVRA are heavily used recreation areas. As such, mechanical trash removal with the proposed limitations is consistent with the Department of Operations Manual, section 300 regarding beach grooming and beach grooming policy (EIR section 4.1.2).

4.3.4 Conformance with California Coastal Act

EIR Appendix B contains an extensive list of HCP AMMs, which avoid or minimize the potential adverse biological effects on the covered species. The following discussion summarizes the conformance of the proposed HCP new activities, SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), reduction of the seasonal exclosure (CA-50), and CDPR's use of UAS (CA-52) with the articles of Chapter 3 of the Coastal Act, including specified mitigation measures identified in this EIR. Conformance with specific policies is discussed below and summarized in Table 4-3..

Public Access. Implementation of the proposed HCP new activities would not interfere with the public's right to access the sea. SNPL chick and egg capture if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS would have ***no impact*** on public access. Mechanical trash removal (CA-21) is temporal and transient; the equipment operation would not require beach closure or substantially impede public access. Operations would occur when park visitation is low (e.g., early morning hours) to minimize disrupting visitor uses. Exclosure reductions (CA-50) increase public access by removing a 7-month seasonal restriction on up to 109 acres if air quality and biological criteria are met (EIR sections 5.50 and 6.5).

Recreation. Implementation of the proposed HCP new activities would not interfere with existing, historical, and traditional coastal recreational opportunities. The new covered activities proposed do not result in a net loss of recreational land currently available for public use, including OHV and non-OHV activities. SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS would have ***no impact*** on public access. Mechanical trash removal activity (CA-21) is temporal and transient. Equipment operation would not require beach closure or otherwise reduce recreational uses, opportunity, or access. Potential reductions in existing exclosures (CA-50; if supported by scientific analysis that the reductions do not worsen air quality or result in risks to covered species; EIR sections 5.5 and 6.5) would increase the acreage of camping and riding area available throughout the year.

Marine Environment. Implementation of the HCP proposed new covered activities would generally not affect the marine environment. The OHMVR Division protects against oil or hazardous substance spills in accordance with existing regulations and requirements as part of existing operations and maintenance (EIR section 10.3, Hydrology/Water Quality). The proposed HCP new activities (i.e., SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b]; mechanical trash removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]) would not result in the placement of fill into coastal or other water resources and would not impact commercial fishing or recreational boating facilities. Mechanical trash removal (CA-21) would occur above the wrack line, would avoid creek mouths and lagoon areas by more than 1,000 feet, and would under no circumstances occur in any water body. Biological monitors would be required to clear groomed areas prior to each deployment of the grooming equipment. Reductions in seasonal exclosure fencing (CA-50) would not affect the marine environment.

Land Resources. The HCP proposed new covered activities would not interfere with existing management measures undertaken in the HCP area to protect sensitive biological resources including habitat, and cultural resources. Proposed SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), seasonal exclosure reduction (CA-50), or CDPR's use of UAS (CA-52) would not impede the viability of any active agricultural lands in the vicinity of the plan area. Biological monitors would check areas for presence of listed species prior to each deployment of the trash removal equipment, and if found, CDPR would work with staff to avoid impacting the species (e.g., by finding another location for planned activities or waiting until the wildlife moves on their own). Cultural resource monitors would be required to review maps prior to trash removal, and all known sites would be avoided as well as any unknown sites that may be uncovered during trash removal operations.

Development. Implementation of the HCP does not directly include or approve coastal zone development subject to permit pursuant to PRC section 30106. The new management actions proposed by the HCP (SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b], mechanical trash removal [CA-21], reduction of the Boneyard Exclosure and 6 Exclosure [CA-50], and CDPR's use of UAS [CA-52]) do not constitute new site development. Although modifications to seasonal exclosure fencing does allow for seven additional months of public access on up to 109 acres of land within the HCP area, such adjustments to exclosure fencing

have not required a CDP. Non-recurring or future development included as a covered activity under the HCP would be subject to future development approvals, as applicable, from the relevant jurisdiction(s) in which the development is located (EIR section 2.5.3).

Visual Resources. HCP proposed new covered activities (SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b], mechanical trash removal [CA-21], reduction of the Boneyard Exclosure and 6 Exclosure [CA-50], and CDPR's use of UAS [CA-52]) would not cause adverse effects on the scenic or visual quality of the area. SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS (CA-52) would not alter the physical appearance of the environment. Mechanical trash removal (CA-21) is a temporary and transient maintenance activity that would remove trash and debris. The proposed reduction of the seasonal exclosure (CA-50) would eliminate the seasonal closure fencing at East Boneyard and incrementally reduce fencing at 6 Exclosure, allowing for year-round rather than seasonal recreational access on up to 109 acres if air quality and biological criteria and other considerations are met (see EIR sections 5.5 and 6.5). The physical changes associated with mechanical trash removal (CA-21) and exclosure reductions (CA-50) would not result in a significant adverse change in the scenic nature and existing visual character of the HCP area.

As summarized above, the proposed HCP's new covered activities would not conflict with the California Coastal Act. Thus, the impact is considered ***less than significant***.

Table 4-3. Consistency of HCP Proposed New Activity with Coastal Act Planning and Management Policies

PRC Section	Project Consistency Analysis
30210 Access; recreational opportunities; posting	The HCP proposed new activities would not interfere with existing coastal access (see Project Description and Recreation and Public Access). New activities proposed by the HCP are not expected to result in a net loss of land currently open to OHV use. Mechanical trash removal is a maintenance activity that is transient and temporary for the duration the equipment is in use and does not require closure or signage during equipment operation. The HCP proposes to open certain exclosure areas, subject to specific criteria and other considerations, which could increase areas that are open to OHV use during the year. This would have a positive effect on access and recreation.
30213 Lower cost visitor and recreation facilities	The HCP proposed new activities would not adversely impact existing visitor-serving facilities or low-cost camping opportunities at Oceano Dunes SVRA and would not limit or interfere with coastal vehicular recreational opportunities. The HCP has the potential to increase the acreage open to OHV use and beach camping that is currently closed 7 months of the year, and therefore it could have a positive effect on recreation. The HCP does not provide for an expansion of any exclosures or areas currently closed to OHV use. Covered species decline would stop and likely reverse the reduction of exclosure boundaries, but the HCP does not provide for the expansion of the Post 6 northern boundary. Therefore, no reduction in recreational use acreage is anticipated as part of the implementation of the HCP.

Table 4-3. Consistency of HCP Proposed New Activity with Coastal Act Planning and Management Policies

PRC Section	Project Consistency Analysis
30214 Implementation of public access policies	The HCP proposed new activities would not interfere with public access to the beach or coastal zone (see Project Description, and Recreation and Public Access), could facilitate year-round access to additional shoreline, and would not result in substantial adverse effects to geology and soils (EIR section 10.3).
30223 Upland areas	The HCP proposed new activities would not substantially alter upland habitats (see, EIR section 6.3). Mechanical trash removal would occur in high-use beach areas identified in Figure 2-8 and avoid upland areas. The potential exclosure reduction would not take place in upland habitat.
30230 Marine resources; maintenance	The HCP proposed new activities would not result in substantial adverse effects to marine resources. Mechanical trash removal would occur above the wrack line and avoid creek and lagoon areas, and it would help prevent trash and debris from beach use from entering the ocean; therefore, it would be a benefit to marine resources.
30231 Biological Productivity; water quality:	The HCP proposed new activities would not result in substantial adverse effects to biological resources. The purpose of the HCP is to implement activities to protect covered species, including SNPL, CLTE, CRLF, tidewater goby, and covered plant species.
30232 Oil and hazardous substance spills	Standard operations and maintenance activities in the HCP area include protection against spills of oil and other potentially hazardous substances. CDPR provides ongoing maintenance and upkeep of equipment, staff education, spill containment kits; basic activities to reduce the potential from spills; and proper clean-up and disposal of spilled material. Mechanical trash removal equipment (CA-21) would be operated consistent with CDPR vehicles on the beach. Exclosure reduction (CA-50) would not increase vehicle use on the beach, as existing CDP vehicle use limits would remain in effect. These new covered activities would not increase impacts related to oil and hazardous substance spills (see EIR section 10.3.6, Hydrology and Water Quality).
30240 Environmentally sensitive habitat areas, adjacent developments	Implementation of the HCP would protect sensitive habitat areas of covered species, including SNPL, CLTE, CRLF, tidewater goby, and federally-listed plants. AMMs are incorporated into the HCP to ensure that covered activities protect environmentally sensitive habitat areas. See Chapter 6 Biology for additional information.
30253 Minimization of adverse impacts	The EIR identifies potential adverse impacts on air quality related to mechanical trash removal (CA-21) and exclosure reduction (CA-50) and identifies mitigation measures to reduce the effect (see EIR sections 5.3 and 5.5). Any health risk associated with a potential increase in exceedances of ambient air quality standards would be avoided through air quality monitoring and reversal of the exclosure reduction if performance standards are not met or by implementing dust control outside of the open riding area.

4.3.5 Conformance with Oceano County Airport Land Use Plan

The HCP area includes lands within ALUP planning areas and FAA airport surfaces associated with Oceano County Airport; however, the HCP proposed new activities do not include new buildings, structures, construction, or uses within the ALUP planning area.

The proposed HCP would not conflict with the Oceano County ALUP because it would not impact aviation patterns, result in a hazard to air navigation, or expose people visiting, living, or working in the HCP area to a safety hazard or excessive noise, nor is it dependent on the height of any proposed structures or vegetation. The HCP does not directly authorize or approve "development" subject to land use or building permits. Future development included as a covered activity under the HCP would be subject to future land use and CEQA approvals.

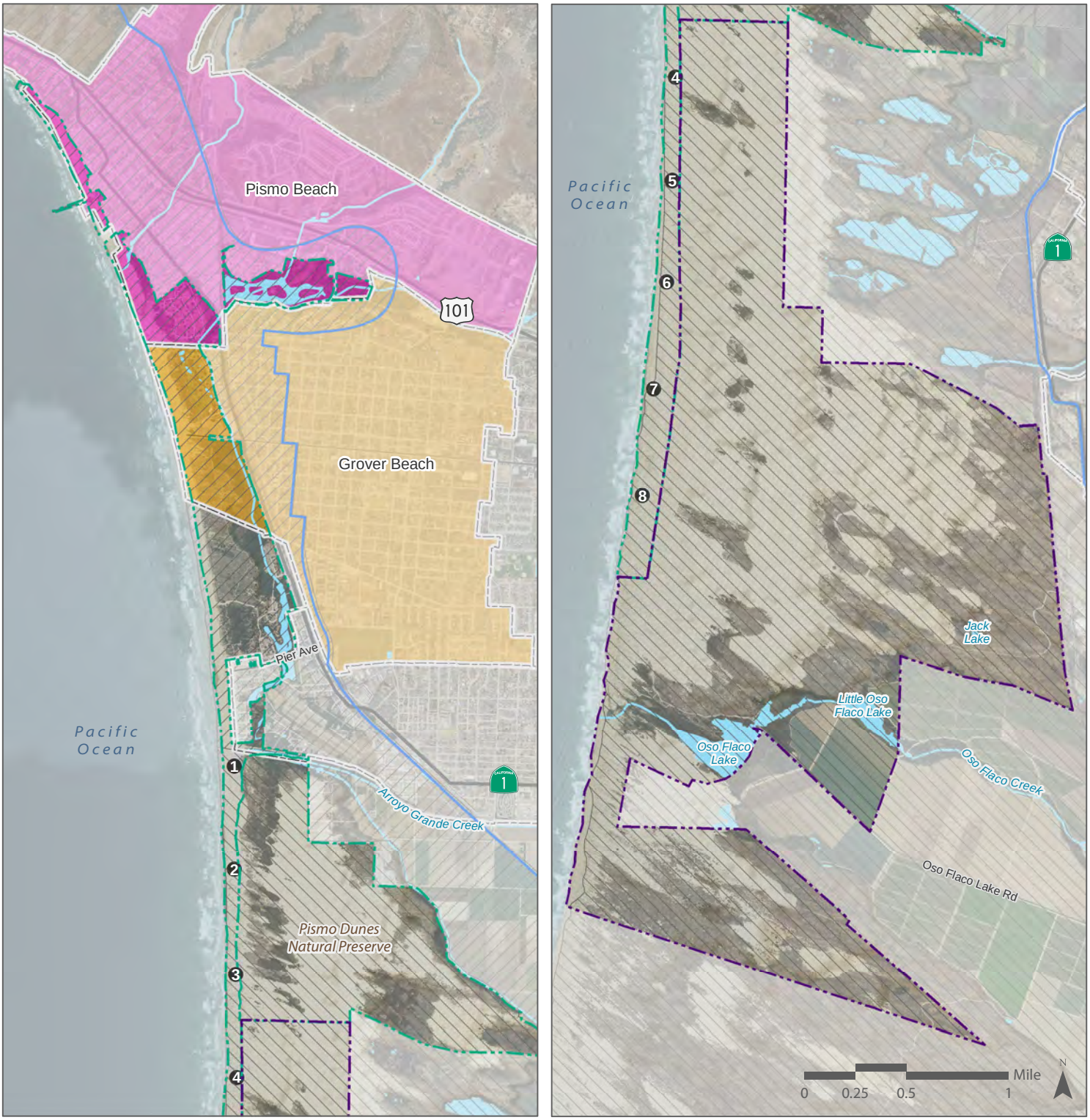
The HCP guides the management and operation of Pismo State Beach and Oceano Dunes SVRA to avoid or minimize impacts to covered species. The HCP proposed new covered activities (SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b], mechanical trash removal [CA-21], reduction of the Boneyard Exclosure and 6 Exclosure [CA-50], and CDPR's use of UAS [CA-52]) do not include typical structural development of built features in the environment, such as roads, buildings, power lines, or other built structures. The proposed new activities would not change land use or intensity of uses in the HCP area. The proposed new activities would not significantly increase airport-related risks for park visitors or interfere with takeoff, landing, or maneuvering of pilots, nor would it exceed the height of any FAA civil airport surface. CDPR would not operate UAS (CA-52) above 400 feet and would comply with all airport restrictions. Thus, the HCP would not conflict with the Oceano County ALUP, and there would be ***no impact***.

4.4 CUMULATIVE IMPACTS

The HCP proposed new activities of SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), seasonal exclosure boundary changes (East Boneyard Exclosure and 6 Exclosure; CA-50), and CDPR's use of UAS (CA-52) would not conflict with land use plans and policies and they would not combine with impacts from other foreseeable projects listed in EIR section 3.3.3 to incrementally increase land use impacts. None of the projects considered for cumulative impacts would occur in the beach area proposed for mechanical trash removal, seasonal exclosure reduction area, or drone use areas. These activities would not change the existing land uses within the HCP area or change the intensity of the existing recreational use. The HCP would not conflict with local LCP policies and therefore would not contribute toward potential impacts of future projects that may occur in the HCP area or adjacent communities. For these reasons, the HCP would have ***no cumulative impact*** on land use.

4.5 MITIGATION MEASURES

No significant impacts to land use plans and policies have been identified for the project based on the analysis contained in EIR sections 4.3 and 4.4 above. No mitigation is required.



Local Land Use Boundaries

- City of Grover Beach
- City of Pismo Beach
- Coastal Zone Boundary
- Urban and village reserve boundary

Local Land Use Planning Agencies

- San Luis Bay Coastal Planning Area
- South County Coastal Planning Area

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

MIG

February 2020
Source: ESRI, 2018; CDPR 2020; SLO County, 2018 MIG, 2020

Figure 4-1 Local Land Use Planning Areas

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

This page intentionally left blank.

Chapter 5 AIR QUALITY

5.1 REGULATORY SETTING

5.1.1 Regulated Air Pollutants

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulate matter (PM)—which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$); and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally based criteria.

The California Air Resources Board (CARB) has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS), plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility-reducing particles.

A description of the air pollutants associated with the proposed HCP and its vicinity is provided below. As described in EIR section 5.1.2, PM and O_3 are the primary pollutants of concern in southern San Luis Obispo County. The other criteria air pollutants, such as CO, SO_2, SO_X, lead, vinyl chloride, and visibility-reducing particles, are generally of lesser concern and are not typically associated with the covered activities proposed under HCP implementation. Accordingly, O_3, ozone precursors, and PM are the only criteria air pollutants discussed in detail below.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called reactive organic gases (ROG), in the presence of sunlight (US EPA, 2018). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.
- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (US EPA, 2016a).
- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (US EPA, 2016b). Figure 5-1 Particulate Matter provides a graphical depiction of the size of PM_{10} and $PM_{2.5}$.
    - PM_{10}, also known as inhalable coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately $1/7^{th}$ the thickness of a human hair). These particles can be inhaled deep into the lungs and

possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (US EPA, 2016b).

- $PM_{2.5}$, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (US EPA, 2016b).

5.1.1.1 Federal and State Clean Air Acts

The federal Clean Air Act, as amended, provides the overarching basis for both federal and state air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. The U.S. EPA also requires that each state prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual state will use to attain compliance with the NAAQS within federally imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. In California, both the federal and state Clean Air Acts are administered by CARB. It sets all air quality standards, including emission standards for vehicles, fuels, and consumer goods, as well as monitors air quality and sets control measures for toxic air contaminants. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

5.1.1.2 Interpretation of NAAQS for PM_{10} (24-Hour Standard)

Title 40 of the U.S. Code of Federal Regulations (CFR), Part 50, National Primary and Secondary Ambient Air Quality Standards, Section 50.6, sets forth that the primary and secondary 24-hour NAAQS for PM_{10} are 150 micrograms per cubic meter ($\mu g/m^3$), 24-hour average concentration. The primary and secondary 24-hour NAAQS for PM_{10} are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one, as determined pursuant to Appendix K to Part 50, Interpretation of the National Ambient Air Quality Standards for Particulate Matter.

Appendix K to 40 CFR Part 50 sets forth the computations used to analyze PM data to determine attainment of the 24-hour PM_{10} NAAQS. Section 1.0 of Appendix K defines several key terms used in the attainment computations, including "daily value," which is the 24-hour average concentration of PM_{10} calculated or measured from midnight to midnight (local time), "exceedance," which is a daily value that is above the level of the 24-hour standard after rounding to the nearest 10 $\mu g/m^3$ (i.e., values ending in 5 or greater are to be rounded up), and "year," which refers to a calendar year.

In general, the amount of monitoring data necessary to demonstrate attainment with the 24-hour NAAQS varies with sampling frequency, data capture rate, and the number of years of record available for review. Section 2.1 of Appendix K describes that, in the simplest case for a PM_{10} attainment determination, the number of expected exceedances at a site is determined by recording the number of exceedances in each calendar year and then averaging them over the past 3 calendar years. This simple case is most similar to the situation in the South County region, since the SLOAPCD's monitoring stations in this region (CDF, Mesa2, NRP) currently measure the 24-hour average PM_{10} concentration on a daily basis. Thus, in general, given the current monitoring stations operated by the SLOAPCD and their monitoring frequency (daily), the U.S. EPA could determine nonattainment of the 24-hour PM_{10} NAAQS with three exceedances in a single calendar year, or one exceedance in each of 3 consecutive calendar years. The U.S. EPA may consider more than 3 years of data in an attainment determination if the data is representative and complete.

More complex attainment calculations are used if PM_{10} monitoring is conducted on a less frequent basis (e.g., every other day, every sixth day) as set forth in 40 CFR Part 58. In addition, Appendix K sets forth specific numerical rounding procedures for the computational equations used to determine attainment. Finally, in some cases, there are less stringent data requirements for showing that a monitor has failed an attainment test[7].

5.1.1.3 Interpretation of NAAQS for $PM_{2.5}$ (24-Hour)

Title 40 of CFR, Part 50, National Primary and Secondary Ambient Air Quality Standards sections 50.13 and 50.18 set forth that the most recent (2012) primary and secondary 24-hour NAAQS for $PM_{2.5}$ are 35 $\mu g/m^3$, 24-hour average concentration. The primary and secondary 24-hour NAAQS for $PM_{2.5}$ are attained when the 98th percentile 24-hour concentration[8], as determined pursuant to Appendix N to Part 50, Interpretation of the National Ambient Air Quality Standards for $PM_{2.5}$, is less than or equal to 35 $\mu g/m^3$.

Appendix N to 40 CFR Part 50 sets forth the computations used to analyze PM data to determine attainment of the 24-hour $PM_{2.5}$ NAAQS. Section 1.0 of Appendix N defines several key terms used in the attainment computations, including daily value (similar to the definition used for PM_{10} attainment); "98th percentile," which is the smallest daily value out of a year of $PM_{2.5}$ mass monitoring data below which no more than 98 percent of all daily values fall using prescribed ranking and selection methods; and "quarter," which refers to a calendar quarter (e.g., January through March). Like PM_{10} (see EIR section 5.1.1.2), the amount of monitoring data necessary to demonstrate attainment with the $PM_{2.5}$ 24-hour NAAQS varies with sampling frequency, data capture rate, and the number of years of record available for review. In general, Appendix N

[7] Pursuant to Section 2.3(c), less data may be sufficient if the data unambiguously establishes nonattainment. Appendix K provides the following specific example of how nonattainment may be demonstrated when data fail to meet some requirements: "Nonattainment of the 24-hour primary standards can be established by the observed annual number of exceedances (e.g., four observed exceedances in a single year), or by the estimated number of exceedances derived from the observed number of exceedances and the required number of scheduled samples (e.g., two observed exceedances with every-other-day sampling)."

[8] In general, the 98th percentile represents the value below which 98% of recorded measurement's fall. For example, if there were 365 different daily 24-hour average measurements, the 98th percentile would be the concentration on the day with the eighth highest average $PM_{2.5}$ concentration (365-(0.98*365))=7.3).

sections 4.2 and 4.5 describe that 3 years of valid annual $PM_{2.5}$ 98th percentile mass concentrations are required to determine attainment of the 24-hour $PM_{2.5}$ NAAQS; however, Appendix N prescribes specific computational methods and equations, as well as rounding procedures, to use in the attainment determination.

5.1.1.4 Interpretation of NAAQS for $PM_{2.5}$ (Annual Average)

Title 40 of CFR, Part 50, National Primary and Secondary Ambient Air Quality Standards, sections 50.13 and 50.18, set forth that the most recent (2012) primary annual average NAAQS for $PM_{2.5}$ is 12.0 µg/m^3. The primary annual average NAAQS for $PM_{2.5}$ is attained when the annual average, as determined pursuant to Appendix N to Part 50, Interpretation of the National Ambient Air Quality Standards for $PM_{2.5}$, is less than or equal to 12.0 µg/m^3.

Appendix N to 40 CFR Part 50 sets forth the computations used to analyze PM data to determine attainment of the annual average $PM_{2.5}$ NAAQS. In general, Appendix N sections 4.1 and 4.4 describe that 3 years of valid annual average $PM_{2.5}$ concentrations, as computed from quarterly averages, are required to determine attainment of the 24-hour $PM_{2.5}$ NAAQS; however, Appendix N prescribes specific computational methods and equations, as well as rounding procedures, to use in the attainment determination.

5.1.1.5 Interpretation of CAAQS for PM

Title 17 of the California Code of Regulations (CCR), section 70200, Table of Standards, sets forth that the CAAQS for $PM_{2.5}$ and PM_{10} are violated when concentrations exceed the CAAQS (i.e., values may be equaled). Furthermore, 17 CCR § 70301(b) stipulates that the data used for determining attainment designations shall be based on the data for record for 3 calendar years prior to the year in which the designation is made or the annual review of the designation is conducted, while section 70303(a)(1) sets forth that an area will be designated nonattainment for a pollutant if the data for record show at least one violation of a state standard for that pollutant in the area, and the measurement of the violation meets CARB criteria for data representativeness.

5.1.2 Attainment Status

The federal and state governments have established emissions standards and limits for air pollutants that may reasonably be anticipated to endanger public health or welfare. These standards typically take one of two forms: standards or requirements that are applicable to specific types of facilities or equipment (e.g., petroleum refining, metal smelting), or concentration-based standards that are applicable to overall ambient air quality. Air quality conditions are best described and understood in the context of these standards; areas that meet, or attain, concentration-based ambient air quality standards are considered to have levels of pollutants in the ambient air that, based on the latest scientific knowledge, do not endanger public health or welfare.

- **Attainment.** A region is “in attainment” if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a “maintenance area” for 10 years to ensure that the air quality improvements are sustained.

- **Nonattainment.** If the NAAQS or CAAQS are not met, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment (see EIR section 5.1.1). Federal and state laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.
- **Unclassified.** An area is unclassified if the ambient air quality monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 5-1. Ambient Air Quality Standards and SCCAB Attainment Status below lists the NAAQS and CAAQS and summarizes the South Central Coast Air Basin (SCCAB) attainment status for ozone and particulate matter. The SCCAB is in attainment or unclassified for all other criteria air pollutants.

Table 5-1. Ambient Air Quality Standards and SCCAB Attainment Status

Pollutant	Averaging Time	California AAQS (A)		National AAQS (B)	
		Standard (C)	Attainment Status (D)	Standard (C)	Attainment Status (D)
Ozone	1-Hour	180 µg/m^3	**N**	–	–
	8-Hour	137 µg/m^3	**N**	137 µg/m^3	**N**(E)
PM_{10}	24-Hour	50 µg/m^3	**N**	150 µg/m^3	A
	Annual Average	20 µg/m^3	**N**	–	–
$PM_{2.5}$	24-Hour	–	–	35 µg/m^3	A
	Annual Average	12 µg/m^3	A	12 µg/m^3	A

Source: (SLOAPCD, 2017a), modified by MIG.

(A) Table does not list CAAQS for CO, N_2O, SO_2, SO_X, lead, vinyl chloride, and visibility reducing particles. California standards for ozone and suspended PM_{10} and $PM_{2.5}$ are values that are not to be exceeded. For a listing of all CAAQS and NAAQS standards and SCCAB attainment status, see: https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/AttainmentStatus22February2017.pdf

(B) Standards shown are the primary NAAQS designed to protect public health.

(C) All standards are shown in terms of micrograms per cubic meter (µg/m^3) for comparison purposes.

(D) A= Attainment, N= Nonattainment, U/A=Unclassifiable/Attainment.

(E) This non-attainment designation corresponds to Eastern San Luis Obispo County; Western San Luis Obispo County is in attainment. Specifically, San Luis Obispo County has been designated non-attainment east of the -120.4 deg Longitude line, in areas of San Luis Obispo County that are south of latitude 35.45 degrees, and east of the -120.3 degree Longitude line, in areas of San Luis Obispo County that are north of latitude 35.45 degrees. Oceano Dunes SVRA is in the portion of San Luis Obispo County that is in attainment for federal ozone standards.

The SLOAPCD, the local agency charged with preserving air quality, divides San Luis Obispo County into different air quality regions that have similar geologic and meteorological conditions. Oceano Dunes SVRA is located in the South County air quality region of San Luis Obispo County. The SLOAPCD maintains and operates three ambient air quality monitoring

stations in the South County Region: CDF, Mesa2, and Nipomo Regional Park (NRP) (SLOAPCD, 2014). These stations measure ambient concentrations of PM_{10} and $PM_{2.5}$.[9]

Of SLOAPCD's three monitoring stations in the South County Region, CDF is the closest to Oceano Dunes SVRA, approximately 0.5 miles southeast of Oceano Dunes SVRA (as measured in the prevailing wind direction; Figure 5-2). The NRP station is the farthest away from Oceano Dunes SVRA, more than 5 miles southeast of the SVRA. Mesa2 is of middle proximity, approximately 2 miles southeast of the SVRA. A fourth South County Region monitoring station, referred to as the Oso Flaco monitoring station, was installed in 2015 in the southeastern-most corner of the Oceano Dunes District boundary and is operated by CDPR with support from SLOAPCD.[10]

Table 5-2. South County Monitoring Days Above 24-Hour State PM_{10} Standard[1] shows the number of days from January 2013 to March 2019 that CDF, Mesa2, NRP, and Oso Flaco monitoring stations measured levels of PM that are above the state's 24-hour standard for PM_{10}, which is set at 50 µg/m^3. Data available from the Oso Flaco monitoring station, which has been operating for a shorter time period, is also included.

Table 5-2. South County Monitoring Days Above 24-Hour State PM_{10} Standard[1]

Monitoring Year	South County Monitoring Station			
	CDF[2]	Mesa2[2]	NRP[2]	Oso Flaco[3]
2013	93	55	20	–
2014	79	39	9	–
2015	62	30	8	1
2016	71	43	13	10
2017	97	52	18	12
2018	54	41	18	9
2019[4]	55	38	13	6

Sources: (SLOAPCD, 2014) (2016a) (2016b) (2017b) (2018a); (CARB, 2020).

[1] The state 24-hour PM_{10} standard is set at 50 µg/m^3. The state also maintains an average annual PM_{10} standard of 20 µg/m^3.

[2] Operated by SLOAPCD.

[3] Operated by CDPR, with SLOAPCD support; data collection interrupted December 2016-March 2017.

[4] The data for 2019 is preliminary and requires validation. In actuality, exceedances could be lower.

As shown in Table 5-2., the CDF monitoring station annually reports more exceedances of the state PM_{10} standard compared to the other monitoring stations. Table 5-3. presents exceedances

[9] CDF, Mesa2, and NRP all measure ambient PM_{10} concentrations. Only CDF and Mesa2 measure ambient concentrations of $PM_{2.5}$; NRP does not.

[10] The Oso Flaco monitor, which monitors PM_{10} but not $PM_{2.5}$, was discontinued in December 2016 and reinstalled in March 2017.

of federal PM_{10} and $PM_{2.5}$ standards (24-hour and annual) as well as annual state PM_{10} and $PM_{2.5}$ exceedances at the CDF monitoring station.

As shown in Table 5-3., the 24-hour state standard for PM_{10} has been exceeded more often than the national standard. This is a result of the state standard (50 µg/m^3) being more stringent than the federal standard (150 µg/m^3), by a factor of one-third. In addition, the CAAQS and NAAQS annual $PM_{2.5}$ standard (12 µg/m^3) was exceeded in 2013, 2014, and 2017.

Table 5-3. Exceedances of Federal PM_{10} and $PM_{2.5}$ Standards and Annual State PM_{10} and $PM_{2.5}$ Standards at SLOAPCD CDF Monitoring Station

Year	NAAQS			CAAQS		
	24-hour		Annual	24-hour	Annual	
	PM_{10}	$PM_{2.5}$	$PM_{2.5}$	PM_{10}	PM_{10}	$PM_{2.5}$
2013	2	3	**Y**	93	**Y**	**Y**
2014	2	4	**Y**	79	**Y**	**Y**
2015	0	1	N	62	**Y**	N
2016	0	0	N	71	**Y**	N
2017	0	0	**Y**	97	**Y**	**Y**
2018	0	2	N	54	**Y**	N
2019[1]	0	0	–	55	–	–

Source: (SLOAPCD, 2014) (2016a) (2016b) (2017b) (2018a) (SLOAPCD, 2019); (CARB, 2020).

[1] The data for 2019 is preliminary and requires validation. In actuality, exceedances could be lower. Additionally, since the 2019 data has not yet been validated, it is unknown how many times, if at all, annual standards were exceeded.

5.1.3 San Luis Obispo County Air Pollution Control District

The SLOAPCD has primary responsibility for regulating sources of air pollution situated within its jurisdictional boundaries. To this end, the SLOAPCD implements air quality programs required by state and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their roles in protecting air quality.

5.1.3.1 2001 Clean Air Plan

In 2001, the SLOAPCD adopted its *2001 Clean Air Plan*. This plan updates the 1998 Clean Air Plan and identifies control measures to reduce ROG and NOx emissions, precursors to ozone, as well as PM emissions. The *2001 Clean Air Plan* identifies the control measures necessary to attain ozone air quality standards. The 2001 Clean Air Plan includes ozone precursor pollutant emissions of reactive organic gases and oxides of nitrogen from mobile and area-wide emission sources in its reference (1991) and forecasted (2015) emissions inventories, and it plans for achieving attainment of air quality standards. Although some of the control measures set forth for controlling ROG and NOx emissions have a co-benefit of reducing PM emissions, the plan does not identify any control measures solely related to the reductions of PM emissions. As stated in the *2001 Clean Air Plan*, "The District expects to formally address PM_{10} nonattainment in future planning efforts" (SLOAPCD, 2001).

5.1.3.2 Rules and Regulations

The following rules and regulations potentially apply to the proposed Oceano Dunes HCP:

Rule 402, Nuisance, Visible Emissions. Rule 402, Nuisance, Visible Emissions, establishes that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 1001, Coastal Dunes Dust Control Requirements. Rule 1001, Coastal Dunes Dust Control Requirements, establishes standards for the operators of coastal dune vehicle activity areas greater than 100 acres in size. Section C of the SLOAPCD Rule 1001 outlines the rule's general requirements, which are:

1) Development and implementation of a Temporary Baseline Monitoring to determine existing PM_{10} concentrations at Air Pollution Control Officer (APCO)-approved Coastal Dune Vehicle Activity Areas and Control Site monitoring locations prior to implementing PM_{10} control measures and Compliance Monitoring.
2) Development and implementation of an APCO-approved Particulate Matter Reduction Plan (PMRP) that contains:
    a) An APCO-approved PM_{10} Compliance Monitoring network consisting of at least one Coastal Dune Vehicle Activity Areas Monitor and at least one Control Site Monitor;
    b) A description of all PM_{10} control measures that would be implemented to comply with the Rule 1001 performance standard (see requirement 3 below);
    c) An APCO-approved track-out prevention program that does not allow track-out of sand to extend 25 feet or more onto, and requires track-out to be removed from, paved public roadways;
3) Compliance with a performance standard that requires PM_{10} concentrations at the APCO-approved Coastal Dune Vehicle Activity Areas Monitor to be no more than 20 percent higher than the PM_{10} concentrations at the APCO-approved Control Site Monitor. The performance standard applies only when the 24-hour average PM_{10} concentrations at the approved Coastal Dune Vehicle Activity Areas Monitor exceeds 55 micrograms per cubic meter.
4) Complete all environmental review requirements and obtain land use agency approval for PMRP projects.

5.1.4 Stipulated Abatement Order, Case No. 17-01 and Draft PMRP

On September 10, 2017, the SLOAPCD filed a Petition for Abatement Order with the SLOAPCD Hearing Board against the OHMVR Division with regard to alleged nuisances as a result of PM emissions from Oceano Dunes SVRA (SLOAPCD, 2018b). The petition was heard at a number of Board meetings from November 13, 2017 to April 30, 2018 and resulted in the filing and issuance of the Stipulated Order of Abatement (SOA) Case No. 17-01, which was amended in November 2019. The following summarizes the primary components of the SOA:

1) Initial Particulate Matter Reduction Actions

a) The OHMVR Division shall fence off specified portions of Oceano Dunes SVRA for dust control activities.
b) The OHMVR Division shall install APCO-approved sand track-out control devices at the Grand and Pier Avenue entrances to Oceano Dunes SVRA by June 30, 2019.

2) Particulate Matter Reduction Plan (PMRP)

a) The OHMVR Division shall develop and implement a PMRP over a four-year period that is designed to achieve state and federal ambient PM_{10} air quality standards.
b) The PMRP shall begin by establishing an initial target of reducing the maximum 24-hour PM_{10} baseline emissions by 50 percent[11]. The modeling demonstrating this reduction will be carried out by CARB or another modeling group approved by the Scientific Advisory Group (SAG) developed as a requirement of the SOA. The SAG is comprised of experts in the fields of dune morphology, aeolian erosion control, soil ecology, shoreline botany, biophysical sand crust formation, and air quality modeling, among other disciplines.
c) A draft PMRP shall be submitted to the APCO and SAG by no later than February 1, 2019 for the APCO's approval.

3) Annual Report and Work Plan

a) On an annual basis (during PMRP implementation), the OHMVR Division shall develop, with assistance from the SAG, a Report and Work Plan for APCO review and approval. To help facilitate the Annual Report and Work Plan process, OHMVR Division shall provide Interim Work Plans to the SAG. This schedule is to be determined by the SAG.
b) The Annual Reports and Work Plans shall include a detailed schedule of activities with deadlines on measures that will be taken for the upcoming year.
c) The Annual Reports shall summarize actions taken over the prior year, their effectiveness, and additional metrics or measures that may be needed to achieve reductions for the following year. Each Report will contain, using air quality modeling, the estimated reductions attributable to proposed dust control measures for the following year.

CDPR submitted a Draft PMRP to the SLOAPCD in June 2019 (CDPR, 2019), which includes an implementation plan specifying actions that will be undertaken through December 2023. The types of control measures contemplated in the Draft PMRP generally include re-establishing a continuous foredune near the high water line, converting open sand back dune areas by planting native vegetation cover, installing and operating sand track-out devices, and emplacing porous fencing (i.e., wind fencing) and artificial roughness elements (e.g., strawbales). Attachment 8 of the Draft PMRP consists of a checklist that would be used to track the implementation of various measures, such as tracking how plant density changes over time in a new foredune area.

In addition to installing control measures, the Draft PMRP identifies seven supporting actions that would be undertaken to inform continued PMRP implementation. Such measures include,

[11] This stipulated emission reduction requirement of fifty percent is based on a modeling scenario for the period May 1, 2013 through August 31, 2013. This reduction requirement may be altered by the SAG in the future.

but are not limited to, updated PI-SWERL measurements, additional air quality monitoring, and collection of topographic and upper-air data. These supporting actions, which would be undertaken concurrently with control measures, would provide CDPR with new, high-resolution data that supports an adaptive management approach to dust control, as envisioned in the Draft PMRP.

In compliance with the November 2019 SOA amendments, CDPR fenced off 48 acres of shoreline area, which CDPR proposes to vegetate or otherwise create a foredune. Given that the foredune closure is within a prime camping location, CDPR has administratively reduced the number of daily camping units from 1,000 down to 500. PMRP implementation, including foredune development, is subject to the findings of ongoing CEQA review separate from the HCP.

5.2 ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality. The HCP project area is located along the central coast of California, within the SCCAB. The SCCAB encompasses all of San Luis Obispo, Santa Barbara, and Ventura counties (approximately 8,000 square miles) and is bounded on the west and south by the Pacific Ocean. The SLOAPCD is the primary agency responsible for monitoring and maintaining air quality in the portion of the SCCAB where the project area is located, which is southwestern San Luis Obispo County.

Windblown dust in southwestern San Luis Obispo County is, and has been, an issue of focused public concern and academic research for more than a decade. PM emissions from Oceano Dunes SVRA have been subject to a number of regulatory requirements that have shaped the SVRA's environmental setting, as described in this EIR (see EIR section 5.1). Most recently, CDPR signed an SOA with the SLOAPCD Hearing Board to develop a PMRP designed to achieve state and federal air quality standards. Future dust control actions that will be implemented pursuant to this regulatory requirement would occur (at a minimum) during the first 4 years of HCP implementation. Although the specific actions that would be implemented are still being determined, the dust control measures identified in the Draft PMRP (see EIR section 5.1.4) will further change the environmental setting of Oceano Dunes SVRA.

5.2.1 Topography and Meteorology

Topography and climate throughout the SCCAB vary and are influenced by the basin's proximity to the Pacific Ocean and the Coast and Transverse ranges that trend in a general northwest-southeast and east-west orientation, respectively, within the basin. The SCCAB experiences a Mediterranean-type climate that is characterized by warm, dry summers and cool, wet winters. The north Pacific high-pressure system, a semi-permanent area of high pressure centered over the north Pacific Ocean, pushes storms to the north during the summer. During the winter, the pressure center moves south, bringing rain and cooler temperatures.

Near the coast, onshore breezes moderate summer and winter temperatures. Average maximum temperatures in the summer are typically in the 60s and 70s; average minimum temperatures in winter are typically in the 40s and 50s. Precipitation near the coast averages between 15 and 25 inches per year. The Coast and Transverse ranges that run through the basin serve to keep inland

portions of the SCCAB warmer and dryer. Although average minimum temperatures in inland areas also typically range from the 40s to 50s, average maximum temperatures are in the high 70s, and daily maximums can exceed 100 degrees Fahrenheit. Precipitation in inland portions of the SCCAB averages less than 15 inches per year.

5.2.2 Prevailing Winds, Saltation, and Dust Generation at Oceano Dunes SVRA

Oceano Dunes SVRA is situated in the Guadalupe-Nipomo Dunes Complex, an approximately 18,000-acre, 18-mile-long coastal dune landscape that contains large, vegetated and unvegetated sand dunes subject to strong prevailing winds. According to the California Geological Survey, Oceano Dunes SVRA is located within the youngest, most active formations of the dune complex, where winds transport sand and dunes are actively migrating inland several feet per year (CGS, 2007). The dunes, including the area in which Oceano Dunes SVRA is located, are exposed to strong and frequent prevailing winds from the northwest (i.e., blowing towards the southeast), especially during the springtime (approximately March through June) (SLOAPCD, 2007). These strong prevailing winds exert a force on the surface of the dunes that causes particles to move along the ground surface. This movement can take the form of sand creep, where sand grains are pushed along the ground surface, or saltation, in which sand grains are lifted by the wind, carried a short distance (generally a few inches to a few feet), and then fall back down to the ground surface. These processes can cause some particles to become suspended in the air and carried away downwind.

The saltation process is depicted in Figure 5-3. Generally, when winds exceed approximately 10 miles per hour, the sand grains in the unvegetated dunes that naturally form in the Guadalupe-Nipomo Dunes Complex begin to creep or saltate and generate dust and PM that can affect air quality conditions.

5.2.3 Dust and PM Studies at Oceano Dunes SVRA

The SLOAPCD and the OHMVR Division have completed numerous studies that examined dust and PM generation at Oceano Dunes SVRA. In chronological order, these studies are briefly summarized below:

Nipomo Mesa Particulate Study (SLOAPCD, 2007). This SLOACPD study was designed to delineate the nature and extent of the high levels of PM concentrations observed by the SLOAPCD during air quality monitoring. The study concluded that the single largest contributor to the high levels of PM concentrations is the northwesterly winds that entrain crustal particles upwind from the Mesa and transport them to the Mesa.

South County Phase 2 Particulate Matter Study (SLOAPCD, 2010). This second SLOAPCD study was designed to determine if OHV activity at Oceano Dunes SVRA played a role in the high PM concentrations measured on the Nipomo Mesa. The study reported several major findings, including findings that the primary source of high PM_{10} levels measured on the Nipomo Mesa is the open sand sheets in the dune areas of the coast, and that the open sand sheets subject to OHV activity at the SVRA emit significantly greater amounts of particulates than the undisturbed sand sheets at the study's control sites under the same wind conditions.

Oceano Dunes SVRA Pilot Project Study (DRI, 2011). This collaborative pilot project study evaluated the viability and effectiveness of three potential dust control strategies under consideration by the OHMVR Division and the SLOAPCD in 2011: established vegetation,

artificial surface roughness (straw bales), and a comparison of undisturbed surfaces against surfaces disturbed by vehicle activity. The evaluation indicated that vegetation (90 to 99 percent control) and artificial surface roughness (40 to 70 percent control) were effective at reducing sand transport within the pilot project areas.

South County Community Monitoring Project (SLOAPCD, 2013). This APCD study was designed and implemented to map differences in the spatial extent and concentrations of dust transported downwind of Oceano Dunes SVRA. In general, the study found that the spatial extent of the downwind dispersion of PM_{10} during high wind events varied, with the main variable being the severity of the PM_{10} concentrations. The study also concluded that wind direction near the shore is stronger and less variable than winds 5 miles inland, which shift to the south. The SLOAPCD uses the data collected by the study to prepare more detailed air quality forecasts for the Nipomo Mesa region. Based on the data, the SLOACPD identified four different forecast zones for the Nipomo Mesa that are related to the PM_{10} concentrations measured by the SLOAPCD's CDF, Mesa2, and NRP monitoring stations during the community monitoring project.

Wind and PM_{10} Characteristics at Oceano Dunes SVRA from the 2013 Assessment Monitoring Network (DRI, 2014). This OHMVR Division study involved 12 dust and meteorological monitoring sites intended to provide information on differences in dust and meteorological conditions at and near Oceano Dunes SVRA. In general, the study found that the strongest and most frequent winds were associated with winds from the northwest (280–326 degrees), that winds show a tendency to speed up as they move from west to east—most likely due to compression of the streamlines over the dunes that force the wind to accelerate, and that mean wind speeds and maximum wind gusts increase from north to south. The study also found that the highest levels of PM_{10} concentrations during the study were measured in the central to northern portion of the SVRA's open riding and camping area, in the La Grande tract. The study further documented wind direction in the dune complex tended to have a more westerly component near the shore in the northern section of the Pismo Dunes Natural Preserve than in the southern portion; the southern portion maintained higher frequency of winds from the west-northwest.

2013 Intensive Wind Erodibility Measurements at and Near the Oceano Dunes State Vehicular Recreation Area: Report of Findings (DRI, 2015a). This OHMVR Division study evaluated differences in emissivity[12] throughout Oceano Dunes SVRA and Pismo State Beach by utilizing a small, portable device that simulates wind shear on the dune surface (the Portable In-Situ Wind Erosion Lab, or PI-SWERL®). In general, the study found that potential PM_{10} emissions were highest within the La Grande tract. Although the study could not explain why PM_{10} emissivity within the La Grande tract was the highest, it did note that factors such as sand grain size, meteorology, and topography all influence PM_{10} emissions (both potential and actual).

Particle Size Distribution Characteristics and PI-SWERL PM_{10} Emission Measurements: Oceano Dunes State Vehicular Recreation Area (DRI, 2015b). This OHMVR Division study developed a detailed characterization of the particle size distribution at Oceano Dunes SVRA to evaluate if there were particle size characteristics that could be linked with the strength of the dust and PM_{10} emissions measured in previous studies. The study did not find a link between the

[12] Emissivity, in this context, is generally a measure of emissions over a specific area and time.

amount of fine particle material (i.e., PM_{10}-sized) present in sediment and PM_{10} emissions; however, it did find that the observed increase in wind speeds from north to south at Oceano Dunes SVRA is associated with an increase in the mean particle diameter of the sand sized fraction of the sediment at Oceano Dunes SVRA. The report states "considering all data, i.e., temporary monitoring, PI-SWERL, and particle size data, [a] picture has emerged that generally describes the spatial variability of the PM_{10} emissions. The PM_{10} emissions measured with the PI-SWERL show a pattern that is corroborated by the temporary monitoring networks, with higher PM_{10} measurements [in the central to northern part of the open riding and camping area], being associated with areas that the PI-SWERL measurements have identified as having higher emission potential" (DRI, 2015b, p. 20).

Dust Control Project Oceano Dunes SVRA 2016 (DRI, 2015c). This OHMVR Division study evaluated the effectiveness of seasonal dust control measures installed at Oceano Dunes SVRA. The study concluded that seasonal dust control measures installed in 2015 were more effective than measures installed in 2014 and showed quantifiable reductions in PM_{10} concentrations due to the controls. Overall, the OHMVR Division's 2015 wind fence array reduced sand transport within the array by 73 percent on average and up to 87 percent for areas in the interior of the array. In addition, over the 3-month period the fencing was in place, the downwind concentration of PM_{10} at the trailing edge of the fence array was approximately 20 to 37 percent lower than the upwind PM_{10} concentration during moderate windy periods (approximately 10 to 12 miles per hour); during high wind conditions downwind concentrations were approximately 5 to 30 percent lower than concentrations upwind of the fence array.

Updated Wind Erodibility Measurements at and Near the Oceano Dunes State Vehicular Recreation Area: Draft Overview of Findings (DRI, 2016). This OHMVR Division study provided an update on a series of PI-SWERL measurements that were completed since the original measurements in 2013. The study discussed emissivity changes at the plover exclosure, an array of straw bales that were installed in 2014, the wind fence area installed in 2015, and other, previous PI-SWERL transect areas. The report's major findings were that: 1) the 2015 PI-SWERL measurements exhibited signs of being influenced by environmental conditions, 2) there was a correlation between emissivity and OHV activity at the plover exclosure, and 3) consecutive monitoring at straw bale installation and fence deployment areas revealed fairly consistent values for emissivity. The observation that additional OHV activity in an exclosure area may result in increased emissions was based on a comparison of measurements taken before the exclosure was reduced (August 2013, September 2014, and September 2015) and after it had been open to riding (March 2016). The analysis found the increase in emissions was by a factor of two to three.

2016 Aerosol Particle Profiler (APP) Monitoring Network: Summary of Findings (DRI, 2017). This OHMVR Division study summarized the results of monitoring conducted with environmental beta attenuation monitors (E-BAM) and six additional PM monitors during 2016 to better understand how well sand fencing and straw bales reduce ambient concentrations of PM within Oceano Dunes SVRA. In addition, the supplemental monitoring also provided a more complete picture of wind speed and direction along the path from Oceano Dunes SVRA to the SLOACPD's CDF monitoring station, located approximately 1.2 miles downwind of the SVRA, and examined how PM concentrations change over time and space as wind travels over the SVRA toward CDF. Two preliminary findings of the report were that: 1) for comparable winds, PM emissions are higher in the late summer than in early summer, (suggesting that a physical

change in the emission system or environmental conditions create conditions for higher emissions); and 2) wind direction distributions across the network suggest PM concentrations measured at CDF are most influenced by a narrow, upwind source area from 290 to 295 degrees north-northwest and essentially follow a straight line from shore.[13]

Although the OHMVR Division and the SLOAPCD collaborated on the development and analysis of most of the studies listed above, the specific findings and conclusions of each report have not been fully accepted by both agencies.

5.2.4 Oceano Dunes SVRA PM_{10} Emissions Mapping

Over the last few years, CARB and DRI have provided technical expertise and guidance to the OHMVR Division and SLOAPCD to help develop appropriate solutions for addressing fugitive PM_{10} emissions from Oceano Dunes SVRA. Most recently, DRI developed a 3-dimensional atmospheric dispersion model that simulates emissions and wind conditions in the SVRA to estimate PM_{10} concentrations within the communities east and southeast of the SVRA. The DRI model is supported by CARB and the SAG for use in meeting the requirements of the SOA (see section 5.1.4; OHMVRD 2019, p. 3-3). The model uses much of the data generated by the studies listed in EIR section 5.2.3 to develop the model. In particular, the data collected by the PI-SWERL provide a relative comparison of how emissive, or how much PM_{10} and dust, is generated by different areas of the dunes during the same meteorological conditions.

Areas of high and low PM_{10} emission potential within Oceano Dunes SVRA, as determined by the latest modeling conducted for the SOA and Draft PMRP, are shown in Figure 5-4 Oceano Dunes SVRA Heat Mapping (OHMVRD, 2019). Figure 5-4 shows the average PM_{10} emission rates throughout the SVRA on the 10 windiest days between May 1, 2013 and August 31, 2013.[14] Portions of the SVRA depicted in red reflect areas with higher PM_{10} emissions; areas in tan have lower PM emissions. The 6 Exclosure is located near the coast in an area exhibiting relatively lower emissivity than areas to the north and northwest of the 6 Exclosure. The East Boneyard Exclosure, located along the SVRA's southern border, is in an area that has relatively lower emissivity than other, more northern areas of the SVRA. In contrast to the 6 Exclosure, the East Boneyard Exclosure is not bordered by areas with higher relative emissivity.

The relatively lower emissivity potentially present within the East Boneyard Exclosure and 6 Exclosure indicates that these areas are not currently identified as key contributors to downwind PM_{10} concentrations. The OHMVR Division, therefore, would not prioritize these areas for dust control unless new information becomes available that changes the current understanding of the potential emissivity in the 6 Exclosure and East Boneyard Exclosure.

5.2.5 Air Quality Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. A sensitive receptor is generically defined as a location where human populations, especially children, seniors, and sick persons, are located where there is reasonable expectation

[13] Although Table 4 of the report identifies the upwind source area for the CDF monitoring station being 290° to 295° north-northwest, the confidence level is low, and the report states that confidence would be bolstered with additional years of data.

[14] See footnote 7 for an explanation of why this date range was modeled.

of continuous human exposure to air pollutants. These typically include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). For the purposes of this EIR, sensitive receptors include the residences on and around the Nipomo Mesa, downwind of Oceano Dunes SVRA, and schools including, but not limited to Lopez Continuation High School, Mesa Middle School, and Lange (Dorothea) Elementary School.

5.3 PROJECT IMPACTS

5.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed HCP would have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The proposed HCP would not conflict with or obstruct implementation of the SLOAPCD *2001 Clean Air Plan*. The proposed HCP would not result in changes to park visitation or vehicle use levels and is therefore consistent with the growth assumptions and emission-generating characteristics and assumptions used by the SLOAPCD to forecast emissions in the *2001 Clean Air Plan*, as well as the measures and strategies identified to reduce emissions. In addition, there are no control measures applicable to the actions proposed in this EIR. Thus, the project would not conflict with or obstruct implementation of the SLOAPCD 2001 *Clean Air Plan*. Accordingly, the impact on an applicable air quality plan is not discussed further in this EIR.

The proposed capture of SNPL chicks and eggs for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) does not involve use of equipment or generate emissions. Indirect vehicle emissions from this activity would occur as part of existing CDPR monitoring activities. As such, impacts associated with CA-12b are not discussed further in this EIR.

The proposed CDPR UAS Use for Park Activities (CA-52) would require the use of equipment powered by an electric motor. Though there may be some imbedded, indirect emissions associated with electricity consumption of the UAS, these emissions would be nominal and occur off site. As such, impacts associated with CA-52 are not discussed further in this EIR.

The proposed HCP does not include activities or project components that would create objectionable odors. The proposed mechanical trash removal activity (CA-21) may result in odors associated with fuel combustion needed to power the vehicle. This equipment would be mobile and generally located in areas of the SVRA away from sensitive receptor locations. Odors at this distance would readily disperse and any effects of transient receptors (e.g., OHV riders or campers in the SVRA) would be temporary and short in duration. No odor impact would occur. Therefore, odor impacts are not discussed further in this EIR.

5.3.2 Cumulatively Considerable Net Increase of Criteria Air Pollutants and Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Many of the operational activities proposed for HCP coverage are existing and ongoing and, therefore, are considered part of baseline conditions for this project.

The implementation of mechanical trash removal (CA-21) and the reduction of the East Boneyard Exclosure and 6 Exclosure (CA-50) could change dune surface emissivity in areas where these activities occur. Although there is uncertainty regarding the likelihood and magnitude of the change, an increase in dust emissions from dune surfaces attributable to CA-21 or CA-50 could result in higher PM_{10} concentrations downwind of Oceano Dunes SVRA, potentially leading to changes in the number of CAAQS and/or NAAQS exceedances at APCD monitoring stations. CA-21 and CA-50 could change surface emissivity in different ways. Accordingly, these two activities are discussed independently of one another, with significance conclusions drawn in EIR sections 5.3.2.1 and 5.3.2.2. Due to the uncertainty regarding the likelihood and the magnitude of potential changes in emissivity resulting from these activities, potential impacts are discussed qualitatively in nature.

5.3.2.1 Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50)

The East Boneyard Exclosure and 6 Exclosure are two areas within the seasonal exclosure[15] that are approximately 49 and 60 acres in size, respectively. Combined, the two exclosures (109 acres) represent less than 10 percent of the open riding and camping area (1,305 acres). Individually, they represent approximately 4 percent (for East Boneyard Exclosure) and 5 percent (for the 6 Exclosure) of the SVRA's open riding and camping area. Under the HCP, the OHMVR Division would annually reduce (i.e., no longer fence off, meaning the area would be open to year-round riding and camping) the 6 Exclosure in 328-foot increments (equal to 12 percent of the total length of the 6 Exclosure, or approximately 7.5 acres) as long as specific biological criteria are met (see HCP section 5.2.3). These approximately 7.5-acre annual increments, which are assessed in a north-to-south manner, each reflect approximately 0.55 percent of the open riding and camping area.[16] Under the fastest timeframe, it would take approximately 8 years to fully reduce the 6 Exclosure. In contrast, during the first year of HCP implementation, the East Boneyard Exclosure would be eliminated (i.e., the full 49 acres would be available for year-round riding).

As described in EIR section 5.2.4, the OHMVR Division, SLOAPCD, CARB, and DRI have studied the dynamics of dust generation at Oceano Dunes SVRA and developed a modeling tool that is intended to identify areas at Oceano Dunes SVRA that should be prioritized for dust

[15] A seasonal exclosure is an area of Oceano Dunes SVRA that is fenced off during the breeding season of the CLTE and SNPL, March 1st through September 30th. The remaining portion of the year (i.e., October 1st to the end of February), these areas are open to riding. To make the exclosure suitable habitat for CLTE and SNPL, the OHMVR Division imports wrack, wood chips, and other suitable habit material, and disperses it throughout the exclosure area. Wrack consists of seaweed, driftwood, and other organic materials (see EIR section 4.1.2).

[16] Though the HCP proposes incremental reductions of the 6 Exclosure, it is unclear at this time if the OHMVR Division would proceed with the reductions in a north-to-south manner or in an east-to-west manner. For the purposes of this EIR's analysis, reduction of the 6 Exclosure in a north-to-south manner is assumed to be a worst-case scenario, based on the 6 Exclosure's proximity to higher emitting areas immediately north and east of the exclosure and because of its location upwind of the CDF monitoring station.

control activities, such as the installation of temporary dust control measures (wind fencing, straw bales) or planting of vegetation as a permanent dust control measure. The current modeling tool reflects dust emissions based on the historical data collected at and in the vicinity of Oceano Dunes SVRA, and thus reflects existing recreational patterns, including the seasonal exclosures and any effect these exclosures have on dust generation at Oceano Dunes SVRA.

CA-50 (and CA-21) are proposed activities that would have effects on emissivity not currently accounted for in the OHMVR Division, SLOAPCD, and CARB dust control modeling effort, since the underlying data for surface emissivity are from the 2013 calendar year. Although the Boneyard Exclosure and 6 Exclosure are areas already open to OHV recreation from October 1st through February 28th, additional OHV recreation in these areas from March 1st through September 30th (the CLTE and SNPL breeding season), which includes the spring windy season at the SVRA, could result in changes to dust emissions originating from the East Boneyard Exclosure and 6 Exclosure. The likelihood for changes to occur within the East Boneyard Exclosure and 6 Exclosure and the potential effects on downwind air quality and ambient air quality standards if a change does occur are discussed below.

Potential Changes in Surface Emissivity (Dust Emissions)

As shown in Figure 5-4, dust emission from surfaces in Oceano Dunes SVRA open riding and camping area vary, with some areas having higher emissions and other areas having lower emissions. The latest modeling conducted in accordance with the SOA indicates the East Boneyard Exclosure and 6 Exclosure are areas of relatively lower emissions (see Figure 5-4), although there is no conclusive reasoning for why these areas have lower relative emissions. In the report titled *Updated Wind Erodibility Measurements at and Near the Oceano Dunes SVRA: Draft Overview of Findings*, discussed in EIR section 5.2.3, DRI compared PI-SWERL measurements taken within the larger Seasonal Exclosure (which includes the 6 Exclosure) in August 2013, September 2014, and September 2015 (with the exclosure in place and surface material[17] distributed throughout the exclosure area) to measurements taken in March 2016 (5 months following the exclosure removal). The report found that PI-SWERL measurements taken in March (after 5 months of OHV recreation in the exclosure area) were, on average, 2 to 3 times higher than PI-SWERL measurements taken in August and September when OHV recreation was prohibited within the exclosure. The report observed the increase was "likely associated with OHV travel," but also noted, "it would be instructive to repeat these measurements to ensure that the apparent effect of OHV riding was not an anomalous finding" (DRI, 2016).[18] The emissivity increases reported by DRI in the 2016 report were not seen in other areas of Oceano Dunes SVRA where OHV use was relatively constant (i.e., measurements taken outside the exclosure

[17] Surface material in this context, and as used throughout the rest of this chapter, refers to wood chips, plants, wrack and other habitat suitable substances for the CLTE and SNPL.

[18] As discussed further on in the section, these conclusions were based on 23 measurements made during the 2016 monitoring campaign that could be compared to the data from the 2013 monitoring campaign. Nine (9) tests were conducted in the 6 Exclosure at seven (7) distinct locations, and six (6) tests conducted in the East Boneyard Exclosure at four (4) distinct locations. This equates to approximately 8.6 acres per test location in the 6 Exclosure and approximately 12.3 acres per test location (Etyemezian, 2019).

areas); however, DRI did not provide a quantitative measurement of the OHV activity that led to the measured change.

In addition to discussing the observed increase in emissivity associated with OHV riding, the report also discussed other factors that could alter emissivity in the exclosure areas, stating, "it is not clear to what extent the Plover exclosure represents the characteristics of the wider ODSVRA, especially since it is known that stabilizing materials (e.g., wood chips) have been added to the surface from time to time in support of Plover nesting activities" (DRI, 2016).[19] Furthermore, the samples within the East Boneyard Exclosure were taken on relatively flat dune surfaces (due to the constraints of the PI-SWERL instrument), which means the data gathered may or may not be representative of overall emission potential in this portion of the SVRA due to large topographical changes present in the East Boneyard Exclosure area.

It is uncertain at this point what amount of change, if any, year-round OHV recreation in the East Boneyard Exclosure and 6 Exclosure would have on overall dust emissions downwind of the SVRA. Based on observations made by DRI in *Updated Wind Erodibility Measurements at and Near the Oceano Dunes SVRA: Draft Overview of Findings*, there is potential for surface emissivity to increase under elimination of the East Boneyard Exclosure and 6 Exclosure, and the emissivity increases observed after the seasonal exclosure had been reduced for approximately 5 months were shown to be 2 to 3 times higher than those when the seasonal exclosure had been fenced off. OHV riding could have contributed to the measured increases; however, conditions at the East Boneyard Exclosure and 6 Exclosure differ from one another in some ways. Whereas the 6 Exclosure is located closer to the shore and has suitable habitat material imported to the site prior to the CLTE and SNPL nesting season, the East Boneyard Exclosure is located further inland, has no suitable habitat material imported prior to the nesting season, and the open dunes shift rapidly in the East Boneyard area. Despite varying conditions at the two sites, DRI's observations suggest that reducing the East Boneyard Exclosure and 6 Exclosure could increase PM and dust emission potential if they are open to OHV riding throughout the entire year.

It is uncertain what effect this increase would have on overall PM_{10} emissions from the Oceano Dunes SVRA dust generation system. As shown in Figure 5-4, the East Boneyard Exclosure and 6 Exclosure are already some of the lowest emitting areas within the SVRA. This means that, even if PM emissions were to increase two or even threefold (the magnitude observed by DRI after 5 months of the seasonal exclosure being reduced), the rates still would still be less than the highest emitting portions of the SVRA (e.g., the area north of the 6 Exclosure and the area southwest of Pavilion Hill). In other words, any potential increases in PM and dust emissions (particularly at the 6 Exclosure, which would be reduced incrementally) would be relatively minor compared to the highest emitting areas and in the context of overall mass emissions of PM_{10} from Oceano Dunes SVRA.

[19] Although current emissions from the 6 Exclosure may be abated somewhat by surface material brought into the exclosure prior to the CLTE and SNPL nesting season, OHVs and other vehicle activity in the 6 Exclosure during the non-nesting season may change the stabilizing properties of the added material. In contrast, the portion of the dune complex located in the East Boneyard Exclosure does not have any habitat enhancing materials imported, which might serve to stabilize the dune surface. The East Boneyard Exclosure is also located in an area where the sand dunes shift rapidly.

Nonetheless, potential changes in surface emissivity characteristics caused by implementation of CA-50 is not accounted for in the current SOA modeling (see section 5.1.4) and thus, could interfere with current dust reduction goals set by the SOA. In addition, increases in surface emissivity could lead to the entrainment of more dust and PM in the wind, resulting in higher ambient pollutant concentrations measured at SLOAPCD and OHMVR Division monitoring stations (i.e., CDF, Mesa2, NRP, and Oso Flaco) and potential violations of ambient air quality standards. The potential for increases in surface emissivity to lead to higher measured pollutant concentration at the SLOAPCD's two closest monitoring sites, CDF and Mesa2, is discussed below.

Potential Changes to Ambient Air Quality and CDF and Mesa2 Monitoring Stations

The 6 Exclosure and East Boneyard Exclosure are located in two different geographic areas of Oceano Dunes SVRA. Whereas the 6 Exclosure is located along the shoreline, approximately halfway between the SVRA's northern and southern borders, the East Boneyard Exclosure is inset from the shore, along the SVRA's southern border. As such, any potential changes to emission characteristics in the two areas would be most notable at different downwind locations.

6 Exclosure. As discussed in the report titled *2016 Aerosol Particulate Profiler (APP) Monitoring Network: Summary of Finding*s (see EIR section 5.2.3), DRI evaluated wind speed and direction along the path from Oceano Dunes SVRA to the SLOACPD's CDF monitoring station and concluded that PM_{10} concentrations at CDF are most influenced by wind and windblown dust from the area spanning 290° and 295° upwind of the monitoring station.[20]

As shown in Figure 5-5 Source Area Upwind of CDF and Mesa2 (290° and 295°), the northernmost portion of the 6 Exclosure is located within the 290° to 295° area of influence, upwind of the CDF site. The proposed incremental, approximately 7.5-acre reductions of the 6 Exclosure may take place from north to south, thus keeping continuity between the remaining portion of the 6 Exclosure and other seasonal ones to the south (e.g., 7 Exclosure) or may occur in an alternate configuration.[21] The initial 7.5-acre reduction proposed for the 6 Exclosure represents approximately 4 percent of the total 193-acre upwind area of influence for the CDF monitoring station. If conditions are satisfied to continue annual reductions of the 6 Exclosure, then additional annual reductions would occur until the entire portion of the 6 Exclosure upwind of the CDF source area is open to year-round riding; however, only one additional, potential annual reduction would be within the 290° to 295° area of influence of the CDF monitoring station. In total, approximately 12.5 acres of eliminated 6 Exclosure would be within the 290° to 295° CDF upwind area of influence (equal to 6 percent of the 193-acre upwind area of influence). This area is located 2.4 miles from the CDF monitoring site but would have the highest potential to cause or contribute to measured exceedances of NAAQS or CAAQS at the CDF monitoring station.

East Boneyard Exclosure. The proposed 49-acre reduction of the East Boneyard Exclosure would occur during the first year of HCP implementation. No recent studies have been

[20] As noted in Table 4 on page 35 of the study, the confidence level of this conclusion/observation is low since it is only based on data from the 2016 calendar year. It goes on to state that additional years' data would bolster confidence.

[21] In terms of area, this 100-meter/328-foot reduction equates to approximately 7.5-acre increments.

conducted for the portions of Oceano Dunes SVRA that influence PM concentrations at the Mesa2 monitoring site; however, applying the same narrow area of influence documented for the CDF site (290° and 295° upwind) to the Mesa2 monitor reveals that a small portion (approximately 1 acre) of the northern East Boneyard Exclosure falls within the upwind area of influence for Mesa2 (see Figure 5-5). The narrow upwind area of influence for the Mesa2 station is approximately 500 acres in total size; the reduction in the East Boneyard Exclosure encompasses approximately 0.4 percent (1 acre) of the 500-acre upwind area of influence for Mesa2 and is located approximately 3.6 miles from the Mesa2 monitoring station.

It is important to note the 290° to 295° upwind area of influence identified for the CDF site is not definitive. In its report, DRI noted the confidence level for the wind direction observation for CDF was low, and additional years' data would be needed to bolster confidence (DRI 2017; p. 35). Therefore, in actuality, the range in wind direction that influences measurements at the CDF site (and for the purposes of this EIR the Mesa2 site) may be larger. In addition, although there may be an upwind area that most influences measured concentrations at any particular site, not all emissions are from that specific upwind area of influence; PM and dust emissions from other portions of the SVRA still contribute to concentrations measured at CDF and Mesa2, but to a lesser extent.

Though the 1 acre of the East Boneyard in the 290° to 295° Mesa2 upwind area of influence is relatively small, and the Mesa2 monitoring station (on average) monitors approximately half the amount of CAAQS exceedances as CDF, increases in surface emissivity and dust generation in the East Boneyard area could possibly cause or contribute to measured exceedances of NAAQS or CAAQS at Mesa2.

Significance Determination

The potential for CA-50 to increase surface emissivity and dust generation in a manner that adversely affects ambient air quality and causes or contributes to existing or projected violations of the NAAQS and/or CAAQS is limited for several reasons. First, any potential changes to surface emissivity in the East Boneyard Exclosure and 6 Exclosure would occur in relatively lower-emitting areas, and the existing data indicates that these areas, after having undergone an increase, would still be relatively low compared to other areas of the SVRA. Second, the East Boneyard Exclosure and 6 Exclosure are located approximately 2.4 and 3.6 miles, respectively, from the air quality monitoring station on which they are most like to have the greatest influence. Third, as described in EIR section 5.1.1, NAAQS attainment determinations are based on prescribed computational equations, and generally more than one exceedance of the NAAQS standard must occur for a violation of the standard to occur. Thus, a single exceedance would not necessarily result in a violation of the NAAQS standards for PM_{10} or $PM_{2.5}$. The CAAQS are generally more stringent than the NAAQS, in that a single exceedance of the PM_{10} or $PM_{2.5}$ State standards can be considered a violation of the CAAQS.

The implementation of CA-50 would more likely contribute to CAAQS exceedances than NAAQS exceedances at CDF and Mesa2 if left unchecked. As discussed in EIR section 5.1.2, historically, the CAAQS have been exceeded more frequently than the NAAQS, and unlike the CAAQS, the NAAQS stipulate that individual, daily exceedances do not necessarily constitute a violation. The implementation of CA-50 could, over the short term, impede air quality improvements (i.e., increase the number of CAAQS and NAAQS exceedances and potentially

increase CAAQS and NAAQS violations) as well as potentially affect public health in an adverse way.[22]

Accordingly, potential increases in surface emissivity and dust generation from within the reduced exclosure areas as a result of proposed CA-50 are considered to be a potentially significant impact. Although the potential for this impact to occur is considered limited based on the amount of exclosure areas in relation to the overall riding area, the current emissivity characteristics of the exclosure area, and the rate at which the 6 Exclosure would be reduced, increases in emissivity and dust generation could exacerbate sensitive receptor exposure to substantial pollutant concentrations and/or cause or contribute to exceedances of ambient air quality standards. To ensure that proposed CA-50 does not cause or contribute to adverse changes in ambient air quality or violations of NAAQS and CAAQS for $PM_{2.5}$ and PM_{10}, the OHMVR Division would implement Mitigation Measures AIR-1A, AIR-1B, and AIR-1C (see EIR section 5.5). Mitigation Measure AIR-1A would require quarterly emission monitoring[23] of the reduced exclosure areas using one or more methods accepted by the OHMVR Division, the SAG, and the SLOAPCD for measuring surface emissivity and dust generation at Oceano Dunes SVRA (e.g., PI-SWERL, ambient PM_{10} monitors, etc.). If the monitoring shows emissivity within the new areas available for year-round OHV recreation increases by a factor of three or more,[24] the OHMVR Division would implement Mitigation Measures AIR-1B and AIR-1C, respectively, to control and/or offset emissions, so there is no net change in dust generation and downwind PM_{10} concentrations at Oceano Dunes SVRA. With the implementation of Mitigation Measures AIR-1A, AIR-1B, and AIR-1C, this impact would be ***less than significant with mitigation incorporated***.

5.3.2.2 General Facilities Maintenance (CA-21)

Under CA-21, CDPR would add mechanical trash removal to its facility maintenance operations. The primary goal of this activity is to improve the safety of visitors and wildlife by removing litter and debris, which is most likely to be found in areas of Pismo State Beach and the SVRA that experience higher visitation. Mechanical trash removal would focus on a narrow (200- to 300-foot-wide), approximately 140-acre band running from Grand Avenue to Post 6, with treatment potentially occurring in other locations pending resource staff review. Although the total area targeted for treatment is roughly 140 acres, the maximum amount of area treated per day could be as high as approximately 24 acres. Some areas may be treated several times a month during a busy season, whereas others only once or twice a year, if at all. The process of

[22] As described in EIR section 5.1.2, the CAAQS and NAAQS are air quality standards adopted with the intent of protecting public health.

[23] Since DRI's preliminary finding that OHV activity may be correlated with higher emissivity was based on data points separated by six-month intervals, monitoring on a 3-month interval would provide the OHMVR Division and the SAG with finer resolution data on potential emission changes. This finer resolution data may provide greater insight into larger phenomena that may affect emissions over the course of the year. The provision that future reductions would be halted after three consecutive increases would ensure potential, measured changes are not attributable to temporal shifts.

[24] A factor of three or more is based on DRI's observation that emissivity in the seasonal exclosure had increased after the seasonal exclosure areas had been reduced for approximately 5 months (DRI, 2016).

mechanical trash removal would actively disturb the surface of the sand and remove debris and organic material from the top approximately 2 to 6 inches of the sand surface.

The physical process of raking the sand for trash removal would create microtopographic changes in dune surfaces that are likely to be similar to that caused by existing recreational and maintenance activities. It would also remove debris that could pose a safety issue to visitors and wildlife. Treatment would likely take place in beach areas experiencing higher visitation, since there is a greater potential for anthropogenic material (e.g., charcoal, beach toys, wood, etc.) to be left behind at these locations. Areas of higher visitation are already subject to higher disturbance associated with recreational and maintenance activities and therefore, the effects of mechanical trash removal activities in terms of active dune surface disturbance would be similar to current, existing conditions. Any microtopographic changes that could alter emissivity characteristics of the raked area would be short-lived since, being in more traveled areas, OHV activity, camping, and/or park maintenance activities that result in travel over the sand would quickly return the dune surface to its existing conditions prior to the mechanical trash removal. Although the physical, microtopographic changes may be short-lived, removing materials from the surface of the sand could potentially increase PM emissions from portions of the SVRA that have undergone treatment. According to a literature review of published research papers on the effects of mechanical trash removal, one paper documented emissivity increases after mechanical trash removal had occurred. Some level of uncertainty exists regarding the findings of the report as they apply to PM emissions at Oceano Dunes SVRA.

In the research paper *Loss of Coastal Strand Habitat in Southern California: The Role of Beach Grooming*, Jenifer E. Dugan and David M. Hubbard investigated the effects of beach grooming on sand transport (Dugan & David, 2010). Although the paper ultimately concluded that beach grooming at San Buenaventura State Beach increased the rate of aeolian sand transport by 10 to 1,000 times compared to ungroomed portions of the beach, the conditions under which these conclusions were drawn differ from those at Oceano Dunes SVRA because the portion of ungroomed beach used in the study had been ungroomed since 1999, approximately 13 to 14 years before the study was conducted, was already partially vegetated, and had wrack (kelp and organic debris washed onto the beach) cover approximately five times greater than the groomed portion of beach used in the study. The portions of Oceano Dunes SVRA proposed for mechanical trash removal are located inland of the shoreline, where vegetation and wrack do not currently exist. In addition to having more material present on the sand surface (e.g., wrack), the ungroomed portions of San Buenaventura State Beach studied for aeolian transport had been artificially seeded by the researchers, leading to a higher rate of vegetation at and upwind of the sand transport samplers used in the study. Wrack, vegetation, and other items on the surface of the sand have been well documented as ways to control aeolian transport (i.e., if the top layer of sand is covered, it does not have the potential to emit sand during wind events).

Although the conditions under which the study conducted by Dugan and Hubbard differ from those present at Oceano Dunes SVRA, the physical process of removing debris from the surface of the sand at either location would have a similar effect on the aeolian transport process. During a recent field test conducted with the piece of equipment that would be used for the proposed mechanical trash removal activity at Oceano Dunes SVRA, CDPR staff assessed the materials that were collected by the machine. The results of the analysis showed that approximately 22 percent of the material collected was trash (e.g., paper, plastic debris, glass, etc.) and the remaining 78 percent of the material was organic (e.g., wood and charcoal) or rock. While these

types of material, natural or anthropogenic, are not the same as the wrack material observed at the San Buenaventura State Beach, they could offer similar, surface-stabilizing properties based on their location and density. The removal of such items from the surface of the sand at Oceano Dunes SVRA could, in turn, increase emissivity in portions of the SVRA that have been raked but not at the same rates observed by Dugan and Hubbard, since conditions at Oceano Dunes SVRA are regularly disturbed, free of vegetation, and not seeded to artificially high vegetation rates.

Significance Determination

The frequency of mechanical trash removal that would be conducted at Oceano Dunes SVRA and what effects it could have on long-term surface emissivity in the areas that have been treated are unknown. Areas experiencing higher visitation are more likely to be subject to mechanical trash removal activities, since there would be a higher likelihood of visitors leaving items behind. Since it is unknown what quantity of trash and debris are currently located within the portion of the SVRA that would undergo treatment, it cannot be determined at this time what level of stabilization the existing trash and organic material provide. Nonetheless, based on observations made by Dugan and Hubbard, removing material from the top layer of sand would likely increase the emissivity in areas that have undergone treatment. The potential increases in emissivity in areas that already exhibit a relatively higher potential to emit than other portions of the SVRA (e.g., the area between Post 4 and the northern boundary of the existing seasonal exclosure [see Figure 5-4]), and which are located in or near the upwind area of influence for the CDF monitoring station (see EIR section 5.3.2.1), are considered to be a potentially significant impact.

To address this potentially significant impact, the OHMVR Division would implement Mitigation Measures AIR-1A and AIR-1D. Mitigation Measure AIR-1A requires the periodic monitoring of areas undergoing mechanical trash removal to determine how surface emissivity may change after mechanical trash removal has occurred. If the monitoring shows an increase in emissivity south of Post 4, the CDPR shall implement Mitigation Measure AIR-1D, which requires the cessation of mechanical trash removal in that area until dust control measures have been deployed to fully offset the increase in emissions from the area.[25,26] The CDPR shall continue to monitor emissivity until it has been demonstrated that emissivity levels in the area

[25] Although monitoring would be conducted for all areas undergoing mechanical trash removal (i.e., from Grand Avenue to Post 6), the area north of Post 4 exhibits relatively low emission potential, is located upwind of a large foredune system in the Pismo Dunes Natural Preserve and has not been identified as an area that substantially contributes to PM concentrations at the CDF or any other monitoring station. As such, Mitigation Measure AIR-1D focuses on the areas proposed for mechanical trash removal that already exhibit high emission potential and which are located near or within the upwind area of influence for the CDF monitoring station.

[26] Whereas a threefold increase in emissivity in the East Boneyard Exclosure and 6 Exclosure areas would be relatively minor since they currently have a low baseline potential to emit, any increases in surface emissivity due to mechanical trash removal south of Post 4 would occur in areas that already have a relatively higher baseline potential to emit. As such, potential emissivity changes associated with mechanical trash removal south of Post 4 are considered potentially significant.

undergoing mechanical trash removal have stabilized and adequate control measures have been implemented to offset the net increase in emissions resulting from the implementation of CA-21.

With the implementation of Mitigation Measures AIR-1A and AIR-1D, this impact would be ***less than significant with mitigation incorporated***

5.4 CUMULATIVE IMPACTS

The proposed project would not result in a cumulatively considerable air quality impact with mitigation incorporated.

Some of the future activities covered by the HCP, but which are not proposed projects in this EIR (see Table 3-1.), could generate or reduce PM_{10} and $PM_{2.5}$. Construction of new projects[27] at the SVRA in the future could generate fugitive dust emissions from surface disturbance (e.g., site preparation and grading) and exhaust emissions from equipment operation (e.g., excavators, loaders, worker trucks/cars, etc.). These projects would be subject to future environmental review and would implement fugitive dust control measures, as necessary, to comply with the SLOAPCD's thresholds of significance, such as the 2.5-ton-per-quarter threshold established for PM_{10}. Conversely, implementation of the PMRP (CA-44) would reduce fugitive dust emissions from the SVRA. As part of the PMRP, the OHMVR Division is proposing to develop a 48-acre vegetated foredune, plant up to 4 additional acres of foredune vegetation, install additional wind fencing and other seasonal dust control measures (e.g., straw bales), and plant up to 319 additional acres of backdune vegetation throughout the SVRA. These activities would control fugitive dust emissions from within the SVRA and reduce concentrations of dust and PM downwind of the SVRA. Thus, the PMRP is anticipated to have a beneficial effect on air quality, although the actual benefit resulting from the PMRP is not known at this time and may not be known with certainty until such time as the PMRP is fully implemented. The 48-acre foredune area has been fenced but not planted or otherwise treated pending CEQA and other approvals.

Emissions of PM_{10} and $PM_{2.5}$ could also be generated during operational activities associated with future projects associated with the PWP (Table 3-1.). For example, improving campgrounds (e.g., Project D: Oceano Campground Infrastructure Improvement Project and Project F: North Beach Campground Facility Improvements) or opening a new portion of the SVRA for riding (e.g., Riding in 40 Acres [CA-42]) could increase OHV activity in some portions of the SVRA while decreasing it in others. This shift in vehicular activity could change the amount and/or the geographic distribution of emissions within the SVRA.

Criteria air pollutants (e.g., PM_{10} and $PM_{2.5}$) generated by potential future activities could combine with temporary fugitive dust emission increases[28] associated with the implementation of CA-50 and CA-21 (see EIR sections 5.3.2.1 and 5.3.2.2, respectively); however, the proposed project's incremental contribution to cumulative emission impacts would be less than significant.

[27] The future projects identified in Table 3-1. that could have an adverse effect on air quality during project construction include: Grover Beach Lodge and Conference Center (CA-38), Riding in 40 Acres (CA-42), Special Projects (CA-49), and various PWP projects.

[28] Temporary in this context refers to emission increases that may occur and that would need to be offset under the implementation of Mitigation Measures AIR-1B through AIR-1D.

The discussion of potential impacts presented in EIR section 5.3 is cumulative in nature. In considering potential cumulative air quality impacts, it is important to note that a region's non-attainment status is generally attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of regional ambient air quality standards. Instead, a project's individual emissions contribute to overall air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's cumulative impact on air quality would be considered significant.

The proposed project would implement Mitigation Measures AIR-1A through AIR-1D, which require emission increases associated with the implementation of CA-50 and CA-21 to be evaluated and steps taken to offset increases in emissions if they are found to cause or substantially contribute to a violation of state and/or federal air quality standards. In addition, cumulative emission increases associated with the activities proposed in the HCP, and those associated with future projects, would be assessed during development of the PMRP and Annual Work Plans, which are required to be designed such that state and federal PM_{10} air quality standards will be achieved. As such, the cumulative air quality impact of the project would be ***less than significant with mitigation incorporated***.

5.5 MITIGATION MEASURES

Impact AIR-1: The proposed new covered activities of mechanical trash removal (CA-21) and reducing the East Boneyard Exclosure and 6 Exclosure (CA-50) could potentially change dune surface emissivity, increase dust generation, expose persons to substantial pollutant concentrations, and cause or contribute to exceedances of $PM_{2.5}$ and/or PM_{10} ambient air quality standards.

Mitigation Measure AIR-1A: To ensure that implementation of the HCP does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following monitoring actions.

1) Annually, the OHMVR Division shall identify boundary changes to the 6 Exclosure implemented under CA-50 and disclose this information to the SAG convened under the Stipulated Order of Abatement Case No. 17-01.
2) Prior to initiating mechanical trash removal activities, the OHMVR Division shall divide the trash removal treatment area into appropriate subareas that take into account, but are not limited to, geographic continuity and anticipated level of treatment.
3) In collaboration with the SAG, the OHMVR Division shall evaluate and establish baseline dust/PM_{10} generation in the East Boneyard Exclosure and 6 Exclosure and in the areas proposed for mechanical trash removal. This baseline may be based on:
   a) Historical data;
   b) New data; and/or
   c) A combination of historical and new data.
4) Every 3 months, the OHMVR Division shall conduct emission monitoring at one or more locations within/around the reduced East Boneyard Exclosure and 6 Exclosure areas and within the designated areas that have undergone mechanical trash removal. The specific number and location(s) of the monitoring, as well as instrumentation used for the

monitoring, shall be determined in consultation with the SAG, and the data produced shall be made readily available to the SAG.

5) Based on the emissions monitoring conducted pursuant to item 4) above:
   a) If the average value at a monitoring location associated with the 6 Exclosure shows the area is experiencing an increased emission factor of three or more (compared to baseline conditions) for three or more consecutive monitoring efforts, additional annual reductions of the 6 Exclosure area shall be halted, and the OHMVR Division shall implement Mitigation Measure AIR-1B.
   b) If the average value at a monitoring location associated with East Boneyard shows the area is experiencing an increased emission factor of three or more (compared to baseline conditions) for three or more consecutive monitoring efforts, the OHMVR Division shall implement Mitigation Measure AIR-1C.
   c) If the average value in an area south of Post 4 that has undergone mechanical trash removal shows any measurable increase in emission potential (compared to baseline conditions) after the area has been raked, additional mechanical trash removal of that area shall not occur until the requirements identified in Mitigation Measure AIR-1D have been met. This requirement does not supersede the requirements set for the 6 Exclosure or East Boneyard Exclosure areas by subsections 5a and 5b, respectively.

Mitigation Measure AIR-1B: To ensure that reduction of the 6 Exclosure does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions.

1) If, through modeling or other statistical analysis, it is determined that the increased emissions from the 6 Exclosure have caused or substantially contributed to a violation of state and/or federal air quality standards, the OHMVR Division shall, in consultation with the SAG, determine measures that offset increased emission concentrations. These measures may include, but are not limited to:
   a) Returning the exclosure to existing conditions,
   b) Administering a surface treatment on the area of the exclosure that has been reduced, or
   c) Controlling dust from another portion of the HCP area that is equivalent to the measured increase from the exclosure area that caused the violation. In no case shall the control measure acreage cause a loss of camping and motorized recreation that exceeds the acreage gained by reducing the 6 Exclosure.
2) Additional exclosure reduction activities may be resumed when, in consultation with the SAG, it has been determined that the change in emissions from the 6 Exclosure has not caused or substantially contributed to a violation of state and/or federal air quality standards.
3) The OHMVR Division may reduce/cease monitoring of the reduced exclosure areas being carried out pursuant to Mitigation Measure AIR-1A under the following criteria.
   a) Monitoring may be reduced to an interval of once every 6 months if the OHMVR Division no longer proposes to reduce the size of the 6 Exclosure, the monitoring has demonstrated emissions in the reduced exclosure area have stabilized over a period no less than 1 year, and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above.

b) Monitoring may cease if the OHMVR Division no longer proposes to reduce the size of the 6 Exclosure, the monitoring has demonstrated that emissions in the reduced exclosure area have stabilized over no less than 2 years, and modeling/statistical analysis is not being conducted for that emissions rate pursuant to item 1) above.
c) If at any time an exclosure is reduced, monitoring shall resume pursuant to Mitigation Measure AIR-1A at a rate of once every 3 months. Conditions 3a) and 3b) must then be met again to decrease the frequency of the monitoring after reducing an area of an exclosure.

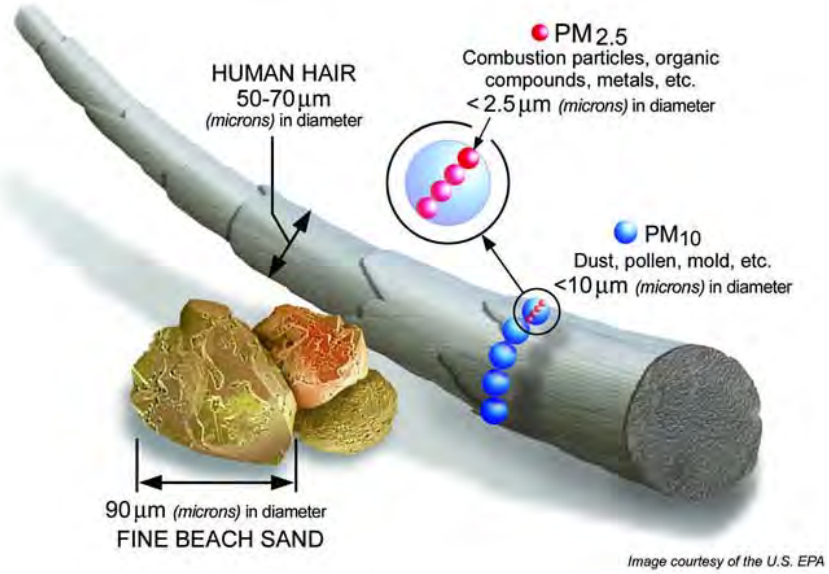
Mitigation Measure AIR-1C: To ensure reduction of the East Boneyard Exclosure does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions.

1) If, through modeling or other statistical analysis, it is determined that the increased emissions from the East Boneyard have caused or substantially contributed to a violation of state and/or federal air quality standards (i.e., independent of larger meteorological phenomena), the OHMVR Division shall, in consultation with the SAG, determine another portion of the HCP area outside of the open riding area to control dust. The area controlled shall be equivalent to the measured amount of PM increased from the exclosure area that caused the violation; however, in no case shall the control measure acreage cause a loss of camping and motorized recreation that exceeds the acreage gained by reducing the Boneyard Exclosure.
2) The OHMVR Division may reduce/cease monitoring of the reduced exclosure areas being carried our pursuant to Mitigation Measure AIR-1A under the following criteria.
   a) Monitoring may be reduced to an interval of once every 6 months if the monitoring has demonstrated that emissions in the reduced exclosure area have stabilized over a period no less than 1 year, and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above.
   b) Monitoring may cease if it has been demonstrated that emissions in the reduced exclosure area have stabilized over no less than 2 years, and modeling/statistical analysis is not being conducted for that emissions rate pursuant to item 1) above.

Mitigation Measure AIR-1D: To ensure that implementation of mechanical trash removal does not cause or contribute to violations of air quality standards, the OHMVR Division shall undertake the following actions.

1) If mechanical trash removal has increased emissivity in an area south of Post 4 (or other area determined by the SAG), the OHMVR Division shall, in consultation with the SAG, identify and implement measures that offset the increased emission concentrations. These measures may include, but are not limited to:
   a) Permanently discontinuing mechanical trash removal activities in the area that has experienced an increase in emissivity so it can return to baseline conditions, or
   b) Controlling dust from another portion of the HCP area that is equivalent to the measured increase in emissivity from the raked area; however, in no case shall the control measure cause a loss of camping and motorized recreation acreage.
2) Mechanical trash removal activities may be resumed when, in consultation with the SAG, it has been determined the change in emissions from the area that underwent mechanical trash removal has been fully offset.

3) The OHMVR Division may reduce/cease monitoring being carried out pursuant to Mitigation Measure AIR-1A for areas that have undergone mechanical trash removal under the following criteria.
   a) Monitoring may be reduced to an interval of once every 6 months if the monitoring has demonstrated that emissions in the mechanically raked area have stabilized over a period no less than 1 year (i.e., new maximum emissivity values are not being recorded), control measures have been implemented that fully offset the maximum increase in emissions after the mechanical trash removal has occurred (i.e., immediately after the area has been raked), and modeling/statistical analysis is not being conducted for the initial emissions rate being analyzed pursuant to item 1) above.
   b) Monitoring may cease if the OHMVR Division no longer proposes to mechanically rake an area, or the monitoring has demonstrated that emissions in the mechanically raked area have stabilized over no less than 2 years (i.e., no new maximum emissivity values have been recorded), and modeling/statistical analysis is not being conducted for that emissions rate pursuant to item 1) above.
   c) If at any time a new area of the HCP area is proposed for mechanical trash removal, its baseline emissivity shall be documented, and monitoring shall occur pursuant to Mitigation Measure AIR-1A at a rate of once every 3 months. Conditions 3a) and 3b) must then be met again to decrease the frequency of the monitoring after a mechanically raked area has recorded an increased emissivity factor compared to baseline conditions.



PM_{10} particles are approximately five to seven times smaller than the diameter of a human hair.
$PM_{2.5}$ particles are approximately 20 to 25 times smaller than the diameter of a human hair.

Source: U.S. EPA 2013b

Figure 5-1 Particulate Matter

Air Quality Monitoring Stations

- Existing air quality monitor

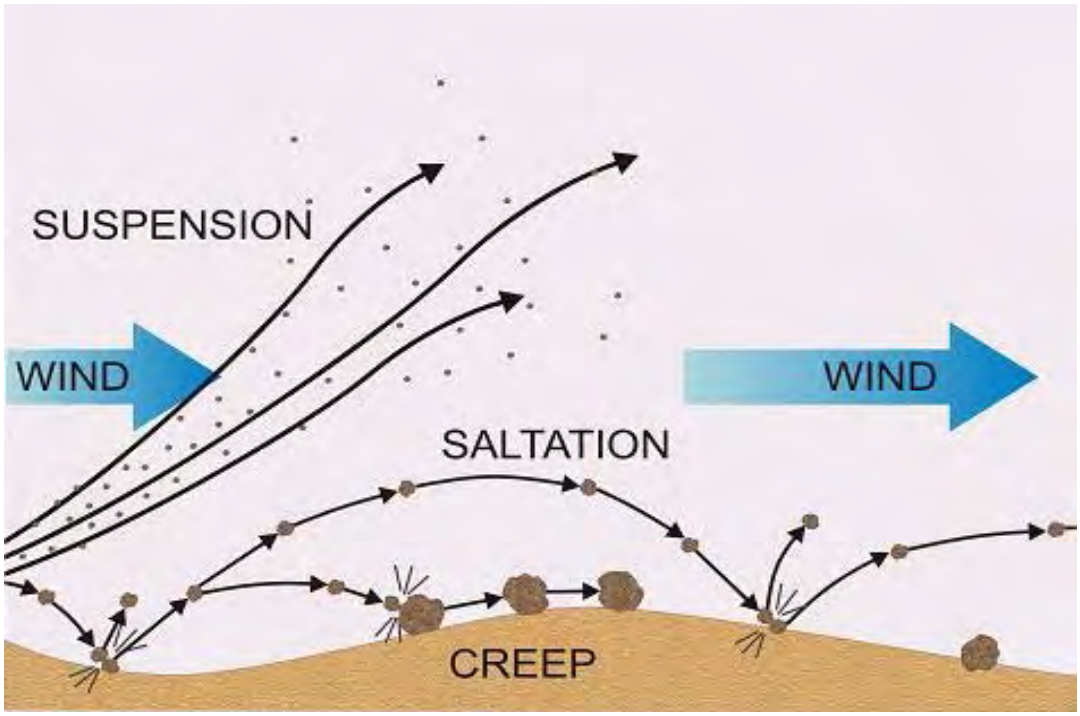
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Urban Areas
- Waterbody
- Stream
- Highway

February 2020
Source: ARB, 2014; SLO Co Open GIS, 2017; CDPR, 2020
MIG, 2020

Figure 5-2 HCP Area and Air Quality Monitoring Stations

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

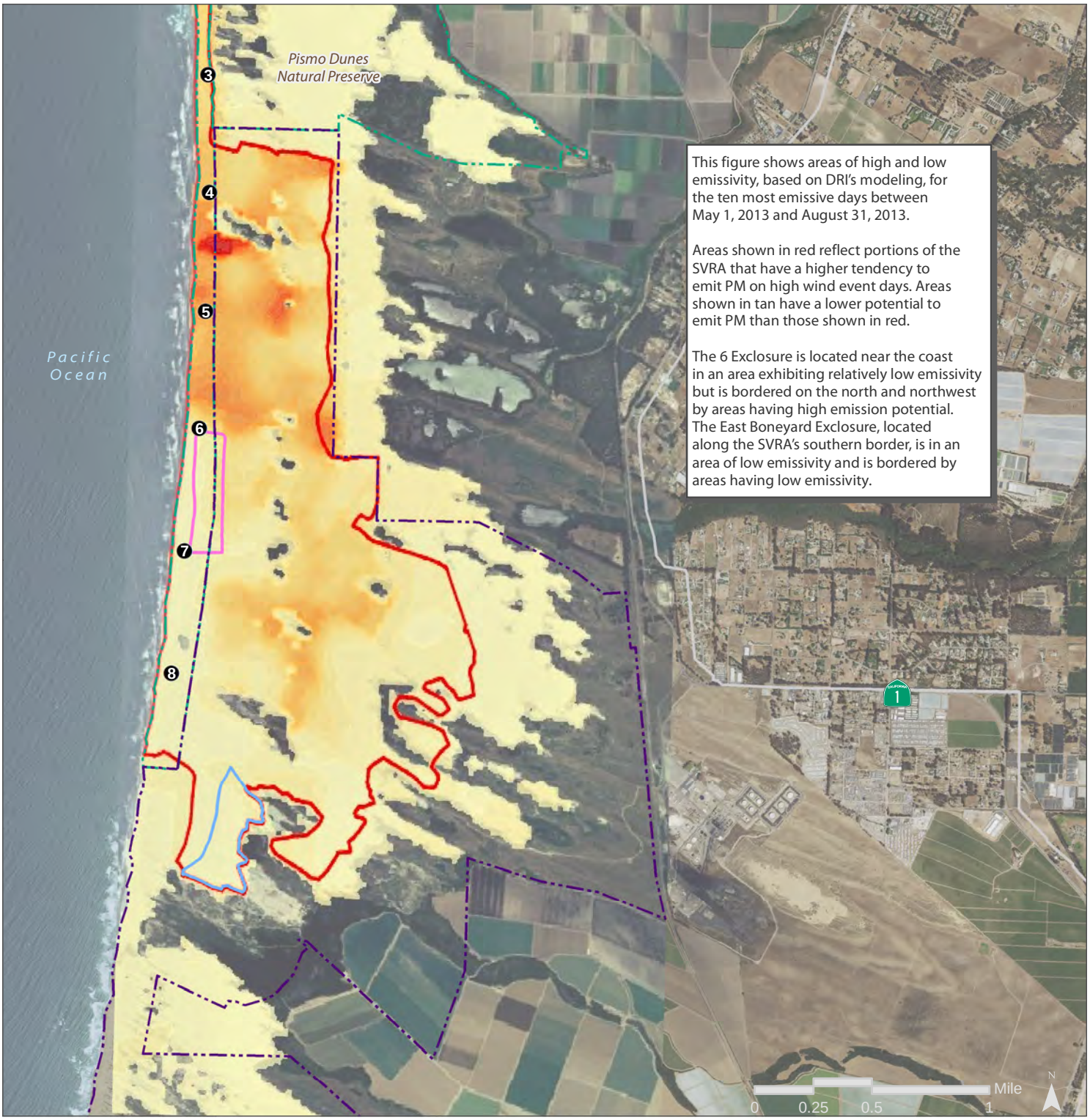


Wind results in sand creep or saltation and the suspension of fine particles.

Source: Jaison 2012

MIG

Figure 5-3 Saltation and Dust Generation Process



Oceano Dunes SVRA Emissions

0.0 6.0 12.0 18.0 24.0 30.0 36.0 42.0

Emissions x 10^3 [Tons/day]

Proposed New Covered Activities

- CA-50 6 Exclosure reduction*
- CA-50 Boneyard Exclosure reduction*

*Approximate location

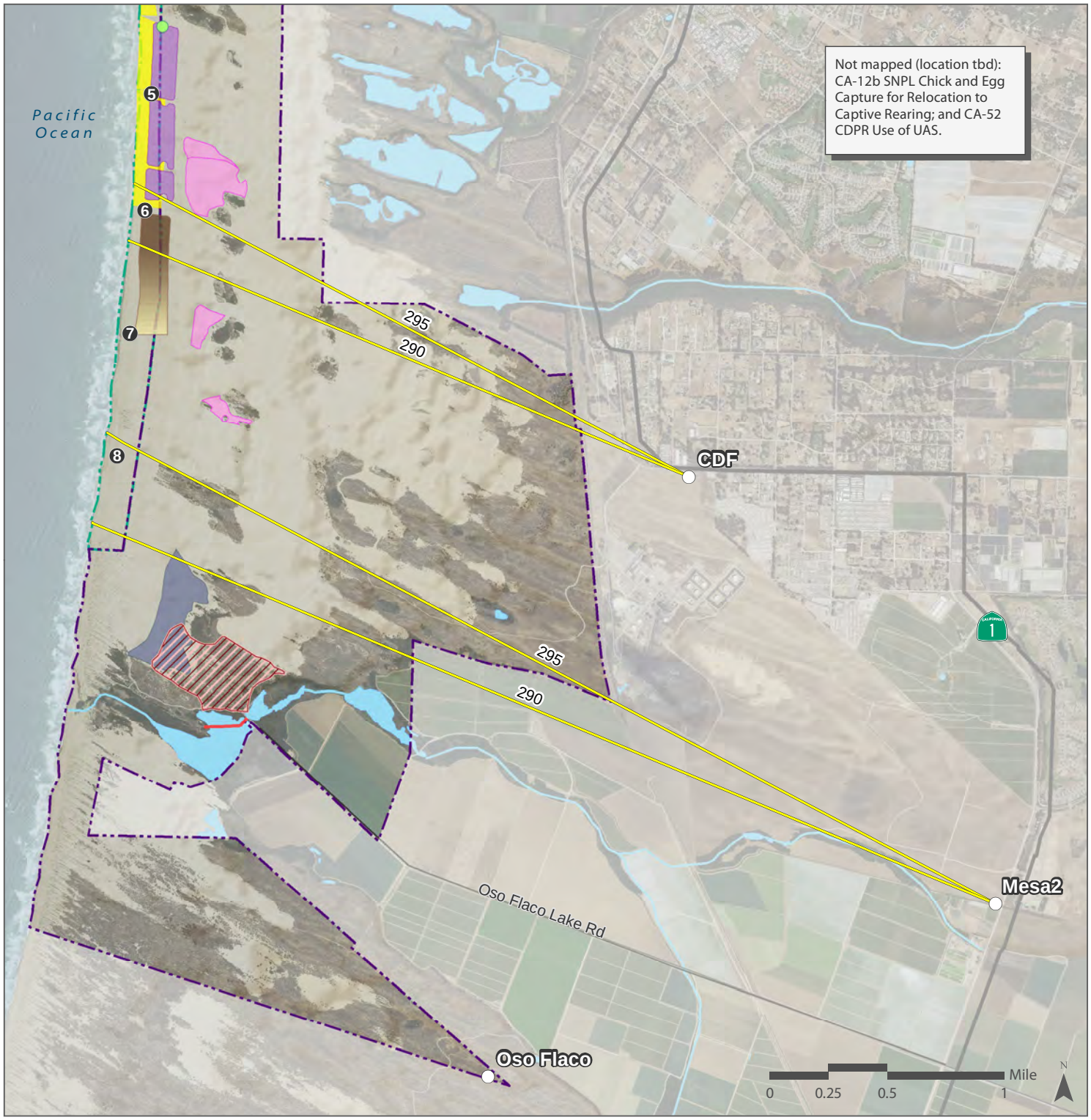
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Oceano Dunes SVRA open riding area boundary
- Marker post
- Highway

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 5-4 Oceano Dunes SVRA Heat Mapping

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



Air Quality Features

- Existing air quality monitor
- Degree line

Proposed New Covered Activities

- CA-21 Mechanical trash removal*
- CA-50 6 Exclosure reduction*
- CA-50 Boneyard Exclosure reduction*

*Approximate location

Potential Future Covered Activities

- CA-42 Riding in 40 Acres
- CA-43 Safety & Education Center replacement
- CA-44 PMRP, Foredune to be planted
- CA-44 PMRP, Wind fencing converting to vegetation
- CA-48 Oso Flaco Lake boardwalk replacement

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CGS, 2013
ARB, 2018; CDPR, 2020
CGS, 2013; MIG, 2020

Figure 5-5 Source Area Upwind of CDF and Mesa2 (290° and 295°)

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

This page intentionally left blank.

Chapter 6 BIOLOGICAL RESOURCES

6.1 REGULATORY SETTING

This section describes the applicable federal and state laws and regulations governing biological resources. The FESA, Migratory Bird Treaty Act (MBTA), and Clean Water Act (CWA) are the principal federal laws relevant to biological resources in the HCP area. In addition to CEQA, the principal state laws regulating biological resources are CESA, additional California Fish and Game Code[29] sections, and the Porter-Cologne Water Quality Act.

6.1.1 Federal Endangered Species Act

FESA (16 U.S.C. §§ 1531–1544) provides for the conservation of ecosystems (both through federal action and by encouraging the establishment of state programs) upon which threatened and endangered species of fish, wildlife, and plants depend. FESA is enforced by USFWS—part of the Department of Interior—for terrestrial and non-marine fish and by NOAA Fisheries—part of the Department of Commerce—for marine species, including steelhead and other anadromous fish. The Secretary of the Interior and the Secretary of Commerce are designated in FESA as responsible for identifying endangered and threatened species and their critical habitat. Key FESA provisions are described below.

Section 3. Section 3 of FESA provides for the designation of critical habitat for listed species. Section 3 defines critical habitat as: (i) the specific areas within the geographical area occupied by the species at the time it is listed on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon determination that such areas are essential for the conservation of the species. The term "conservation" is defined in section 3 as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." Therefore, critical habitat includes biologically suitable areas necessary for recovery of the species. Critical habitat may also include an area that is not currently occupied by the species but that will be needed for its recovery.

Section 7. Section 7 of FESA requires federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. "Jeopardize the continued existence of…" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 Code of Federal Regulations [CFR] § 402.02). "Destruction or adverse modification…" means "a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include … those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features" (50 CFR § 402.02). USFWS issuance of an ITP under FESA

[29] All Fish and Game Code references are to the California Fish and Game Code

section 10(a)(1)(B) is a federal action subject to FESA section 7. As a federal agency issuing a discretionary permit, the USFWS is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10(a)(1)(B) permit application initiates the section 7 consultation process within the USFWS.

Section 9. Section 9 of FESA and federal regulation pursuant to FESA section 4(d) prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Section 10. Recovery and interstate commerce permits are issued to allow for take as part of activities intended to foster the recovery of listed species under FESA section 10(a)(1)(A). A typical use of a recovery permit is to allow for scientific research on a listed species in order to better understand the species' long-term survival needs. Interstate commerce permits also allow transport and sale of listed species across state lines (e.g., for purposes such as a breeding program).

Individuals and state and local agencies proposing an action that is expected to result in the take of federally-listed species are encouraged to apply for an ITP under FESA section 10(a)(1)(B) to be in compliance with the law. Such permits are issued by the USFWS when take is not the intention of and is incidental to otherwise legal activities. An ITP application must be accompanied by an HCP. The regulatory standard under section 10(a)(1)(B) is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under section 10(a)(1)(B), a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 11. Pursuant to FESA section 11(a) and (b), any person who knowingly violates section 9 or any permit, certificate, or regulation related to section 9 may be subject to civil penalties of up to $25,000 for each violation or criminal penalties up to $50,000 and/or imprisonment of up to 1 year.

6.1.2 Migratory Bird Treaty Act

The federal MBTA of 1918 (16 USC § 703 *et seq.*) makes it unlawful to pursue, hunt, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain, the Republic of Mexico, Japan, and Russia. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as hunting and poaching. The MBTA authorizes the Secretary of the Interior to issue Special Purpose Permits. The procedures for securing such permits are found in Title 50 of the Code of Federal Regulations, together with a list of the migratory birds covered by the MBTA. The USFWS has determined that an ITP issued under Section 10 of the ESA also constitutes a

Special Purpose Permit under 50 CFR 21.27, and any take allowed under an ITP will not be in violation of the Migratory Bird Treaty Act.

6.1.3 Clean Water Act

The federal CWA is the primary federal law that protects the quality of the nation's surface waters. Under the CWA, all discharges of pollutants into "waters of the United States" are unlawful unless specifically authorized by a permit. "Waters of the United States" include, but are not limited to, oceans, bays, rivers, streams, and certain wetlands.

Under Section 404 of the CWA, the USACE must issue a permit to legally place any dredged or fill material below the ordinary high water mark of any water of the United States. Many projects require an individual, project-specific, permit. Other projects can streamline the permitting process by obtaining coverage under an existing nationwide permit that covers a range of activities. All projects that require a permit under Section 404 must also comply with Section 401 of the CWA. In California, Section 401 requires the state, through one of the nine RWQCBs, to certify that the discharge complies with all state water quality standards.

6.1.4 California Endangered Species Act

Section 2080 of the Fish and Game Code prohibits "take" of any species that CDFW determines to be an endangered species or a threatened species, except as otherwise provided. Take is defined in section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Unlike FESA, the definition of take under CESA does not include harm or harassment. Like FESA, CESA allows for take incidental to otherwise lawful activities.

Section 2081 of the Fish and Game Code allows CDFW to authorize acts that are otherwise prohibited pursuant to section 2080 of the Fish and Game Code. Section 2081(a) allows CDFW to authorize the import, export, take, or possession of endangered, threatened, or candidate species through a permit or memorandum of understanding for scientific, educational, or management purposes. Section 2081(b) allows CDFW to authorize take that is incidental to an otherwise lawful activity. Section 2835 of the Fish and Game Code allows CDFW to authorize by permit the taking of any covered species, including those designated as fully protected species, whose conservation and management is provided for in an NCCP approved by CDFW.

6.1.5 California Fish and Game Code

6.1.5.1 Lake or Streambed Alteration Agreements

Sections 1600–1607 of the Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions in the application and, if necessary, prepares a Lake or Streambed Alteration Agreement that includes measures to protect affected fish and wildlife resources.

6.1.5.2 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was created in 1977 with the intent to preserve, protect, and enhance rare and endangered plants in California (Fish and Game Code § 1900–1913). The

NPPA is administered by CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take." CDFW maintains a list of plant species that have been officially classified as endangered, threatened, or rare. These special-status plants have special protection under California law.

6.1.5.3 Non-Game Mammals

Sections 4150–4155 of the Fish and Game Code protect non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission." The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. All bats are classified as a non-game mammal and are protected under the Fish and Game Code.

6.1.5.4 Fully Protected Species and Species of Special Concern

The classification of California fully protected (CFP) species was CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections that list CFP species (§ 5515 for fish, § 5050 for amphibian and reptiles, § 3511 for birds, § 4700 for mammals) state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species." Take of these species may be authorized under limited circumstances, including for necessary scientific research, which includes efforts to recover state-listed species, or pursuant to an NCCP. This language makes the CFP designation the strongest and most restrictive regarding the "take" of these species.

California species of special concern (CSSC) are broadly defined as animals not currently listed under FESA or CESA, but which are nonetheless of concern to CDFW because they are declining at a rate that could result in listing or that historically occurred in low numbers, and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species and focus research and management attention on them.

6.1.5.5 Nesting Birds

Eggs and nests of all birds (including raptors and passerines) are protected under Fish and Game Code section 3503. In addition, birds of prey are protected under Fish and Game Code section 3503.5, egrets, osprey, and other specified birds are protected under Fish and Game Code section 3505, and migratory non-game birds are protected under Fish and Game Code section 3800.

6.1.6 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 established the State Water Resources Control Board (State Water Board) and divided the state into nine regions that are overseen by a

RWQCB. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the RWQCBs. The RWQCBs are generally responsible for implementing CWA Section 401, among others, described above.

6.1.7 California Coastal Act

As described in greater detail in EIR section 4.1.2, the California Coastal Act (PRC § 30000 *et seq.*) governs development within the Coastal Zone.

The Coastal Act defines the term "sensitive coastal resource areas" to mean those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity (PRC § 30116). In addition, the Coastal Act defines "wetland" to mean land within the coastal zone that may be covered periodically or permanently with shallow water, and includes saltwater marshes, freshwater marshes, open or closed brackish marshes, swamps, mudflats, and fens (PRC § 30121). Finally, the Coastal Act defines an "environmentally sensitive habitat area" (ESHA) to mean an area in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Chapter 3 of the Coastal Act, Coastal Resources Planning and Management Policies, sets forth the policies that constitute the standards for the adequacy of local coastal programs and development subject to the Coastal Act (PRC § 30200 *et seq.*). This chapter of the Coastal Act establishes the following standards related to biological resources:

- Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance (PRC § 30230)
- The biological productivity and quality of waters and wetlands appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored (PRC § 30231)
- Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas (PRC § 30240)
- Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas (PRC 30240)

6.1.8 Public Resources Code (PRC) Section 5090.35

PRC section 5090.35 (c)(1) requires the OHMVR Division to inventory wildlife populations and their habitats in each SVRA and to prepare a Wildlife Habitat Protection Plan (WHPP) for the SVRA. The goals of the WHPP are to conserve and improve wildlife habitats for each SVRA. If the OHMVR Division determines the WHPP is not being met in any portion of an SVRA, the OHMVR Division must temporarily close the noncompliant portion until the WHPP is met. If the WHPP cannot be met, the OHMVR Division must close and restore the noncompliant portion. Implementation of the WHPP is supported by the HMS. The HMS provides an inventory

of study data, establishes monitoring protocols, and allows managers to make decisions on the basis of quantitative field data.

Oceano Dunes SVRA prepared its first WHPP in 1991 with the goal to protect and maintain habitats, plant and wildlife species, and other sensitive wildlife in the SVRA. The Oceano Dunes SVRA WHPP is updated, as needed, and includes a description of the natural environment in the SVRA, lists of species observed in the SVRA, and protocols for monitoring and recording vegetation types and rare species, the monarch butterfly grove in Pismo State Beach, terrestrial and shorebirds, herptofauna, fish, small mammals, and bats. Large mammals are recorded incidentally as part of the SNPL and CLTE predator management program and may be subject to more monitoring in the future (CDPR, 2017). The WHPP is currently being updated in compliance with Senate Bill 249.

6.2 ENVIRONMENTAL SETTING

This section describes the vegetation and habitat types in the HCP area. The information is based on data developed for the HCP, including the Vegetation Mapping Report (MIG|TRA, 2015) and CDPR surveys. The Vegetation Mapping Report is HCP Appendix I. No significant changes in land use or habitat types have occurred since those surveys were completed.

6.2.1 HCP Area Habitat Types and Vegetation Alliances

6.2.1.1 Physical Setting and Habitat Types

The HCP area has a Mediterranean climate characterized by year-round mild temperatures, moist winters, and warm dry summers. Due to the marine influence, temperatures remain moderate during summer and winter. Low clouds move inland at night and recede during the day. Winds are consistent, and the wind direction is predominantly from the west and northwest.

The area is within the Coast Range geomorphic province of California, at the intersection of the Pacific and North American tectonic plates. The province is dominated by northwest-trending mountain ranges and valleys, almost parallel to the San Andreas Fault, located about 40 miles to the east of the HCP area.

The HCP area is within an 18-mile stretch of the Guadalupe-Nipomo Dunes Complex, a relatively intact coastal dune and dune scrub ecosystem varying in width from 2 to 5 miles. The Guadalupe-Nipomo Dunes Complex extends from Pismo Beach to Point Sal, and roughly from State Route 1 west to the Pacific Ocean in San Luis Obispo and Santa Barbara counties.

The HCP area is dominated by sand dunes, and has elevations ranging from sea level to about 192 feet above mean sea level. The topography is flat adjacent to the ocean and undulates through the dunes east of the beach. Dune crests run north to south. On the western (windward, or fore-) side of the dunes, the slopes are gentle. On the eastern (leeward, or back-) side of the dunes the slopes are steep. Wave action, wind, and water erosion cause the dunes to move slowly over time. Lake, creek, and wetland areas are generally flat or gently sloped. The HCP area is in two major watersheds—the Arroyo Grande Creek watershed in the northern portion of the SVRA and the Oso Flaco Creek watershed in the southern portion of the SVRA. It is traversed by Pismo Creek, Carpenter Creek, Meadow Creek, Arroyo Grande Creek, and Oso Flaco Creek. It contains Oso Flaco Lake, Pismo Lake, and occasional slack lakes in the dunes.

The habitats in the HCP area include open sandy beach, dune (fore- and back-), lake, freshwater stream, coastal lagoon, wetland, riparian, woodlands, agriculture, and developed. Forty-six vegetation alliances are described in the Vegetation Mapping Report following the Manual of California Vegetation (Sawyer, Keeler-Wolf, & Evens, 2009) classification system. These are summarized below; more detail can be found in the Vegetation Mapping Report (MIG|TRA, 2015) in HCP Appendix I.

6.2.1.2 Overview

The sandy beaches in the HCP area are a harsh environment where most plants are unable to survive. Behind them are the dunes, which may be divided into two zones—foredunes and backdunes—characterized by their location and dominant vegetation. Foredunes, which begin at the high tide line and include vast natural areas of open sand sheet, are characterized as low, wind-deposited dunes that are sparsely vegetated with the hardiest of dune stabilizing plants. When vegetation can gain a foothold, only low-growing plants with deep root systems can survive, such as sand verbena (*Abronia* spp.) and beach bur (*Ambrosia chamissonis*). The strong winds, storm waves, salt spray, lack of fresh water, nutrient-poor substrate (i.e., sand), and alternating periods of sand burial and erosion make this area uninhabitable for other types of plants. The backdunes, located behind the foredunes, are more stabilized and vegetated than the foredunes due to less wind and other erosive forces. The backdunes are dominated by dune scrub species like mock heather (*Ericameria ericoides*), silver dune lupine (*Lupinus chamissonis*), seacliff buckwheat (*Eriogonum parviflorum*), and dune ragwort (*Senecio blochmaniae*).

Wetland and riparian habitats surround Oso Flaco Lake, Little Oso Flaco Lake, and Pismo Lake and are scattered throughout the South Oso Flaco area and the Phillips 66 Leasehold area and along streams. The wetlands include salt marshes, fresh- and brackish-water marshes, swamps, mudflats, and the dune slack lakes. Dune slack lakes are flats eroded by wind down to the water table to form wetland “slacks” (i.e., seasonally flooded marshes and flats near sea level). Plants that live within these coastal wetland environments are adapted to dynamic environmental conditions including high salinity concentrations and extreme temperatures (McLeod, 2001).

Woodland habitats are limited in size and are largely comprised of non-native species, including eucalyptus (*Eucalyptus* sp.), Monterey cypress (*Callitropsis macrocarpa*), Torrey pine (*Pinus torreyana*), and Monterey pine (*Pinus radiata*). A few native coast live oaks (*Quercus agrifolia*) are present, scattered as single trees in the backdunes. The pines are similarly scattered, but the eucalyptus form groves at some sites, including the monarch butterfly grove near State Route 1.

Invasive non-native plants include European beach grass (*Ammophila arenaria*), perennial veldt grass (*Ehrharta erecta*), and iceplant (*Carpobrotus* spp.). These species were planted to stabilize the dunes many years prior to CDPR acquisition and are still planted by neighboring landowners. The foredune system of the Pismo Dunes Natural Preserve is stabilized with the European beach grass, which forms dense mats. As a result, these dunes are unusually tall compared to other foredunes in Oceano Dunes SVRA that are stabilized with native vegetation, perennial veldt grass, or iceplant. The Oceano Dunes District actively controls European beach grass, perennial veldt grass, jubata grass (*Cortaderia jubata*), iceplant, Cape ivy (*Delairea odorata*), and Russian wheat grass (*Elytrigia juncea* ssp. *boreali-atlantica*).

6.2.1.3 Vegetation Alliances

Vegetation alliances are defined by the dominant or co-dominant species, following the classification system in the Manual of California Vegetation, Second Edition (Sawyer, Keeler-Wolf, & Evens, 2009). Some parts of the HCP area have dominant plants with no corresponding alliance in the MCV2; in those cases, CDPR staff and their consultants created alliances. The vegetation alliances in the entire HCP area are summarized in Table 6-1. and shown on Figure 6-1 Vegetation Types in the HCP Area.

Table 6-1. Vegetation Types and Other Land Coverage Including Acreages within HCP Area

Vegetation Type	Acres	Percentage of total HCP Area
Sand	2,499	49.93
Silver dune lupine – mock heather scrub	1,079	21.56
Arroyo willow thicket	370	7.39
European beach grass sward (invasive)	192	3.84
Dune mat	140	2.80
Native wetland alliances	136	2.72
Agriculture	134	2.68
Other non-native alliances	120	2.40
Other native upland alliances	89	1.78
Perennial veldt grass stand (invasive)	88	1.76
Disturbed/developed	86	1.71
Open water	72	1.43
Total	**5,005**	**100.00**

The dominant vegetation in the HCP area is the native upland silver dune lupine – mock heather scrub alliance, which occurs primarily in the backdune. Arroyo willow (*Salix lasiolepis*) thickets are the second most prevalent alliance, also occurring in the backdune. Although arroyo willow is considered a wetland alliance, standing water or other wetland species are not associated with every arroyo willow stand. European beach grass swards, which occur in foredune uplands, are the third most prevalent alliance.

The “native wetland alliances” include black cottonwood (*Populus trichocarpa*) forest, wax myrtle scrub (*Morella californica*), blue elderberry (*Sambucuc nigra* ssp. *caerulea*) stands, California bulrush marsh (*Schoenoplectus californicus*), salt/dune rush (*Juncus lescurii*) swales, field sedge (*Carex praegracilis*) meadows, cattail (*Typha latifolia*) marshes, mats of bur-reed (*Sparganium eurycarpum*) leaves, pickleweed (*Sarcocornia [Salicornia] pacifica*) mats, salt grass (*Distichlis spicata*) flats, pacific silverweed (*Argentina egedii*) marshes, jaumea (*Jaumea carnosa*) mats, American bulrush (*Scirpus americanus*) marsh, and duckweed (*Lemna minor*) blooms alliances.

The "other non-native alliances" include eucalyptus groves, Monterey pine forest, Torrey pine stands, Monterey cypress stands, pepper tree (*Schinus molle/terbinthifolius*) or myoporum (*Myoporum laetum*) groves, beach pine forest, golden wattle (*Acacia longifolia*) stands, ice plant mats, Russian wheat grass stands, searocket (*Extriplex californica*) stands, annual brome (*Bromus diandrus-Brachpodium distachyon*) grasslands, fields of fat hen and brass buttons (*Atriplex prostrata-Cotula coronopifolia*), and white sweetclover (*Melilotus albus*) mats alliances.

The "other native upland alliances" include coast live oak woodland, coyote brush (*Baccharis pilularis*) scrub, Blochman's groundsel (*Senecio blochmaniae*) scrub, giant coreopsis (*Coreopsis [Leptosyne] gigantea*) scrub, coast brambles (*Rubus ursinus*), deer weed (*Lotus scoparius*) scrub, California coffee berry (*Frangula californica*) scrub, poison oak (*Toxicodendron diversilobum*) scrub, California sagebrush-black sagebrush (*Artemisia californica-Salvia mellifera*) scrub, crisp monardella (*Monardella undulata* ssp. *crispa*) stands, California sandaster (*Corethrogyne filaginifolia*) mats, tall stephanomeria (*Stephanomeria virgata*) meadows, wedge-leaved horkelia-California spineflower (*Horkelia cuneata–Mucronea californica*) meadows, and giant wildrye (*Leymus [Elymus] condensatus*) grassland alliances.

6.2.2 Wildlife in the HCP Area

Numerous species of invertebrates, marine and freshwater fish, reptiles and amphibians, birds, and mammals depend on the dune ecosystem in the HCP area. CDPR surveys of Pismo State Beach and Oceano Dunes SVRA have detected over a dozen species of fish; 28 species of reptiles and amphibians; 19 species of mammals, including marine mammals; and numerous bird species (CDPR, 2017). Over 200 species of birds live in or migrate through the Guadalupe-Nipomo Dunes Complex. Common wildlife observed in the HCP area are discussed below.

6.2.2.1 Beach and Dune Habitats

The beach supports a burrowing invertebrate population that depends on the ocean for food. The invertebrates provide food for a wide variety of bird species that feed along the shoreline. Willets (*Catoptrophorus semipalmatus*), marbled godwits (*Limosa fedoa*), and sanderlings (*Calidris alba*) search for food in the sand. Seaweed wrack that washes onshore also supports invertebrates that provide food for birds. Several species of gulls (*Laridae* sp.) frequent the beach to scavenge carcasses that have washed ashore, as do some terrestrial birds such as the Brewer's blackbird (*Euphagus cyanocephalus*) and white-crowned sparrow (*Zonotrichia leucophrys*). East of the beach, wind-created sand dunes and their vegetation offer some protection for wildlife. Red-winged blackbirds (*Agelaius phoeniceus*), song sparrows (*Melospiza melodia*), and western meadowlarks (*Sturnella neglecta*) take advantage of the seeds provided by the dune vegetation. Deer mice (*Peromyscus maniculatus*) and black-tailed jackrabbits (*Lepus californicus*) forage in the dune scrub and may themselves become food for predators such as great horned owl (*Bubo virginianus*), coyote (*Canis latrans*), and bobcat (*Lynx rufus*). Migrating waterfowl stop at the wetlands and aquatic habitats in the HCP area to roost or loaf.

6.2.2.2 Riparian Habitat

Riparian habitat, with its constantly available water and dense, diverse vegetation of trees, shrubs, and herbs provide abundant food and cover to many wildlife species. The moist riparian area produces abundant insect life, food for many insectivorous amphibians, birds, and mammals

such as the Pacific treefrog (*Pseudacris [=Hyla] regilla*), western skink (*Eumeces skiltonianus*), Wilson's warbler (*Wilsonia pusilla*), black phoebe (*Sayornis nigricans*), Pacific-slope flycatcher (*Empidonax difficilis*), northern rough-winged swallow (*Stelgidopteryx serripennis*), and ornate shrew (*Sorex ornatus*). Omnivorous inhabitants include the dusky-footed woodrat (*Neotoma fuscipes*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). Predators include garter snake (*Thamnophis* sp.), black-crowned night heron (*Nycticorax nycticorax*), red-shouldered hawk (*Buteo lineatus*), and gray fox (*Urocyon cinereoargenteus*).

6.2.2.3 Aquatic Habitat

Freshwater creeks and lakes provide habitat for aquatic macroinvertebrates that, along with vegetative detritus in the form of leaf litter and woody debris, form the base of the stream food chain. Freshwater streams or creeks support resident rainbow trout (*Oncorhynchus mykiss*) and steelhead (i.e., seagoing [anadromous] rainbow trout) as well as other native fishes such as threespine stickleback (*Gasterosteus aculeatus*), speckled dace (*Rhinichthys osculus*), Pacific lamprey (*Entosphenus tridentatus*), and prickly sculpin (*Cottus asper*). Estuarine environments support tidewater goby and steelhead. Slow-moving sections of streams provide important habitat for native amphibians and reptiles such as California red-legged frog (CRLF; *Rana draytonii*), and western pond turtles (*Emys marmorata*). Ephemeral and intermittent tributary streams may provide important habitat for western toad (*Bufo boreas*) and western spadefoot toad (*Spea hammondii*). A high variety of insects, birds, amphibians, reptiles, and mammals utilize the riparian vegetation associated with freshwater aquatic habitat.

6.2.2.4 Other Habitats

The HCP area also includes disturbed/developed habitat such as the North Beach Campground, the Oceano Campground, the Pismo Beach Golf Course, and the Ranger Station and yard. Animal species typical of urban coastal areas would be expected to occur here, such as western fence lizard, sparrows, finches, blackbirds, gulls, racoon, opossum, mice, and black rats.

6.2.3 Special-Status Species

Special-status species are those plants and animals that are legally protected or otherwise recognized as vulnerable to habitat loss or population decline by federal, state, or local resource conservation agencies and organizations. A special-status species is defined as a species meeting one or more of the following criteria:

- Listed, proposed for listing, or candidate for possible future listing as threatened or endangered under FESA (50 CFR § 17.12)
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code § 2050 *et seq.*)
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code § 1900 *et seq.*).
- Listed as a Fully Protected Species (Fish and Game Code §§ 3511, 4700, 5050, and 5515)
- Listed as a CSSC on CDFW's Special Animals list (CDFW, 2018b)
- Listed on CDFW's Watchlist
- USFWS Birds of Conservation Concern (BCC) (USFWS, 2008)

- Meets the definition of rare or endangered under CEQA (§ 15380 (b) and (d)). Species that may meet the definition of rare or endangered include the following:
    - Plant species considered by California Native Plant Society (CNPS) and CDFW to be "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPR] 1A, 1B, and 2) (CNPS, 2017) (CDFW, 2019)
    - Species that may warrant consideration on the basis of local significance or recent biological information
    - Species considered locally significant; that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context, such as within a county or region. An example could include a species at the outer limits of its known range or a species occurring on an uncommon soil type. In general, CRPR 3 and 4 species were considered locally significant for the purposes of this report.[30]

Special-status species with potential to occur within the HCP area are identified in EIR Appendix C. The list was compiled based on information from USFWS, CDPR, California Natural Diversity Database (CNDDB), and the CNPS Inventory of Rare and Endangered Plants. A total of 52 animal species and 33 plant species have been recorded within the HCP area and/or have potential to occur within the HCP area (see Table C-1 and C-3). Of the species known to occur in the HCP area, many do not occur in the areas of existing covered activities or areas where new activity is proposed under the HCP.

The HCP impact area is limited to those areas affected by existing and new proposed covered activities as discussed in the EIR Project Description and listed in Table 2-4. Species occurring outside of the existing and new covered activity areas and/or those that are extremely uncommon in the HCP area would not be expected to be impacted by the HCP and are therefore dismissed from further consideration in this analysis. Species with potential to be impacted by existing or new proposed covered activities are summarized below and listed in Table 6-2 (animal species) and Table 6-3 (plant species).

Many of the activities proposed in the HCP are existing and ongoing and are therefore considered part of baseline conditions for the project (section 2.4.2.1). These ongoing species impacts occurring in areas where existing activities covered by the HCP occur are addressed in EIR Appendix D. Species impacts associated with the new proposed activities are addressed in project impacts (section 6.3.2). The potential for contemplated future activities covered by the HCP to contribute to project impacts to special-status species is addressed in cumulative impacts (EIR section 6.3.5). A brief summary of special-status species that occur in the HCP area and their potential to be impacted by the existing and new proposed activities follows. Descriptions of special-status species with potential to be impacted by existing or proposed new activities are provided in EIR Appendix C.

Invertebrates. One special-status invertebrate, monarch butterfly (*Danaus plexippus*), occurs within the HCP area. A population of overwintering monarchs is present in the eucalyptus and

[30] In general, CRPR Rank 3 and 4 plants may not warrant consideration under CEQA; however, they are included here under the definition of special-status plants.

Monterey cypress tree grove, known as Monarch Grove, at Pismo State Beach adjacent to the North Beach Campground. The monarch may roost in other areas of the HCP area containing eucalyptus, Monterey pine, or Monterey cypress trees. The proposed HCP does not include existing or introduce new covered activities into Monarch Grove or in other areas containing potential roost sites that would directly impact monarch butterflies. Some activities are conducted within the Monarch Grove, but these activities are conducted outside the monarch wintering period and are intended to benefit the species by improving overwintering habitat. Therefore, monarch butterfly would not be impacted by the proposed HCP and is not considered further in this analysis.

Fish. Two special-status fish species are known to occur in the HCP area: tidewater goby (*Eucyclogobius newberryi*) and steelhead (*Oncorhynchus mykiss irideus*) South-Central California Coast Ecologically Significant Unit (ESU). The tidewater goby is a covered species in the HCP. Impacts to tidewater goby are expected from existing covered activities and are described in more detail in EIR Appendix D. Tidewater goby is known to occur in Arroyo Grande Creek/Lagoon and Pismo Creek within the HCP area. The proposed new HCP activities (i.e., SNPL chick and egg capture for relocation [CA-12b]; mechanical trash removal [CA-21]; exclosure reductions [CA-50]; and CDPR use of UAS [CA-52]) would not occur in tidewater goby habitat and would not impact this species. Therefore, tidewater goby is not considered further in this analysis.

Steelhead occurs in Arroyo Grande Creek and Pismo Creek, which are the only two creeks that are connected to the ocean for steelhead migration. CDPR staff monitor fish populations in these areas one to four times per year (CDPR, 2017). The steelhead South-Central California Coast ESU is not a covered species because NOAA Fisheries concluded that the existing covered activities listed in the HCP are not likely to take steelhead with the implementation of AMMs (NOAA Fisheries, 2008). In addition, the HCP does not introduce new covered activities into aquatic areas such as Arroyo Grande Creek and Pismo Creek where steelhead occur. Therefore, steelhead would not be impacted by the new proposed activities in the HCP and is not considered further in this analysis.

Amphibians and Reptiles. CDPR staff conduct regular surveys for amphibians and reptiles according to protocols described in the WHPP. Three special-status amphibians, including CRLF, western spadefoot (*Spea hammondii*), and coast range newt (*Taricha torosa*), and four special-status reptile species, including coast (California) horned lizard (*Phrynosoma coronatum*), silvery legless lizard (*Anniella pulchra*), two-striped garter snake (*Thamnophis hammondii*), and western pond turtle, are known to occur in the HCP area. Impacts to CRLF, western spadefoot, coast horned lizard, silvery legless lizard, and western pond turtle are expected from existing covered activities and are described in more detail in EIR Appendix D.

CRLF is a covered species in the HCP. Impacts to CRLF, western spadefoot, coast horned lizard, and silvery legless lizard could also occur from new proposed activities (i.e., mechanical trash removal [CA-21] and seasonal exclosure reduction [CA-50]) if an individual was present in or dispersing through upland habitat during these activities, although the potential for this to occur is low. Impacts from new proposed activities are discussed further in EIR section 6.3 below.

Impacts to two-striped garter snake and coast range newts are not expected from existing activities because they are likely very rare in the HCP area; therefore, the potential for any impacts to occur are low. In addition, the HCP does not introduce new covered activities into

aquatic habitat area such as Oso Flaco Lake or Arroyo Grande Creek where two-striped garter snake and coast range newts are likely to occur. Therefore, two-striped garter snake and coast range newt would not be impacted by the new proposed activities in the HCP and are unlikely to be impacted by existing covered activities and are not considered further in this analysis.

The HCP does not introduce new covered activities into aquatic habitat area such as Oso Flaco Lake, Oceano Lagoon, and Arroyo Grande Creek where western pond turtles are likely to occur. Therefore, western pond turtle would not be impacted by the new proposed activities in the HCP and are not considered further in this analysis.

Birds. There are 37 special-status bird species known to occur in the HCP area. Birds are the most widespread and prevalent species in the HCP area. A distinction is made between breeding birds versus foraging, roosting, migrating, or loafing birds because breeding birds are more susceptible to disturbance that can result in reproductive failure. For 23 of these bird species, the HCP area is outside of their known breeding range, although they are known to be migrants or winter residents in the HCP area and occur there seasonally and/or infrequently. As such, the HCP covered activities, including existing and new proposed covered activities, are generally expected to have short-term, temporary disturbance to wintering or migrating birds when covered activities occur in the same area where individuals or flocks are passing through, foraging, or roosting. Impacts to wintering/migrating birds from existing covered activities are described in more detail in EIR Appendix D. Impacts to wintering/migrating birds from proposed new covered activities (i.e., egg and chick capture for captive rearing if they are observed to be in harm's way [CA-12b], mechanical trash removal [CA-21], seasonal exclosure reduction [CA-50], and CDPR's use of UAS [CA-52]) are described in more detail in EIR section 6.3 below.

There are nine special-status bird species that nest in the HCP area and/or occur in the HCP area during the breeding season and likely nest nearby, including the two covered bird species (SNPL and CLTE). Common nesting birds also occur throughout the HCP area, including in developed areas. Impacts to nesting birds, including special-status nesting bird species, are expected from existing covered activities and are described in more detail in EIR Appendix D. In addition, proposed new covered activities (i.e., egg and chick capture for captive rearing if they are observed to be in harm's way [CA-12b], mechanical trash removal [CA-21], and seasonal exclosure reduction [CA-50]) could impact nesting birds, including special-status nesting birds, and are described in more detail in EIR section 6.3 below.

There are five special-status bird species that have been observed in the HCP area but are not expected to be impacted by existing or proposed new covered activities, including the wood stork (*Mycteria americana*), golden eagle (*Aquila chrysaetos*), California black rail (*Laterallus jamaicensis* ssp. *coturniculus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and olive-sided flycatcher (*Contopus cooperi*). Wood stork, golden eagle, western yellow-billed cuckoo, and olive-sided flycatcher are likely rare migrants in the HCP area and are not expected to occur in most years. California black rail has not been observed in the HCP area since 1991. As a result, these species would not be impacted by existing or new proposed covered activities in the HCP and are not considered further in this analysis.

Two special-status bird species, including least bittern (*Ixobrychus exilis*) and yellow-breasted chat (*Icteria virens*), could be impacted by existing activities. Impacts to these species from existing covered activities are described in more detail in EIR Appendix D. These species are not expected to be impacted by new proposed activities because the activities would not occur in

suitable habitat. As a result, these species would not be impacted by new proposed covered activities in the HCP and are not considered further in this analysis.

Mammals. Five special-status mammal species occur in or immediately adjacent to the HCP area, including pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), Townsend's big-eared bat (*Corynorhinus townsendii*), American badger (*Taxidea taxus*), and southern sea otter (*Enhydra lutris nereis*). Pallid bat, western red bat, and Townsend's big-eared bat have been detected during acoustic surveys in the HCP area at Oso Flaco Lake and Oceano Lagoon. These bats and other common bat species could be impacted by existing covered activities that remove or occur near roost trees, including routine riparian maintenance activities. American badger could also be impacted by existing covered activities that occur in open sand areas where American badger or badger sign (e.g., dens) have been found. Impacts on special-status bats and American badger from existing covered activities are described in more detail in EIR Appendix D. Impacts to American badger from proposed new covered activities are described in more detail in EIR section 6.3 below.

SNPL chick and egg capture for captive rearing if observed to be threatened by covered activities (CA-12b), mechanical trash removal (CA-21) and seasonal exclosure reduction (CA-50) would not occur in habitat where bats would be expected to forage (e.g., aquatic habitat) or roost (e.g., riparian habitat, tree stands) and would, therefore, have no impact on bats. CDPR UAS use (CA-52) would occur during the day when bats are not active and UAS would not be flown in tree stands or riparian areas; therefore, bats would not be impacted by UAS activity. As a result, bats would not be impacted by new proposed covered activities in the HCP and are not considered further in this analysis.

Southern sea otter is occasionally seen offshore in the HCP area. Existing covered activities and proposed new covered activities would not occur in areas where southern sea otter occurs. Therefore, the southern sea otter is not further discussed in this analysis.

Plants. There are 25 special-status plants either known to occur or that have potential to occur within the HCP area that could be impacted by existing or new proposed activities, including the 6 listed species covered by the HCP (marsh sandwort, La Graciosa thistle, surf thistle, beach spectaclepod, Nipomo Mesa lupine, and Gambel's watercress). All of these plants are known to occur in vegetated portions of the HCP area. Impacts on special-status plants from existing covered activities are described in more detail in EIR Appendix D. Impacts to some special-status plants could occur from proposed new covered activities (i.e., mechanical trash removal [CA-21] and seasonal exclosure reduction [CA-50]). Those species potentially impacted by proposed new covered activities are identified in Table 6-3 and are described in more detail in EIR section 6.3 below. Those species not occurring in areas affected by proposed new covered activities are not considered further in this analysis.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
Invertebrates				
monarch butterfly *Danaus plexippus*	Under review	Roosts in Pismo State Beach. May roost elsewhere, within eucalyptus groves, Monterey pine forest, and Monterey cypress forest.	**No**. Existing covered activities do not occur within the overwintering period for monarch in the tree grove at Pismo State Beach, and removal of suitable roost trees does not occur in other HCP locations where this species may occur. Any activities within the Monarch Grove outside the winter season are conducted to improve monarch overwintering habitat.	**No**. HCP proposes no new activity in roosting habitat.
Fish				
tidewater goby *Eucyclogobius newberryi*	FE, CSSC	Occurs in Arroyo Grande Creek, Carpenter Creek, Oceano (Meadow Creek) Lagoon, Oso Flaco Creek, and Pismo Creek. Critical habitat is present in the HCP area.	**Yes**. Existing covered activities occur in suitable habitat areas and could impact individuals or nest burrows.	**No**. HCP proposes no new activity in habitat areas.
steelhead - south/central California coast ESU *Oncorhynchus mykiss irideus*	FT	Occurs in Pismo Creek and Arroyo Grande Creek. This species is localized to these creek systems and their confluences with the Pacific Ocean.	**No**. Letter from NOAA Fisheries to CDPR dated December 23, 2008, found that unauthorized steelhead take from existing covered activities was unlikely. Specific to Arroyo Grande Creek, NOAA Fisheries concluded vehicle crossings do not occur under conditions that could cause direct contact with steelhead or that diminish the value of the creek as steelhead habitat.	**No**. HCP proposes no new activity in habitat areas.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
Amphibians and Reptiles				
California red-legged frog *Rana draytonii*	FT, CSSC	Occurs in Arroyo Grande Creek and Estuary, Oso Flaco Lake, and Little Oso Flaco Lake. May use other water features throughout the HCP area.	**Yes.** Existing covered activities occur in suitable aquatic habitat areas and could impact suitable habitat, eggs, tadpoles, or adults/juveniles. Impacts in upland habitat are expected to be rare, although dispersing individuals could be injured or killed.	**Yes.** HCP proposes new activity in suitable upland habitat and, although unlikely, could impact dispersing individuals.
western spadefoot *Spea hammondii*	CSSC	Often difficult to detect due to extended periods of its life cycle spent underground. Very little is known about this species within the HCP area and the few sightings that exist have been incidental. Documented at Oso Flaco Lake in 2000 and within the Eucalyptus South vegetation island in 2011. Other ephemeral water sources within the HCP area may be used by this species for breeding. Vegetation islands may be used during dispersal and winter.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact individuals in burrows or within aquatic habitat.	**Yes.** Although new proposed covered activities occur in suitable upland dispersal habitat areas, this species is likely rare in the HCP area. As a result, potential for new proposed covered activities to impact this species is very low.
coast range newt *Taricha torosa*	CSSC	Infrequently observed in the HCP area within or near aquatic habitat. Suitable habitat for this species is limited to aquatic habitat and areas near aquatic habitat.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No.** HCP proposes no new activity in habitat areas.
coast (California) horned lizard *Phrynosoma coronatum*	CSSC	Documented in 2006 at Little Oso Flaco Lake. This species may utilize a variety of habitat locations within the HCP area, especially the	**Yes.** Existing covered activities occur in suitable habitat areas and could impact individuals or habitat.	**Yes.** HCP proposes new activity in suitable upland habitat and, although unlikely, could impact dispersing individuals.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
		western interface of sand and silver dune lupine – mock heather scrub habitat.		
silvery legless lizard *Anniella pulchra*	CSSC	Documented in Oceano Dunes SVRA in vegetation islands, Oceano Campground, at Oso Flaco Lake, Little Oso Flaco Lake, Jack Lake, and near Lettuce Lake. Other similar habitat near freshwater within the HCP area may also be used by this species.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact individuals or habitat.	**Yes.** HCP proposes new activity in suitable upland habitat and, although unlikely, could impact dispersing individuals.
two-striped garter snake *Thamnophis hammondii*	CSSC	Documented at Oso Flaco Lake. Other suitable habitat along Arroyo Grande Creek and Oso Flaco Creeks may be utilized by this species.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No.** HCP proposes no new activity in habitat areas.
western pond turtle *Emys marmorata*	CSSC	Documented in Oso Flaco Lake and Arroyo Grande Creek. Other freshwater habitat within the HCP area may be used.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact individuals or habitat.	**No.** HCP proposes no new activity in habitat areas.
Birds				
western snowy plover *Charadrius nivosus nivosus*	FT, CSSC	Nests and forages in habitat along the beach and foredunes. Winters in the HCP area.	**Yes.** Existing covered activities occur in suitable habitat areas. Impacts to breeding and wintering birds and breeding/ wintering habitat modification is known to occur.	**Yes.** HCP proposes new activity in and adjacent to nesting habitat.
California least tern *Sternula antillarum browni*	FE, SE, CFP	Nests along the beach. Most commonly observed foraging over the ocean, though they are regularly observed foraging at Oso Flaco Lake and Pismo Lake, as	**Yes.** Existing covered activities occur in suitable habitat areas. Impacts to breeding birds and breeding habitat	**Yes.** HCP proposes new activity in nesting habitat.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
		well as at the small lagoon that forms at the mouth of Pismo Creek.	modification known to occur.	
brant *Branta bernicla*	CSSC (wintering and staging)	Outside the known breeding range. Suitable wintering habitat includes Pismo Lagoon, Oso Flaco Lake, and Oceano Lagoon.	**Yes.**[2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.**[2] No impacts to nesting birds would occur. HCP proposed new covered activities that could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
redhead *Aythya Americana*	CSSC (nesting)	Outside the known breeding range. Observed within the HCP area at Oso Flaco Lake as recently as October 2015. Suitable resting and foraging habitat includes large water bodies like Pismo Lagoon, Oso Flaco Lake, and Oceano Lagoon.	**Yes.**[2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.**[2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
common loon *Gavia immer*	CSSC (nesting)	Outside the known breeding range. Suitable roosting and foraging habitat includes Pismo Lagoon, Oso Flaco Lake, and Oceano Lagoon.	**Yes**[2]**.** No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
wood stork *Mycteria Americana*	CSSC	Outside the known breeding range. This species was observed near Oso Flaco Lake in 2011. Suitable roosting and foraging habitat includes Oso Flaco Lake, Pismo Lake, Pismo Lagoon, and Oceano Lagoon.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No**. HCP proposes no new activity in habitat areas.
double-crested cormorant	SWL	Not known to nest within the HCP area.	**Yes**[2]**.** No impacts to nesting birds occur.	**Yes.** [2] No impacts to nesting birds would

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
Phalacrocorax auratus	(nesting colony)	Foraging, roosting, and loafing sites are located anywhere near water bodies and on trees near water bodies.	Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
American white pelican *Pelecanus erythrorhynchos*	CSSC (nesting colony)	Outside the known breeding range. This species is frequently observed foraging at Oso Flaco Lake. Suitable foraging habitat in the HCP area includes Pismo Creek, Pismo Lake, Meadow Creek, Oceano Lagoon, Arroyo Grande Creek, Oso Flaco Lakes, and Oso Flaco Creek.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
California brown pelican *Pelecanus occidentalis californicus*	CFP (nesting colony and communal roosts)	Outside the known breeding range. California brown pelicans are frequently observed roosting in the HCP area on the beach and Oso Flaco Lake. Suitable roosting and loafing habitat includes the beach, undisturbed dunes, and Oso Flaco Lake.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
least bittern *Ixobrychus exilis*	CSSC, BCC Concern (nesting)	Confirmed breeding at Oso Flaco Lake as recently as May 2016. Suitable breeding/ nesting habitat may include dense emergent vegetation around Oso Flaco Lake, Pismo Lake, Oceano Lagoon, and Little Oso Flaco Lake.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**No.** HCP proposes no new activity in habitat areas.
osprey *Pandion haliaetus*	SWL (nesting)	Outside the known breeding range. Ospreys have been observed foraging and perching within the HCP area,	**Yes.** [2] No impacts to nesting birds occur. However, existing covered activities could have short-term,	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term,

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
		including Oso Flaco Lake. Suitable overwintering habitat includes trees around Oso Flaco Lake, Little Oso Flaco Lake, Oceano Lagoon, Pismo Lake, Pismo Creek, Arroyo Grande Creek, and Oso Flaco Creek.	temporary impacts on wintering/migrating individuals where they are passing through, foraging, or roosting. Osprey individuals are also removed as part of the SNPL and CLTE predator management program in the HCP area.	temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
white-tailed kite *Elanus leucurus*	CFP	Suitable breeding/nesting habitat may include North Beach campground, Le Sage Rivera Golf Course, Oceano Campground, and isolated stands of Monterey pine forest, beach pine, and coast live oak woodland located throughout the dunes.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**Yes.** HCP proposes new activity in suitable nesting habitat areas.
golden eagle *Aquila chrysaetos*	CFP	Not known to nest within the HCP area and only infrequently observed. A golden eagle was observed flying over Oso Flaco Lake in December 2015. Oso Flaco Lake, the North Beach campground, Le Sage Rivera Golf Course, Oceano Campground, and isolated stands of Monterey pine forest, beach pine, and coast live oak woodland located throughout the dunes provide suitable nesting and perching habitat. The open beach and agricultural areas provide suitable foraging habitat.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No.** HCP proposes no new activity in habitat areas.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
northern harrier *Circus cyaneus*	CSSC	Rare breeder in the Oso Flaco area. Suitable nesting habitat includes Oso Flaco Lake, Little Oso Flaco Lake, Oceano Lagoon, and Pismo Lake.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**Yes.** HCP proposes new activity in suitable nesting habitat areas.
California black rail *Laterallus jamaicensis ssp. coturniculus*	ST, CFP, BCC	Historically present and known to breed at Oso Flaco Lake. Not observed since 1991. Suitable foraging, nesting, and roosting habitat may include Oso Flaco Lake, Little Oso Flaco Lake, and Pismo Lake.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No.** HCP proposes no new activity in habitat areas.
long-billed curlew *Numenius americanus*	SWL, BCC (nesting)	Outside the known breeding range. Suitable foraging and roosting habitat are located throughout HCP area along the beach.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
marbled murrelet *Brachyramphus marmoratus*	FT, SE	Outside the known breeding range. Suitable foraging habitat within HCP area is located off-shore and at Pismo Lake, Pismo Lagoon, Oceano Lagoon, and at the mouths of Pismo Creek, Arroyo Grande Creek, and Oso Flaco Creek.	**Yes.** No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**No.** HCP proposes no new activity in habitat areas.
California gull *Larus californicus*	SWL (nesting colony)	Outside the known breeding range. This species may utilize a wide range of habitats within the HCP area for foraging and roosting habitat.	**Yes.** No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting. California gull	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
			individuals are also removed as part of the SNPL and CLTE predator management program in the HCP area.	through, foraging, or roosting.
black tern *Chidonias niger*	CSSC	Outside the known breeding range. May forage in areas with low emergent vegetation on the north and east margins of Oso Flaco Lake, the southern margins of Little Oso Flaco Lake, and along the border of the large wetland directly south of Oso Flaco Lake.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
elegant tern *Thalasseus elegans*	SWL (nesting colony)	Outside the known breeding range. Migrants may utilize the ocean shore and the banks of Pismo, Oceano, and Arroyo Grande Lagoons within the HCP area for roosting and/or foraging.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
black skimmer *Rynchops niger*	CSSC, BCC (nesting colony)	Outside the known breeding range. This species has been observed foraging along the Arroyo Grande Creek mouth. This species may utilize the beaches and estuary areas throughout the HCP area as migrating and wintering habitat.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE, BCC (nesting)	The HCP area is outside the current known breeding range and wintering range for this species. Any observations are likely rare migrants. Observed at Oso Flaco Lake in 1999 and at Oceano Lagoon in 2010.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**Unlikely.** Although the HCP proposes new covered activities in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
western burrowing owl *Athene cunicularia*	CSSC, BCC	Known to winter in the HCP area, but not known to breed within the area. Has been observed at Oso Flaco Lake, Grand Avenue ramp, Phillips 66 Leasehold, near the chemical toilets on the beach, and at Oceano Lagoon.	**Yes.** No impacts to nesting birds occur. Existing covered activities occur in suitable habitat areas and could impact wintering individuals.	**Yes**. No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
Vaux's swift *Chaetura vauxi*	CSSC (nesting)	Outside the known breeding range. Observed at Oso Flaco Lake as recently as May 2015.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
black swift *Cypseloides niger*	CSSC, BCC (nesting)	Outside the known breeding range. Observed in the HCP area at Oso Flaco Lake as recently as 2016.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
American peregrine falcon *Falco peregrines ssp. anatum*	CFP	Regularly observed in flight and hunting in the HCP area. Not known to nest in the area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact adults/juveniles.	**Yes**. HCP proposes new activity in suitable habitat areas.
olive-sided flycatcher *Contopus cooperi*	CSSC, BCC (nesting)	Observed in the HCP area at Oso Flaco Lake, Meadow Creek, and Oceano Campground. This species is an uncommon breeder in San Luis Obispo County, but could breed within willows, oaks,	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**Unlikely.** Although the HCP proposes new covered activities in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
		and eucalyptus trees present in the HCP area.		
willow flycatcher *Empidonax trailii*	SE, BCC (nesting)	Outside the known breeding range. Observed at Oso Flaco Lake and at Oceano Lagoon as recently as 2016.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
loggerhead shrike *Lanius ludovicianus*	CSSC, BCC (nesting)	Regularly observed in the HCP area. Known to nest and forage in the area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**Yes**. HCP proposes new activity in suitable nesting habitat areas.
California horned lark *Eremophila alpestris actia*	SWL	This species has been observed in the HCP area and the National Wildlife Refuge to the south of the HCP area. May nest and forage in a variety of low grass or bare habitats within the HCP area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**Yes**. HCP proposes new activity in suitable nesting habitat areas.
bank swallow *Riparia riparia*	ST (nesting)	Outside the known breeding range. Observed foraging in the HCP area as recently as 2016.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
Lucy's warbler *Oreothlypis luciae*	CSSC, BCC (nesting)	Outside the known breeding range. Observed foraging in the HCP area at Oso Flaco Lake and Oceano Lagoon as recently as 2015.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
yellow warbler *Setophaga petechia*	CSSC, BCC (nesting)	Documented at Arroyo Grande Creek, Jack Lake, Little Oso Flaco Lake, and Oso Flaco Lake. Marginal foraging and nesting habitat is present.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact eggs, chicks, and adults/juveniles.	**Yes**. HCP proposes new activity in suitable nesting habitat areas.
yellow-breasted chat *Icteria virens*	CSSC (nesting)	Documented at the Oso Flaco Maps Station in 2000 and at Oso Flaco Lake in 2015. Nesting in the area is not confirmed.	**Unlikely.** Although existing covered activities occur in suitable habitat areas, this species is likely rare in the HCP area. As a result, potential for covered activities to impact this species is very low.	**No**. HCP proposes no new activity in habitat areas.
summer tanager *Piranga rubra*	CSSC (nesting)	Outside the known breeding range. Observed at Oso Flaco Lake as recently as December 2016.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
tricolored blackbird *Agelaius tricolor*	CSSC, BCC (nesting)	Observed at Oso Flaco Lake as recently as August 2016. No nesting documented in the area.	**Yes.** [2] No impacts to nesting birds would occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.
yellow-headed blackbird *Xanthocephalus xanthocephalus*	CSSC (nesting)	Outside the known breeding range. Observed near Oceano Lagoon and at Oso Flaco lake as recently as 2016.	**Yes.** [2] No impacts to nesting birds occur. Existing covered activities could have short-term, temporary impacts on wintering/ migrating birds where they are passing through, foraging, or roosting.	**Yes.** [2] No impacts to nesting birds would occur. HCP proposed new covered activities could have short-term, temporary impacts on wintering/migrating birds where they are passing through, foraging, or roosting.

Table 6-2. Special-Status Animal Species in the HCP Area

Species	Listing Status[1]	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
Mammals				
pallid bat *Antrozous pallidus*	CSSC	Pallid bats were detected during passive acoustic surveys at Oceano Lagoon in June 2017.	**Yes.** Existing covered activities occur in areas where roosts could be present.	**No**. HCP proposes no new activity in habitat areas.
Townsend's big-eared bat *Corynorhinus townsendii*	CSSC	Townsend's big-eared bats were detected during passive acoustic surveys at Oceano Lagoon in June 2017.	**Yes.** Existing covered activities occur in areas where roosts could be present.	**No**. HCP proposes no new activity in habitat areas.
Western red bat *Lasiurus blossevillii*	CSSC	Western red bats were detected during passive acoustic surveys at Oceano Lagoon in June 2017.	**Yes.** Existing covered activities occur in areas where roosts could be present.	**No**. HCP proposes no new activity in habitat areas.
southern sea otter *Enhydra lutris nereis*	FT, CFP	Southern sea otters are occasionally seen offshore of the HCP area.	**No.** Present offshore only. Existing covered activities (e.g., boating and kiteboarding) are unlikely to occur in areas where this species is foraging or resting.	**No**. HCP proposes no new activity in habitat areas.
American badger *Taxidea taxus*	CSSC	Has been observed in vegetation islands, and nearby Phillips 66 Leasehold. Inactive badger dens have also been observed throughout Oceano Dunes SVRA.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact burrowing individuals.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact burrowing individuals.

[1]Listing Status Key:

FE – Federal Endangered
FT – Federal Threatened
Under Review – USFWS is evaluating for Federal listing
BCC – USFWS Birds of Conservation Concern
SE – State Endangered
ST – State Threatened SC – Candidate for State listing
CFP – California Fully Protected
CSSC – California Species of Special Concern
SWL – State Watch List

[2] Any impacts to these special-status non-nesting migratory bird species would be localized, temporary, and/or short-term in duration; therefore, impacts to these species would not require a permit or authorization. Impacts to these species are not included under the discussion of special-status species and are acknowledged in this EIR under a separate heading titled Wintering/Migratory Birds.

Table 6-3. Special-Status Plant Species in the HCP Area

Species	Listing Status	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
red sand verbena *Abronia maritima*	CRPR 4.2	Known to occur in and around the HCP area, including near Strand Way, Pismo Dunes Natural Preserve, and on vegetation islands.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact red sand verbena.	**Yes**. HCP proposes new activities in suitable habitat areas.
sand mesa manzanita *Arctostaphylos rudis*	CRPR 1B.2	Observed within the Phillips 66 Leasehold by CDPR staff.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact sand mesa manzanita.	**No.** HCP proposes no new activities in suitable habitat areas.
marsh sandwort *Arenaria paludicola*	FE, SE, CRPR 1B.1	Only known extant population at Oso Flaco Lake. Observed during 2018 surveys.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact marsh sandwort.	**No.** HCP proposes no new activities in suitable habitat areas.
Nuttall's milkvetch *Astragalus nuttallii* var. *nuttallii*	CRPR 4.2	Known from CDPR surveys and CNDDB records to occur within Oceano Dunes SVRA including in Pismo Dunes Natural Preserve, Phillips 66 Leasehold, Oso Flaco, and vegetation islands.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Nuttall's milkvetch.	**No.** HCP proposes no new activities in suitable habitat areas.
Monterey Coast paintbrush *Castilleja latifolia* ssp. *latifolia*	CRPR 4.3	Known from CDPR surveys to be widespread in the HCP area, including Carpenter Creek, Oso Flaco Lake, vegetation islands, Pismo Dunes Natural Preserve, and Phillips 66 Leasehold.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Monterey Coast paintbrush.	**No.** HCP proposes no new activities in suitable habitat areas.
coastal goosefoot *Chenopodium littoreum*	CRPR 1B.2	Known from CDPR surveys and CNDDB records to occur at Oso Flaco and Phillips 66 Leasehold.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact coastal goosefoot.	**Yes.** HCP proposes new activities in suitable habitat areas.
Douglas's spineflower *Chorizanthe douglasii*	CRPR 4.3	Documented during previous CDPR surveys to occur within the Pavilion Hill vegetation island.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Douglas's spineflower.	**No.** HCP proposes no new activity in habitat areas.

Table 6-3. Special-Status Plant Species in the HCP Area

Species	Listing Status	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
surf thistle *Cirsium rhothophilum*	ST, CRPR 1B.2	Observed in CDPR surveys near Oso Flaco Creek and in the foredunes of the South Oso Flaco area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact surf thistle.	**No.** HCP proposes no new activities in suitable habitat areas.
La Graciosa thistle *Cirsium scariosum* var. *loncholepis*	FE, ST, CRPR 1B.1	Known from CDPR surveys and CNDDB records to occur at Oso Flaco Lake, near Jack Lake, in the Callander Dunes, and at the Dune Lake complex.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact La Graciosa thistle.	**Yes.** HCP proposes new activities in suitable habitat areas.
dune larkspur *Delphinium parryi* ssp. *blochmaniae*	CRPR 1B.2	Observed in the HCP area by CDPR staff almost every year within the Phillips 66 Leasehold and at South Oso Flaco.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact dune larkspur.	**No.** HCP proposes no new activities in suitable habitat areas.
beach spectaclepod *Dithyrea maritima*	ST, CRPR 1B.1	Known to occur at Oso Flaco Lake and south of Oso Flaco Lake from CDPR and CNDDB records.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact beach spectaclepod.	**No.** HCP proposes no new activities in suitable habitat areas.
Blochman's leafy daisy *Erigeron blochmaniae*	CRPR 1B.2	Locally common and widespread throughout the HCP area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Blochman's leafy daisy.	**Yes.** HCP proposes new activities in suitable habitat areas.
suffrutescent wallflower *Erysimum suffrutescens*	CRPR 4.2	Locally common and widespread throughout the HCP area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact suffrutescent wallflower.	**Yes.** HCP proposes new activities in suitable habitat areas.
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	CRPR 1B.1	Observed in the Pismo Dunes Natural Preserve, in Pismo State Beach and in the Phillips 66 Leasehold during Oceano Dunes District surveys.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Kellogg's horkelia.	**No.** HCP proposes no new activities in suitable habitat areas.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	CRPR 4.2	Observed in the HCP area in the Pismo Dunes Natural Preserve and at the Eucalyptus Tree vegetation island during previous Oceano Dunes District surveys.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact southwestern spiny rush.	**No.** HCP proposes no new activities in suitable habitat areas.

Table 6-3. Special-Status Plant Species in the HCP Area

Species	Listing Status	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
fuzzy prickly phlox *Linanthus californicus*	CRPR 4.2	Observed during previous CDPR surveys in the Pismo Dunes Natural Preserve, Phillips 66 Leasehold, and the backdunes of South Oso Flaco.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact fuzzy prickly phlox.	**Yes.** HCP proposes new activities in suitable habitat areas.
Nipomo Mesa lupine *Lupinus nipomensis*	FE, SE, CRPR 1B.1	Observed in the HCP area in the eastern part of the Phillips 66 Leasehold in SLO County Land Conservancy surveys; also known from CNDDB records.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Nipomo Mesa lupine.	**No.** HCP proposes no new activities in suitable habitat areas.
dunedelion *Malacothrix incana*	CRPR 4.3	Observed during CDPR surveys at the Pavilion Hill vegetation island, 7.5 revegetation area, and near Oso Flaco Lake and Creek.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact dunedelion.	**Yes.** HCP proposes new activities in suitable habitat areas.
crisp monardella *Monardella undulata* ssp. *crispa*	CRPR 1B.2	Locally common and widespread throughout the HCP area. Occurs within the vegetation island habitats and at the edges of other vegetation within the HCP area according to 2012 vegetation mapping and CNDDB records.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact crisp monardella.	**Yes.** HCP proposes new activities in suitable habitat areas.
San Luis Obispo monardella *Monardella undulata* ssp. *undulata*	CRPR 1B.2	Observed in the Pismo Dunes Natural Preserve, in the southern part of the Phillips 66 Leasehold, and in the southern backdunes of south Oso Flaco in CDPR surveys; also known from nearby CNDDB records.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact San Luis Obispo monardella.	**Yes.** HCP proposes new activities in suitable habitat areas.
California spineflower *Mucronea californica*	CRPR 4.2	Observed during CDPR surveys in the Pismo Dunes Natural Preserve, Phillips 66 Leasehold, and South Oso Flaco.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact California spineflower.	**Yes.** HCP proposes new activities in suitable habitat areas.

Table 6-3. Special-Status Plant Species in the HCP Area

Species	Listing Status	Species Occurrence in HCP Area	Potential Impacts from Existing Covered Activities	Potential Impacts from Proposed New Covered Activities
Gambel's watercress *Nasturtium gambelii*	FE, ST, CRPR 1B.1	Known from the HCP area at Oso Flaco Lake.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Gambel's watercress.	**No.** HCP proposes no new activities in suitable habitat areas.
Hickman's popcorn flower *Plagiobothrys chorisianus* var. *hickmanii*	CRPR 4.2	Observed during CDPR surveys at four vegetation islands, in the Phillips 66 Leasehold, and at Maidenform.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Hickman's popcorn flower.	**Yes.** HCP proposes new activities in suitable habitat areas.
sand almond *Prunus fasciculata* var. *punctate*	CRPR 4.3	Observed during CDPR surveys within the Phillips 66 Leasehold.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact sand almond.	**No.** HCP proposes no new activities in suitable habitat areas.
Blochman's groundsel *Senecio blochmaniae*	CRPR 4.2	Locally common and widespread throughout HCP area.	**Yes.** Existing covered activities occur in suitable habitat areas and could impact Blochman's groundsel.	**Yes.** HCP proposes new activities in suitable habitat areas.

[1] Listing Status Key:
FE – Federal Endangered
FT – Federal Threatened
SE – State Endangered
ST – State Threatened
SR – State Rare

California Rare Plant Rank:
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
CRPR 2: Plants rare, threatened, or endangered in Calif. but common elsewhere.
CRPR 3: More information about this plant needed (Review List).
CRPR 4: Limited distribution (Watch List).

CRPR Threat Code extensions and their meanings:
1 – Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
2 – Fairly endangered in California (20-80% occurrences threatened)
3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

6.2.4 Wildlife Movement and Nurseries

Wildlife corridors play an important role in countering habitat fragmentation. A wildlife corridor is a landscape element that serves as a linkage between historically connected habitats or landscapes that are otherwise separated and is meant to provide avenues along which wildlife can travel, migrate, and meet mates; plants can propagate; genetic interchange can occur; populations can move in response to environmental changes and natural disasters; and individuals can re-colonize habitats from which populations have been locally extirpated. Corridors can consist of a sequence of stepping-stones across the landscape (i.e., discontinuous areas of habitat such as isolated wetlands and roadside vegetation), continuous lineal strips of vegetation and habitat

(e.g., riparian strips and ridge lines), or they may be parts of larger habitat areas of known or likely importance to local wildlife.

Nursery sites are locations within the range of the species where the conditions are favorable for wildlife to successfully raise young each year and maintain population levels.

The 5,005-acre HCP area includes ample area for wildlife movement along the coast, particularly when viewed in the greater setting. The HCP area is bounded by the City of Pismo Beach to the north, the Guadalupe-Nipomo Dunes National Wildlife Refuge to the south, urban and agricultural land to the east, and the Pacific Ocean to the west. Pismo State Beach and Oceano Dunes SVRA contain approximately 25 percent of the 18-mile linear shoreline of the overall Guadalupe-Nipomo Dunes complex. The Guadalupe-Nipomo Dunes complex extends from Pismo Beach south to Point Sal and roughly from State Route 1 to the Pacific Ocean in San Luis Obispo and Santa Barbara counties. The Guadalupe-Nipomo Dunes complex is a relatively intact coastal dune and dune scrub ecosystem varying in width from 2 to 5 miles.

The Guadalupe-Nipomo Dunes complex, including the HCP area, provides movement opportunities for terrestrial wildlife over a large swath of intact coastal dunes and dune scrub habitat. In addition, the HCP area falls within the Pacific flyway migration route and provides a stopover site for numerous migrating birds that require food and resources along the shoreline, as well as areas where they can roost and loaf using wrack as a wind block. Creeks within the HCP area provide wildlife movement corridors for aquatic wildlife, including special-status species such as tidewater goby, steelhead, CRLF, and western pond turtle. The HCP area is bordered by the ocean to the west, which comprises a vast movement corridor for saltwater fish, seabirds, marine mammals, and other marine species. Wildlife movement toward the east is restricted by developed agricultural and urban land.

Existing and proposed new activities would impact wildlife movement. Impacts to wildlife movement from existing covered activities are described in more detail in EIR Appendix D. Impacts to wildlife movement from proposed new covered activities are described in more detail in EIR section 6.3 below.

6.2.5 Sensitive Natural Communities, including Riparian

Natural communities include vegetation communities designated by USFWS, CDFW, CCC, and other federal, state, or local agencies. There are numerous CDFW sensitive natural communities within the HCP area, including central dune scrub, central foredunes, coastal and valley freshwater marsh, black cottonwood forest, coast live oak (*Quercus agrifolia*) woodland, dune mat, Beach pine (*Pinus contorta* ssp. *contorta*) forest, silver dune lupine (*Lupinus chamissonis*) – mock heather scrub (*Ericameria ericoides*), Arroyo willow (*Salix lasiolepis*) thickets, coyote brush (*Baccharis pilularis*) scrub, wax myrtle (*Morella californica*) scrub, giant coreopsis (*Coreopsis gigantea*) scrub, coastal brambles, blue elderberry (*Sambucus nigra* ssp. *caerulea*) stands, California bulrush (*Schoenoplectus californicus*) marsh, salt rush swales, field sedge (*Carex praegracilis*) meadows, mats of bur-reed (*Sparganium eurycarpum*) leaves, pickleweed (*Sarcocornia pacifica*) mats, Pacific silverweed (*Argentina egedii*) marshes, giant wild rye (*Leymus condensatus*) grassland, and American bulrush (*Schoenoplectus americanus*) marsh.

Critical habitat designated by the USFWS is present within the HCP area, including for SNPL, tidewater goby, and La Graciosa thistle.

The HCP area also contains several ESHAs as defined by the City of Grover Beach LCP (City of Grover Beach, 2014), City of Pismo Beach LCP (City of Pismo Beach, 2014), and San Luis Obispo County LCP (County of San Luis Obispo, 2008). Specifically, the HCP area ESHAs include the intertidal zone, sand dunes, coastal streams (e.g., Arroyo Grande Creek, Pismo Creek, Meadow Creek, and Oso Flaco Creek), riparian woodland, perennial freshwater marsh, freshwater lakes (e.g., Pismo Lake and Oso Flaco Lake), wetlands, and habitat that supports threatened and endangered species.

Existing and proposed new activities would impact sensitive natural communities. Impacts to sensitive natural communities from existing covered activities are described in more detail in EIR Appendix D. Impacts to sensitive natural communities from proposed new covered activities are described in more detail in EIR section 6.3 below.

6.2.6 Jurisdictional Waters, including Wetlands

Jurisdictional waters are waters of the U.S. and State that are subject to the jurisdiction of the federal government under the CWA and the state government under the CWA, Porter Cologne Act, and the California Coastal Act. See the regulatory setting in EIR section 6.1 for more detailed explanation. Jurisdictional waters essentially include all aquatic features, although the extent of jurisdiction varies by agency. Wetlands are defined by the federal government as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b)).

Aquatic features in the HCP area include Pismo Creek, Carpenter Creek, Meadow Creek, Arroyo Grande Creek, and Oso Flaco Creek. The HCP area also contains Oso Flaco Lake, Pismo Lake, and occasional slack lakes in the dunes. Wetlands can occur in or near any of these aquatic features in any particular year. Wetland habitat is perennially present along the margins of the lakes. Wetland alliances also occur in the vegetated islands, the foredunes and backdunes, in South Oso Flaco, in the Pismo State Beach area, the North Beach Campground area, and the Phillips 66 Leasehold. The Vegetation Mapping Report (MIG|TRA, 2015) in HCP Appendix I maps the following wetland alliances within the HCP area: arroyo willow thickets (395 acres), wax myrtle scrub (10 acres), California bulrush marsh (45 acres), salt rush swales (15 acres), cattail marshes (3 acres), mats of bur-reed leaves (1 acre), pickleweed mats (1 acre), salt grass flats (1 acre), Pacific silverweed marsh (0.4 acre), American bulrush marsh (0.2 acre), duckweed blooms (36 acres, i.e., Oso Flaco Lake), field sedge meadows (4 acres), and jaumea mats (0.1 acre).

Existing activities impact jurisdictional waters as described in EIR Appendix D. Proposed new activities would not occur in or near jurisdictional waters. As a result, jurisdictional waters would not be impacted by new proposed covered activities in the HCP and are not considered further in this analysis.

6.2.7 Effects of Existing Activities

HCP covered activities for visitor use (CA-1 through CA-11); natural resource management (CA-12 through CA-19, except new SNPL chick and egg capture for captive rearing if observed to be threatened by recreation activity or non-covered species management activities [AMM 22]; park maintenance (CA-20 through CA-31, except new mechanical trash removal); visitor services (CA-32 through CA-39); and other park operations (CA-40, CA-44 through 47, except

new dust control activities associated with the PMRP and CA-50) are all existing activities occurring within Pismo State Beach and Oceano Dunes SVRA. All of these existing activities have known impacts on biological resources within the park units. Effects of these existing covered activities on special-status species fall into five categories: mortality or injury, disturbance, habitat reduction, indirect impacts, and beneficial effects, as defined below.

- **Mortality or Injury.** The covered activity has directly caused mortality or injury to a species in the past or has the potential to do so within the permit term of the HCP due to the nature of the activity. Examples include, but are not limited to, species being struck by a vehicle or being stepped on by pedestrians.
- **Disturbance.** The covered activity has caused disturbance to a species in the past or has the potential to do so within the permit term of the HCP due to the nature of the activity. Disturbance means causing stress to an individual or group of species such that they alter their natural behavior, potentially resulting in reduced breeding or foraging success, or even in some cases injury or mortality of one or more individuals. Disturbance also includes short-term impacts to species habitat, such as a temporary increase in turbidity in aquatic habitats.
- **Habitat Impacts.** The covered activity has resulted in a permanent reduction or alteration of species habitat in the past or has the potential to do so within the permit term of the HCP due to the nature of the activity. Examples of permanent habitat impacts include, but are not limited to, the reduction in habitat quality from motorized vehicle recreation or the permanent loss of habitat from covered activities.
- **Indirect Impacts.** The covered activity has caused indirect impacts to species in the past or has the potential to do so within the permit term of the HCP due to the nature of the activity. Indirect impacts include indirect negative effects to species from covered activities, such as an increase in the likelihood of predation or disease, or exposure to pollutants.
- **Beneficial Effects.** Covered activities with beneficial effects reduce the likelihood of species mortality of injury from other covered activities, protect species breeding and foraging habitat, and/or aid in the maintenance or recovery of species populations. Examples include the breeding season exclosures and monitoring for SNPL and CLTE, the CRLF surveys, the tidewater goby and salmonid surveys, and the listed plant management activities.

CDPR manages the effects of existing covered activities through implementing many AMMs such as recreation use restrictions, protective fencing of sensitive areas, habitat enhancements, enforcement patrols, and monitoring. Management measures employed by CDPR for the conservation of covered species are identified as AMMs listed in EIR Appendix B and briefly described below in EIR section 6.2.8.

Special-status species impacted by existing activities are described above in EIR section 6.2.3 and Table 6-2 and Table 6-3. The risk of impact to special-status animal species and special-status plant species from existing covered activities are summarized in Table 6-4 (animals) and Table 6-5 (plants). The risks of impact are classified as either high (H), moderate (M), low (L), no (N), and/or beneficial impact (B), as defined in the tables. Risk is defined as both the likelihood and magnitude of effect. As a result, risk is weighing both the frequency and severity

of the impact. Therefore, even though an impact may be expected to occur, it may not result in a high or moderate risk if the impact is considered infrequent or is not severe. The potential for existing ongoing activities occurring at Pismo State Beach and Oceano Dunes SVRA to affect these special-status species is characterized in EIR Appendix D. Effects to special-status species from these activities are existing baseline environmental conditions.

Table 6-4. Risk of Impact of Existing Covered Activities to Special-Status Animal Species[1]

Covered Activity	HCP Covered Animals				Non-Covered Animals							
	Western Snowy Plover	California Least Tern	California Red-legged Frog	Tidewater Goby	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Western Pond Turtle	Burrowing Owls	Nesting Birds[2]	Bats	American Badger
Park Visitor Activities												
CA-1 Motorized Recreation	H	H	L	N	L	L	L	N	L	L	M	L
CA-2 Camping	M	M	L	N	L	L	L	L	L	L	M	L
CA-3 Pedestrian Activities	M	M	L	L	M	M	L	L	L	L	L	L
CA-4 Bicycling and Golfing	L	L	N	N	L	L	N	N	L	L	N	N
CA-5 Fishing	L	L	L	N	N	N	L	L	N	L	N	N
CA-6 Dog walking	L	L	L	L	L	L	L	L	L	L	L	L
CA-7 Equestrian Recreation	L	L	L	L	L	L	L	L	L	L	N	L
CA-8 Boating/ Surfing	L	L	L	N	N	N	L	L	N	L	N	N
CA-9 Aerial/Wind-Driven Activities	L	N	N	N	N	N	N	N	L	L	N	L
CA-10 Holidays	H	H	L	L	M	M	L	M	L	M	M	L
CA-11 Special Events	M	M	L	N	L	L	L	L	L	M	L	L
Natural Resources Management												
CA-12a and CA-12b SNPL and CLTE Management	H, B	H, B	N	N	N	N	N	N	L	H	N	N
CA-13 TG and Salmonid Surveys	L	L	L	H, B	N	N	L	L	N	L	N	N
CA-14 CRLF Surveys and Management	L	L	H, B	L	N	N	M, B	M, B	N	L	N	N

Table 6-4. Risk of Impact of Existing Covered Activities to Special-Status Animal Species[1]

Covered Activity	HCP Covered Animals				Non-Covered Animals							
	Western Snowy Plover	California Least Tern	California Red-legged Frog	Tidewater Goby	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Western Pond Turtle	Burrowing Owls	Nesting Birds[2]	Bats	American Badger
CA-15 Listed Plant Management (monitoring)	L	L	M, B	N	M, B	M, B	M, B	M, B	L	M, B	N	M, B
CA-16 Habitat Restoration	L	L	N	N	L, B	L, B	N	N	L	L	N	L
CA-17 Invasive Plant and Animal Control	M, B	N	M, B	M, B	M, B	M, B	M, B	M, B	L	M, B	N	M, B
CA-18 HMS	M, B	M, B	L	L	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B
CA-19 Water Quality Monitoring Projects	L	L	M, B	M, B	N	N	M, B	M, B	N	M, B	N	N
Park Maintenance												
CA-20 Campground Maintenance	N	N	N	N	N	N	N	N	N	L	N	N
CA-21 General Facilities Maintenance	L	L	L	N	L	L	L	N	L	L	N	L
CA-22 Trash Control	L, B	L, B	L	N	L	L	L	N	L	L	N	L
CA-23 Wind Fencing	L	L	N	N	L	L	N	N	L	L	N	N
CA-24 Sand Ramp/Other Vehicle Access	L	N	N	N	N	N	N	N	L	L	N	N
CA-25 Street Sweeping	N	N	N	N	N	N	N	N	L	N	N	N
CA-26 Routine Riparian Maintenance	N	L	M	L	L	L	L	L, B	N	L	L	N
CA-27 Perimeter and Veg Island Fencing	L	L	N	N	L	L	N	N	L	L	N	L
CA-28 Cable Fence Maintenance	L	N	N	N	L	L	N	N	N	L	N	N
CA-29 Heavy Equipment Response	L	L	L	N	L	L	L	N	L	L	N	L
Visitor Services												
CA-30 Minor Grading	L	L	N	N	L	L	N	N	L	L	N	L
CA-31 Boardwalk/Other Pedestrian Maintenance	L	L	L	N	L	L	L	L	L	L	N	N
CA-32 Ranger, Lifeguard, Park Patrols	L	L	L	N	L	L	L	N	L	L	N	L

Table 6-4. Risk of Impact of Existing Covered Activities to Special-Status Animal Species[1]

Covered Activity	HCP Covered Animals				Non-Covered Animals							
	Western Snowy Plover	California Least Tern	California Red-legged Frog	Tidewater Goby	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Western Pond Turtle	Burrowing Owls	Nesting Birds[2]	Bats	American Badger
CA-33 Emergency Response	M	M	L	L	L	L	L	L	L	L	N	L
CA-34 Access by Non-CDPR Vehicles	M	L	L	N	L	L	L	N	L	L	N	L
CA-35 ASI Courses (ATV and RUV)	N	N	N	N	L	L	N	N	L	L	N	N
CA-36 Beach Concessions	L	L	N	N	L	L	N	N	L	L	N	N
CA-37 PB Golf Course Operations	N	N	M	N	N	N	N	L	N	L	N	N
CA-39 Natural History/Interpretation	N	L	N	N	N	N	N	N	N	L	N	N
Other Activities												
CA-40 Vehicle Crossing of Creeks	L	L	L	M	N	N	L	L	N	L	N	N
CA-44 Dust Control Activities	M	M	L, B	N	L, B	L, B	L, B	N	M	M	N	L, B
CA-45 Cultural Resources Management	L	L	L	N	L	L	L	N	L	L	N	L
CA-46 CDPR Ag Land Management	N	N	L	N	N	N	N	N	N	N	N	N
CA-47 Maintenance of a Bioreactor on Ag Lands	N	N	N	N	N	N	N	N	N	N	N	N
CA-51 Use of Pesticides	L	L	M, B	M, B	M, B	M, B	M, B	M, B	L	M, B	N	M, B

[1] If both adverse and beneficial impacts can occur, both are shown as defined below. The discussion for each species within this section details the individual impacts.

[2] Nesting birds includes both common and special-status nesting bird species.

High (H). The covered activity has in the past or is highly likely in the HCP permit term to cause direct mortality, injury, or reproductive failure of one or more individuals of a covered species in most years (more than once every 2 years); and/or a degree of disturbance or indirect impacts that is highly likely to result in mortality, injury, or reproductive failure of one or more individuals of a covered species in most years. Permanent loss or reduction in quality of 1 acre or more of primary breeding habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that have a primary purpose of aiding in the protection and recovery of the target covered species, including protective fencing, surveys and monitoring, habitat enhancement, predator control, etc.

Moderate (M). The covered activity has in the past, or may possibly in the HCP permit term, cause direct mortality, injury, or reproductive failure of one or more individuals of a covered species in some years (not more than once every 2 years); and/or a degree of disturbance or indirect impacts that could cause mortality, injury, or reproductive failure of one or more individuals

Table 6-4. Risk of Impact of Existing Covered Activities to Special-Status Animal Species[1]

Covered Activity	HCP Covered Animals				Non-Covered Animals							
	Western Snowy Plover	California Least Tern	California Red-legged Frog	Tidewater Goby	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Western Pond Turtle	Burrowing Owls	Nesting Birds[2]	Bats	American Badger

of a covered species in some years. Permanent loss or reduction in quality of 1 or more acre of secondary (dispersal, foraging, aestivation, roosting, etc.) habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that have a purpose of restoring and protecting natural resources generally but not necessarily a specific covered species, which have a secondary beneficial effect to a covered species.

Low (L). The covered activity is unlikely to cause mortality, injury, or reproductive failure; however, the covered activity will likely result in a degree of disturbance or indirect impacts that could disrupt the normal behavior patterns (e.g., breeding, feeding, sheltering) of one or more individuals of a covered species. Permanent loss or reduction in quality of 1 or more acre of tertiary (rarely used) habitat or temporary disturbance to habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that do not have a purpose related to natural resources protection, but nevertheless have some degree of beneficial effect to a covered species.

No Impact (N). The covered activity has not caused mortality, injury, or reproductive failure of a covered species in the past and does not have the potential to do so within the permit term of the HCP. The covered activity has not caused disturbance or indirect impacts in the past and is unlikely to during the permit term. The covered activity would also have no permanent or temporary impacts to covered species habitat. There are also no beneficial effects at the no impact level.

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
Park Visitor Activity																									
CA-1 Motorized Recreation	L	N	N	N	L	L	L	L	L	N	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-2 Camping	L	N	N	N	L	L	L	L	L	N	L	L	L	N	L	L	N	L	L	L	L	N	N	L	N
CA-3 Pedestrian Activities	M	N	N	M	M	M	M	M	M	M	M	M	M	M	M	M	N	M	M	M	M	N	M	M	M
CA-4 Bicycling and Golfing	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-5 Fishing	N	L	N	N	N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	N
CA-6 Dog Walking	L	N	N	L	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-7 Equestrian Recreation	L	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	N	L	L	L
CA-8 Boating/ Surfing	N	L	N	N	N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	N

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-9 Aerial/Wind-Driven Activities	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-10 Holidays	M	N	N	M	M	M	M	M	M	M	M	M	M	M	M	M	N	M	M	M	M	N	M	M	M
CA-11 Special Events	M	N	N	M	M	M	M	M	M	M	M	M	M	M	M	M	N	M	M	M	M	N	M	M	M
Natural Resources Management																									
CA-12a and CA-12b SNPL and CLTE Management	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-13 TG and Salmonid Surveys	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-14 CRLF Surveys and Management	N	L	N	N	N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	N

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-15 Listed Plant Management	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B
CA-16 Habitat Restoration Program	L,B	N	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	N	L,B	L,B	L,B
CA-17 Invasive Plant and Animal Control	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B
CA-18 HMS	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B	L,B
CA-19 Water Quality Monitoring Projects	N	L	N	N	N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	N
Park Maintenance																									
CA-20 Campground Maintenance	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-21 General Facilities Maintenance	L	N	N	N	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-22 Trash Control	L	N	N	N	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-23 Wind Fencing	L	N	N	N	L	L	L	L	L	N	L	L	L	N	L	L	N	L	L	N	L	N	L	L	L
CA-24 Sand Ramp/Other Vehicle Access	L	N	N	N	L	L	L	L	L	N	L	L	L	N	L	L	N	L	L	N	L	N	L	L	L
CA-25 Street Sweeping	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-26 Routine Riparian Maintenance	N	L	N	N	N	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	L	N	N	N
CA-27 Perimeter and Veg Island Fencing	L	N	N	N	L	N	L	L	L	N	L	L	L	N	N	N	N	L	L	N	N	N	N	L	L

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-28 Cable Fence Maintenance	L	N	N	N	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-29 Heavy Equipment Response	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Visitor Services																									
CA-30 Minor Grading	L	N	N	N	L	L	L	L	L	N	L	L	L	N	L	L	N	L	L	N	L	N	L	L	L
CA-31 Boardwalk/ Other Pedestrian Maintenance	L	N	N	L	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-32 Ranger, Lifeguard, Park Patrols	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-33 Emergency Response	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-34 Access by Non-CDPR Vehicles	L	N	N	N	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-35 ASI Courses (ATV and RUV)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-36 Beach Concessions	L	N	N	N	L	L	L	L	L	L	L	L	L	N	L	L	N	L	L	L	L	N	L	L	L
CA-37 PB Golf Course Operations	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-39 Natural History/ Interpretation	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Other Activities																									
CA-40 Vehicle Crossing of Creeks	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 6-5. Risk of Impact of Existing Covered Activities to Special-Status Plant Species

Covered Activity	Red sand verbena	**Marsh sandwort**	Sand mesa manzanita	Nuttall's milkvetch	Monterey Coast paintbrush	Coastal goosefoot	Douglas's spineflower	**Surf thistle**	**La Graciosa thistle**	Dune larkspur	**Beach spectaclepod**	Blochman's leafy daisy	Suffrutescent wallflower	Kellogg's horkelia	Southwestern spiny rush	Fuzzy prickly phlox	**Nipomo Mesa lupine**	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	**Gambel's watercress**	Hickman's popcorn flower	sand almond	Blochman's groundsel
CA-44 Dust Control Activities	L	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	N	L	L	L
CA-45 Cultural Resource Management	L	N	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	N	L	L	L
CA-46 CDPR Ag Land Management	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-47 Bioreactor Maintenance on Ag Land	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CA-51 Use of Pesticides	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B

Moderate (M). Activity and habitat may overlap in an area where species has been documented. Activity may alter habitat to a lesser extent.

Low (L). Activity and habitat may overlap. Activity may encroach upon habitat, but not alter it.

No Impact (N). Activity and habitat do not overlap.

Beneficial (B). Activity benefits species and/or habitat.

This page intentionally left blank.

6.2.8 Avoidance and Minimization Measures (AMMs)

The proposed HCP incorporates AMMs as project components that are designed to minimize impacts to the covered species and their environment. The application of AMMs is presumed, and therefore they are not considered mitigation measures but rather resource protection measures that are part of the proposed HCP. Thus, the AMMs are considered to be in place when determining the level of impact, as described in the biological impact assessment.

A summary listing of HCP AMMs is presented in EIR Appendix B. There are 140 AMMs for protecting SNPL, 126 AMMs for CLTE, 49 AMMs for CRLF, 55 for tidewater goby, and 38 AMMs for the covered plant species. These measures are designed to protect the covered species from potentially significant impacts caused by the covered activities.

Fish. The HCP includes AMMs specifically for the protection of tidewater goby, including, but not limited to, visitor and park personnel education, signage, minimizing/excluding human and dog activities in tidewater goby habitat, seasonal closures, enforcement (particularly during periods of high use), minimizing disturbance during surveys for fish and amphibians, minimizing erosion, assuring sustained water flows, and pre-construction surveys.

Amphibians and Reptiles. The HCP specifies AMMs to protect CRLF, including, but not limited to, visitor and employee education, posted speed limits, trash management and predator control, monitoring of creek crossings, pre-activity surveys, decontamination of equipment, non-native vegetation management, controlling activities that can cause turbidity, biological monitoring during construction and maintenance activities, timing construction/maintenance to avoid the breeding season, and control of pesticide use. The AMMs specifically target Arroyo Grande Creek, Carpenter Creek, Pismo Creek, Arroyo Grande Creek Lagoon, Oceano Lagoon, Pismo Lagoon, Oso Flaco Creek, Pismo Lake, dune lakes and wetlands, the campgrounds and golf course (maintenance in uplands), riparian areas, and areas subject to cultural resources management. HCP AMMs for CRLF may also provide protection for western spadefoot toad and western pond turtle.

Birds. The HCP specifies AMMs to protect SNPL and CLTE, including, but not limited to, visitor and employee education, posted speed limits, trash management and predator control, seasonal exclosure and single-nest exclosure fencing, monitoring, habitat enhancement, and no-disturbance buffers. The AMMS target areas where SNPL and CLTE are known to nest along the shoreline, but also include other suitable habitat areas where SNPL and CLTE could occur. HCP AMMs for SNPL and CLTE may also provide protection for migrant and winter resident birds, as well as some other nesting birds (e.g., ground nesting birds such as California horned lark).

Plants. The HCP specifies AMMs to protect covered plants in the HCP area, including, but not limited to, visitor and employee education, habitat restoration, and pre-activity surveys. HCP AMMs for covered plants may also provide protection for some wildlife species that occur within similar habitats (e.g., coast horned lizard, silvery legless lizard).

6.3 PROJECT IMPACTS

The proposed HCP includes existing, new proposed, and potential future covered activities. The majority of HCP covered activities presently occur in the HCP area and have been occurring for decades. Table 2-4. in the EIR project description identifies those activities that are ongoing, and those that are new activities or may be considered in the future. Biological effects of ongoing

existing covered activities are part of the environmental setting as described in EIR section 6.2.7 and EIR Appendix D. The HCP does not propose changes to these existing activities; therefore, there are no new impacts associated with these existing covered activities; these activities do not change the environmental baseline and therefore are not further considered in this impact analysis.

Four new covered activities are proposed that would modify park operations: SNPL chick and egg capture for captive rearing if observed to be threatened by recreation activities and other non-covered species management activities (CA-12b); mechanical trash removal (CA-21); reduction of the Boneyard Exclosure and 6 Exclosure (CA-50); and CDPR's use of UAS (CA-52). The biological impacts of these four changes to park operations are addressed in this section. The impact analysis assumes that the AMMs included in the HCP are incorporated into the new covered activities.

Ten covered activities identified in the HCP are potential future projects contemplated by CDPR: SNPL adult banding (CA-12b), propagation and outplanting of listed plants (CA-15); cable fence replacement (CA-28); Grover Beach Lodge (CA-38); Pismo Creek estuary seasonal (floating) bridge (CA-41); riding in 40 Acres (CA-42); safety and education center replacement (CA-43); dust control activities – new PMRP (CA-44); Oso Flaco Lake boardwalk replacement (CA-48); and special projects (CA-49). Other than dust control activities – new PMRP (CA-44), these projects are not specifically proposed now for implementation but may be considered by CDPR in the future. New PMRP planning is well underway. All of these projects would be subject to separate environmental review and approval processes as described in EIR section 2.5.3. These potential future activities are addressed in the cumulative impact analysis in EIR section 6.3.5. The cumulative impact analysis assumes that the AMMs included in the HCP are incorporated into these potential future covered activities.

6.3.1 Thresholds of Significance

Consistent with the CEQA Guidelines Appendix G Checklist, the project would have a significant impact to biological resources if it would:

- 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 or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrologic interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

- Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

As described in Chapter 3, the HCP proposed new covered activities are limited to SNPL chick and egg capture for captive rearing if observed to be threatened by recreation activities and other non-covered species management activities (CA-12b; AMM 22), mechanical trash removal (CA-21), reduction of the Boneyard Exclosure and 6 Exclosure (CA-50), and CDPR's use of UAS (CA-52).

HCP proposed new covered activities would not occur in jurisdictional waters, including wetlands or slack lakes. As a result, proposed new covered activities would have no impact on jurisdictional waters or wetlands, and therefore this impact is not further discussed.

The proposed action is adoption of a new HCP governing Pismo State Beach and Oceano Dunes SVRA. The HCP new covered activities do not conflict with any local policies protecting biological resources nor do they conflict with any other HCP. There is no HCP, NCCP, or other approved local, regional, or state HCP in effect in the HCP area. Accordingly, this impact is not discussed further in this EIR.

6.3.2 Special-Status Species

The following analysis addresses impacts to special-status species caused by new activities (CA-12b, CA-21, CA-50, and CA-52) proposed by the HCP. An overview of the risk of impacts of these activities on special-status species is presented in Table 6-6 and Table 6-7. Risk is defined as both the likelihood and magnitude of effect. As a result, risk is weighing both the frequency and severity of the impact. Therefore, even though an impact may be expected to occur, it may not result in a high or moderate risk if the impact is considered infrequent or is not severe. The risks of impact are classified as either high (H), moderate (M), low (L), no (N), and/or beneficial impact (B). These classifications are defined in the tables. Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities (CA-12b, CA-21, CA-50, and CA-52) would not have impacts on tidewater goby, western pond turtle, bats, marsh sandwort, sand mesa manzanita, Nuttall's milkvetch, Monterey paintbrush, Douglas spineflower, surf thistle, dune larkspur, beach spectaclepod, Kellogg's horkelia, southwestern spiny rush, Nipomo Mesa lupine, Gambel's watercress, and sand almond; therefore, these species are dismissed from further discussion in this EIR. Impacts of potential future covered activities are addressed in the cumulative analysis in EIR section 6.3.5.

Table 6-6. Risk of Impact of Proposed New Covered Activities on Special-Status Animal Species[1,2]

Covered Activity	HCP-Covered Animals			Non-Covered Animals					
	Western Snowy Plover	California Least Tern	California Red-legged Frog	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Burrowing Owls	Nesting Birds[3]	American Badger
Natural Resource Management									
CA-12b SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities	H, B	L	N	N	N	N	L	L	N
Park Maintenance									
CA-21 General Facilities Maintenance – Mechanical Trash Removal	M	L	L	L	L	L	L	L	L
Other Activities									
CA-50 Reduction of the Boneyard Exclosure and 6 Exclosure	H	H	L	L	L	L	N	L	N
CA-52 CDPR UAS Use for Park Activities	L, B	L, B	N	N	N	N	L	M	L

[1] If both adverse and beneficial impacts can occur, both are shown as defined below. The discussion for each species within this section details the individual impacts.

[2] Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities would not have impacts on tidewater goby, western pond turtle, and bats.

[3] Nesting birds includes both common and special-status nesting bird species.

High (H). The covered activity has in the past or is highly likely in the HCP permit term to cause direct mortality, injury, or reproductive failure of one or more individuals of a covered species in most years (more than once every 2 years); and/or a degree of disturbance or indirect impacts that is highly likely to result in mortality, injury, or reproductive failure of one or more individuals of a covered species in most years. Permanent loss or reduction in quality of 1 acre or more of primary breeding habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that have a primary purpose of aiding in the protection and recovery of the target covered species, including protective fencing, surveys and monitoring, habitat enhancement, predator or invasive species control, etc.

Moderate (M). The covered activity has in the past, or may possibly in the HCP permit term, cause direct mortality, injury, or reproductive failure of one or more individuals of a covered species in some years (not more than once every 2 years); and/or a degree of disturbance or indirect impacts that could cause mortality, injury, or reproductive failure of one or more individuals of a covered species in some years. Permanent loss or reduction in quality of 1 or more acre of secondary (dispersal, foraging, aestivation, roosting, etc.) habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that have a purpose of restoring and protecting natural resources generally but not necessarily a specific covered species, which have a secondary beneficial effect to a covered species.

Table 6-6. Risk of Impact of Proposed New Covered Activities on Special-Status Animal Species[1,2]

Covered Activity	HCP-Covered Animals			Non-Covered Animals					
	Western Snowy Plover	California Least Tern	California Red-legged Frog	California (Coast) Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Burrowing Owls	Nesting Birds[3]	American Badger

Low (L). The covered activity is unlikely to cause mortality, injury, or reproductive failure; however, the covered activity will likely result in a degree of disturbance or indirect impacts that could disrupt the normal behavior patterns (e.g., breeding, feeding, sheltering) of one or more individuals of a covered species. Permanent loss or reduction in quality of 1 or more acre of tertiary (rarely used) habitat or temporary disturbance to habitat of one or more covered species also falls into this impact level. In the case of beneficial (B) effects, this category applies to covered activities that do not have a purpose related to natural resources protection, but nevertheless have some degree of beneficial effect to a covered species.

No Impact (N). The covered activity has not caused mortality, injury, or reproductive failure of a covered species in the past and does not have the potential to do so within the permit term of the HCP. The covered activity has not caused disturbance or indirect impacts in the past and is unlikely to during the permit term. The covered activity would also have no permanent or temporary impacts to covered species habitat. There are also no beneficial effects at the no impact level.

Table 6-7. Risk of Impact of New Covered Activities to Special-Status Plant Species[1]

Covered Activity	Red sand verbena	Coastal goosefoot	**La Graciosa thistle**	Blochman's leafy daisy	Suffrutescent wallflower	Fuzzy prickly phlox	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	Hickman's popcorn flower	Blochman's groundsel
Natural Resources Management												
CA-12b SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed Threatened by Recreation Activities and Other Non-Covered Species Management Activity	L	L	L	L	L	L	L	L	L	L	L	L

Table 6-7. Risk of Impact of New Covered Activities to Special-Status Plant Species[1]

Covered Activity	Red sand verbena	Coastal goosefoot	**La Graciosa thistle**	Blochman's leafy daisy	Suffrutescent wallflower	Fuzzy prickly phlox	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	Hickman's popcorn flower	Blochman's groundsel
Park Maintenance												
CA-21 General Facilities Maintenance – Mechanical Trash Removal	L	L	L	L	L	L	L	L	L	L	L	L
Other Activities												
CA-50 Reduction of the Boneyard Exclosure and 6 Exclosure	L	L	L	L	L	L	L	L	L	L	L	L
CA-52 CDPR UAS Use for Park Activities	N	N	N	N	N	N	N	N	N	N	N	N

[1] Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities would not have impacts on marsh sandwort, sand mesa manzanita, Nuttall's milkvetch, Monterey paintbrush, Douglas spineflower, surf thistle, dune larkspur, beach spectaclepod, Kellogg's horkelia, southwestern spiny rush, Nipomo Mesa lupine, Gambel's watercress, and sand almond.

Low (L). Activity and habitat may overlap. Activity may encroach upon habitat, but not alter it.

No Impact (N). Activity and habitat do not overlap.

6.3.2.1 Western Snowy Plover

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b; AMM 22). SNPL chick and egg capture requires handling chicks and/or eggs at high risk of being injured or killed by covered activities to relocate them to an authorized wildlife facility. This activity would result in increased stress and vigilance of chicks while monitors attempt to capture the chicks. In addition, captive rearing is not always successful, and eggs or chicks may not survive in the captive facility. Despite this potential outcome, captive rearing has been documented as successful in a few studies (Neuman, et al., 2013) (Powell & Cuthbert, 1993), (Powell, Cuthbert, Wemmer, Doolittle, & Feirer, 1997) and, in studies where survival of captive-reared young is low, proponents of the technique point out that even small numbers that survive and breed indicate some success toward conservation of the species since otherwise the eggs or chicks would not have survived (Neuman, et al., 2013) (Roche, Cuthbert, & Arnold, 2008).

In the past, under the ongoing SNPL and CLTE management program, approximately 112 SNPL eggs and 52 SNPL chicks within the HCP area have been salvaged when they were found abandoned or injured. This ongoing salvage of eggs and chicks is included in the HCP as AMM 90 and described in EIR Appendix D. The take associated with the ongoing salvage of eggs and

chicks is attributed to the HCP area's existing level of take, separate from AMM 22. A portion of these individuals have survived to fledging age in a captive-rearing facility. These fledglings have been released back into the wild, and many were documented as integrating into the wild SNPL population and breeding, although not necessarily within the HCP area. As a result, capturing SNPL eggs and chicks that are threatened by recreation activities and other non-covered species management activities as proposed under AMM 22 would be beneficial to any chicks and eggs removed since otherwise the eggs and chicks would not have survived. Furthermore, new SNPL AMM 22 establishes a threshold (i.e., 8 eggs and 8 chicks) at which point CDPR would contact the USFWS and discuss appropriate AMMs (e.g., expanding the exclosure along the shoreline to provide additional protected foraging habitat, increasing monitoring along the shoreline, increasing signage in the breeding area) to ensure additional take does not occur from covered activities not related to covered species management (e.g., motorized recreation, new proposed activities). As a result, the impact would be ***less than significant***.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would only occur above the wrack line and would be set back from creeks, riparian areas, and foredunes. Mechanical trash removal would not occur within vegetated areas or areas encompassed by the seasonal exclosure (i.e., from Post 6 south) but would occur within favorable SNPL nesting and wintering habitat (i.e., primary and secondary habitat). Mechanical trash removal would be subject to SNPL AMMs 104 through 109, which include surveying the area for SNPL presence prior to mechanical trash removal and use of a biological monitor. Implementation of these measures would prevent the potential for mortality or injury of SNPL from equipment operation, and mortality and injury impacts would be ***less than significant***.

Mechanical trash removal activities would not be conducted within 500 feet of any known SNPL nesting area (e.g., the seasonal exclosure, bumpouts, and individual nest exclosures) and is therefore unlikely to disturb nesting SNPL. SNPL are known to winter in areas where mechanical trash removal may occur. If SNPL are foraging or roosting in areas where mechanical trash removal occurs, they could be temporarily disturbed by the activities and/or precluded from foraging and roosting in these areas. SNPL AMMs 104 and 109 would be implemented to reduce the disturbance-related impacts on foraging and/or roosting wintering SNPL to ***less than significant***.

Mechanical trash removal would not be conducted within 500 feet of the seasonal exclosure area during the breeding or non-breeding season; therefore, SNPL habitat in the seasonal exclosure would remain undisturbed by mechanical trash removal year-round. In addition, mechanical trash removal would not be conducted at or below the active wrack line; therefore, SNPL foraging habitat along the shoreline would not be impacted. Although mechanical trash removal would not occur within 500 feet of the seasonal exclosure, mechanical trash removal could affect favorable SNPL nesting habitat (i.e., primary and secondary habitat) outside of the seasonal exclosure by altering dune composition and topography. However, most mechanical trash removal would be conducted in areas where recreation activities have been concentrated and the substrate is already highly disturbed. These areas are unlikely to support the appropriate SNPL nesting habitat due to the high level of recreation; therefore, SNPL are not expected to nest in the areas where mechanical trash removal would typically occur. As a result, mechanical trash removal would have ***less-than-significant*** impacts on active SNPL nesting habitat.

Although mechanical trash removal would occur above the active wrack line, mechanical trash removal during the summer could remove scattered debris (e.g., driftwood and kelp) from the previous winter wrack line still present in the beach area above the active wrack line, which is likely important habitat for wrack-associated beach invertebrates. If mechanical trash removal occurs frequently, this material may not have time to naturally develop again and species richness, abundance, and biomass of wrack-associated invertebrates that are important SNPL prey resources could decline. As a result, wintering SNPL could be impacted by a reduced prey source. CDPR will implement AMM 109 that includes studying the impact of mechanical trash removal on wrack-associated invertebrates. If a significant decline in invertebrates is observed, CDPR would implement additional measures to reduce the impact, such as conducting habitat enhancement in mechanical trash removal areas, reducing the frequency of mechanical trash removal, and/or reducing the mechanical trash removal locations. As a result, mechanical trash removal would have ***less-than-significant*** impacts on wintering SNPL foraging opportunities and the quality of their habitat.

SNPL Critical Habitat: Mechanical trash removal could occur within SNPL critical habitat that is outside the seasonal exclosure. Mechanical trash removal would not be conducted at or below the active wrack line; therefore, these activities are not anticipated to impact any physical and biological features related to shoreline habitat areas for SNPL feeding (i.e., foraging habitat) at or below this wrack line. Mechanical trash removal could remove favorable constituents within SNPL nesting habitat (i.e., primary and secondary habitat) outside the seasonal exclosure by altering dune composition and topography. Specifically, mechanical trash removal could reduce microtopography and organic surface materials (e.g., driftwood) that are scattered throughout the HCP area above the wrack line.

Most mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated. These areas only support marginally suitable SNPL nesting habitat due to the ongoing high level of recreation (i.e., presence of humans, pets, vehicles, and/or human attracted predators), and SNPL are not currently known to nest in these areas. CDPR also implements habitat enhancement (CA-12b), which helps offset the impacts of vehicle activity occurring in the exclosure area during the winter and is also expected to offset some impacts of mechanical trash removal on breeding SNPL to ensure that favorable nesting habitat remains in the HCP area despite these covered activities. Specifically, the habitat enhancement activity includes collecting wrack and placing it on the shoreline of the Southern Exclosure at the beginning of the breeding season to provide cover for nesting SNPL and inoculating the wrack with talitrids (commonly called beach hoppers) to ensure a sustainable population of wrack-associated invertebrates, which are SNPL prey, are present in main SNPL breeding and foraging area (i.e., the exclosure area).

Although mechanical trash removal would occur above the active wrack line, mechanical trash removal during the summer could remove scattered debris (e.g., driftwood and kelp) from the previous winter wrack line still present in the beach area above the active wrack line, which is likely important habitat for wrack-associated beach invertebrates. If mechanical trash removal occurs frequently, this material may not have time to naturally develop again and species richness, abundance, and biomass of wrack-associated invertebrates that are important SNPL prey resources could decline. While CDPR implements habitat enhancement (CA-12b) that ensures a sustainable population of wrack-associated invertebrates (SNPL prey) are present in main SNPL breeding and foraging area, it has minimal benefit to invertebrate populations in

active mechanical trash removal areas. As a result, a reduced prey source in mechanical trash removal areas may not impact SNPL during the breeding season due CDPR's habitat enhancements but could impact wintering SNPL when habitat enhancements are not provided. CDPR would implement AMM 109 to study the impact of mechanical trash removal on wrack-associated invertebrates. If a significant decline in invertebrates is observed, CDPR will implement additional measures to reduce the impact, such as conducting habitat enhancement in mechanical trash removal areas, reducing the frequency of mechanical trash removal, and/or reducing the mechanical trash removal locations. As a result, impacts to critical habitat from mechanical trash removal would be ***less than significant***, and critical habitat for SNPL would not be adversely changed by mechanical trash removal activities.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50)[31]. Reduction of the Boneyard Exclosure and 6 Exclosure is not expected to result in additional impacts to adult and/or juvenile SNPL beyond those described above for motorized recreation (CA-1) and pedestrian activities (CA-3) since SNPL AMMs would be implemented, as appropriate, including installing single-nest exclosures or bumpouts around any SNPL nest within the open riding area, and any SNPL adults and/or juveniles found outside an exclosure would typically be expected to fly out of harm's way.

Elimination of East Boneyard Exclosure (approximately 49 acres) and incremental elimination of 6 Exclosure (60 acres) could result in the permanent loss of up to 109 acres of protected breeding habitat. This reduction represents approximately one-third of the 368 acres of SNPL breeding habitat currently protected by the seasonal exclosure (300 acres in the Southern Exclosure and 68 acres in the Oso Flaco Exclosure).

Although the East Boneyard Exclosure is considered suitable habitat for SNPL, it has supported only seven SNPL nests (i.e., a single nest in seven different breeding seasons) since 2005, indicating that this area may not provide ideal nesting habitat for SNPL and they are thus unlikely to nest in this area. Any nest that was established in this area once the exclosure fencing is removed would be protected by a single-nest exclosure, and a 100-foot buffer would be implemented as described in the SNPL AMMs. SNPL are known to nest within the West Boneyard Exclosure, and the East Boneyard Exclosure has provided a buffer from any recreational disturbance in the open riding area. Removal of the East Boneyard Exclosure would thus result in motorized recreation activities adjacent to the West Boneyard Exclosure where SNPL could nest. However, if any SNPL within the West Boneyard Exclosure are observed to be disturbed by increased recreation and/or new travel patterns within the former adjacent East Boneyard Exclosure, a bumpout would be installed as described in the SNPL AMMs to ensure that disturbance in this area is minimized. As a result, removal of the East Boneyard Exclosure would have a ***less-than-significant*** impact on nesting SNPL.

Currently, the Boneyard gate is inaccessible during the SNPL breeding season since it is enclosed within the East Boneyard Exclosure. If the East Boneyard Exclosure is removed, then recreationists can once again access the Boneyard gate during the breeding season. SNPL

[31] CDPR may reduce the exclosure via other configurations, such as east-to-west. However, the north-to-south configuration is anticipated to be the most impactful scenario to SNPL due to the simultaneous loss of protected nesting and foraging habitat. Therefore, for purposes of analysis this section focuses on the worst-case scenario (i.e., a north-to-south, 328-foot or approximately 7.5-acre reduction).

frequently nest in the Oso Flaco area, and any SNPL that nest within South Oso Flaco could be disturbed by recreationists that enter South Oso Flaco through the Boneyard gate. However, the Oso Flaco fence at the south end of East Boneyard would be moved, as necessary, to ensure that recreational access to South Oso Flaco from the former East Boneyard area would continue to be limited. As a result, this impact would be ***less than significant***.

The 6 Exclosure has had greater nesting success and is one of the higher producing exclosure areas. From 2005 to 2018, between 25 and 73 (i.e., 25 to 45 percent of the total SNPL nests at Oceano Dunes SVRA) SNPL nests have been established in the 6 Exclosure annually. Therefore, reduction of the 6 Exclosure could expose nesting, foraging, and/or roosting SNPL to recreation and other activities. Individuals not protected by the exclosure fence could be killed, injured, or disturbed if activities occur close by. Based on historical data in the HCP area from 2005 to 2018, the most nests established in the first 328 feet of the 6 Exclosure in a year has been six nests. As a result, although unlikely[32], it is possible that up to six nests could be exposed to recreation and other activities during the first incremental decrease of the 6 Exclosure if SNPL do not move south into the remaining protected area. Ultimately, although unlikely, if the entire 6 Exclosure is removed, between 25 and 73 nests could be exposed to recreation. In addition, as the SNPL population increases, it is possible more SNPL breeding activity would occur in the open riding area.

From 2005 to 2018, the average density of SNPL nests within the 6 Exclosure has ranged from 0.5 to 1.9 nest/acre. Adult territorial aggression towards SNPL chicks has been observed along the shoreline and occasionally observed within the seasonal exclosure when chicks from one brood move into the territory of another brood. Adult aggression toward chicks can injure or kill the chick or expose it to inclement weather, starvation, and/or predation. Currently, territorial aggression in the seasonal exclosure is only occasionally observed. However, reduction of the 6 Exclosure could exacerbate the territorial aggression within the seasonal exclosure by reducing the amount of habitat available for nesting so that nests must be established in closer proximity, and chicks would be more likely to enter the territory of another brood. In addition, as the SNPL population increases, it is possible more SNPL breeding activity may move into the open riding area.

The maximum number of SNPL nests during one breeding season within 1 acre in the 6 Exclosure from 2005 to 2018 has not exceeded seven nests, and some portion of those nests was active during the same time period. Therefore, for purposes of analysis, this suggests that the maximum optimal density for SNPL nests within an acre of the 6 Exclosure is seven nests. If the 6 Exclosure is reduced by 328 feet in a breeding season, SNPL that previously nested in that portion of the seasonal exclosure are expected to move into the remaining protected area (Lafferty, Goodman, & Sandoval, 2006), which would contract the SNPL nest distribution and increase the density of nests in the remaining exclosure area. Ideally, habitat would be available for SNPL to continue to nest at a favorable density; however, in a worst-case-scenario, nest density within a breeding season could exceed the maximum optimal density in some areas of the exclosure by at least one nest in the first 328-foot exclosure reduction. This trend would

[32] Most SNPL are expected to move south into the protection of the exclosure to avoid disturbance from recreation activity. This has been observed at Coal Oil Point Reserve (Lafferty, Goodman, & Sandoval, 2006) where SNPL increased in abundance and contracted their distribution to within the protected area to avoid recreation disturbance.

continue if the exclosure continued to be reduced by 328 feet (approximately 7.5 acres) each breeding season.

Adult territorial aggression towards SNPL chicks has been commonly observed along the shoreline when foraging chicks move into the territory of another brood. Adult aggression toward chicks on the shoreline can injure or kill the chick and/or separate them from the attending adult. In addition, adult aggression can result in chicks along the exclosure shoreline leaving the protection of the seasonal exclosure and entering the open riding area where they are at risk of being struck by a vehicle. Reduction of the 6 Exclosure (especially if the exclosure is reduced from north to south) would exacerbate this territorial aggression issue by reducing the amount of protected shoreline habitat available for foraging so that broods would either forage in closer proximity to another brood or leave the protection of the exclosure to avoid entering the territory of another brood. Historical nest data indicates between 25 and 73 nests have been established annually in the 6 Exclosure between 2005 and 2018; therefore, if the entire 6 Exclosure is removed, although unlikely, it could result in 75 to 219 chicks moving into the open riding area to forage where they are at risk of being struck by a vehicle.

To ensure that SNPL nesting levels in the HCP area continue to contribute to the overall success of the population, the HCP ensures that the 6 Exclosure would not be reduced unless specific criteria are met, including obtaining a breeding population size greater than 155 SNPL for 3 consecutive years and a fledge rate of 1.0 fledgling per pair over the same period (Chapter 5 in the HCP). In addition, any nests found outside a seasonal exclosure would be protected by a single-nest exclosure, thus reducing the likelihood of direct impacts to nesting SNPL. Monitors would also track SNPL chicks that are hatched within the riding area to determine travel routes and patterns associated with foraging and exploration and protect them with symbolic fencing to keep vehicles away, and bumpouts would be installed as necessary to reduce disturbance to SNPL nesting near the areas open to motorized recreation. In addition, all other SNPL AMMs (HCP Table 5-2) would apply to this activity, as appropriate.

Although these measures would reduce impacts to eggs and chicks in the riding area, some eggs and chicks may still need to be captured and brought to a captive-rearing facility to prevent mortality and injury. The number of eggs or chicks that may need to be captured for captive rearing is difficult to predict at this time. Therefore, new SNPL AMM 22[33] establishes a maximum number of egg or chick capture (i.e., up to 12 eggs/4 nests and/or 12 chicks/4 broods per year) for covered activities not related to covered species management (e.g., motorized recreation). The measure also establishes a threshold (i.e., 8 eggs and 8 chicks) at which point CDPR would contact the USFWS and discuss appropriate AMMs (e.g., expanding the exclosure along the shoreline to provide additional protected foraging habitat, increasing monitoring along the shoreline, increasing signage in the breeding area) to reduce impacts and additional take that could occur from covered activities not related to covered species management. With these measures the reduction of East Boneyard Exclosure and 6 Exclosure are expected to have a ***less-than-significant*** impact on SNPL by ensuring that a viable population of SNPL continues to breed within the HCP area.

[33] A discussion of eggs and chick capture associated with the ongoing salvage and rescue activities conducted as part of CDPR's SNPL and CLTE Management Program (AMM 90) is included in EIR Appendix D.

SNPL Critical Habitat: East Boneyard Exclosure is not located within critical habitat. Up to 60 acres (i.e., the 6 Exclosure) would continue to be closed to motorized vehicles during the SNPL and CLTE breeding season until certain criteria are met and the 6 Exclosure can be reduced by 328-foot or similar increments (Chapter 5 in the HCP). Ultimately, 60 acres of critical habitat could once again be open year-round to motorized recreation as a result of removing the 6 Exclosure.

Heavy recreational use in the 6 Exclosure reduction area may reduce the quality of designated SNPL critical habitat for nesting or wintering activities. Specifically, SNPL may continue to use areas that are heavily used by humans, but productivity may be limited, and/or frequent disturbance of wintering flocks may occur. However, heavy recreational use in critical habitat was occurring within the HCP area at the time critical habitat was designated. In addition, although exclosures do reduce disturbance, seasonal exclosures were not considered in the designation of critical habitat and were, therefore, not included as part of the physical and biological features essential to the conservation of the species. Therefore, reduction of the 6 Exclosure would not modify the physical and biological features described in critical habitat designation and this impact would be ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). CDPR may use UAS (e.g., drones) in the HCP area to reduce the time and cost associated with data collection, especially in more remote areas. CDPR would avoid flying UAS in areas where breeding SNPL would be affected, if possible. However, CDPR may use UAS in or near SNPL nesting or brood rearing habitat during the breeding season for some activities (e.g., predator identification, habitat enhancement, SNPL monitoring). In 2018, prior to the SNPL breeding season, CDPR staff assessed the ability of a UAS to capture the amount of wrack present on the shoreline within SNPL breeding habitat. The UAS was tested over a period of a week and found to be highly effective at assessing nesting habitat enhancements distributed by staff. During the UAS flight, CDPR observed a small flock of SNPL and other shorebirds nearby. The flock of SNPL and other shorebirds did not flush or crouch in response to the UAS. Vas et al. (2015) also assessed reactions by a variety of waterbirds to approaches by UAS and found that the birds remained unaffected in most cases, suggesting the potential to use UAS without significant disturbance.

In addition, SNPL AMMs 123 through 135 would be implemented during breeding season to ensure disturbance from UAS is minimized, including, but not limited to, initiating flights at least 328 feet from the closest known nest location, following existing monitoring guidelines that have been established by USFWS, having a trained biologist scan the area for roosting and nesting SNPL before every flight, having a trained biologist monitor the flight if SNPL are observed, flying UAS at least 100 feet above ground at all times and moving UAS to higher altitude or aborting the mission if UAS are observed disturbing nests or broods, and ensuring the flight plan does not include erratic flight patterns that could be interpreted as an avian predator. As a result, impacts from UAS are expected to be ***less than significant***. Overall, UAS would likely have ***beneficial effects*** by collecting valuable information on SNPL habitat, predators, and breeding that will inform future management decisions within the HCP area.

UAS may be used during the non-breeding season throughout the HCP area and during the breeding season outside occupied SNPL breeding habitat and could disturb roosting and/or foraging SNPL. Vas et al. (2015) assessed reactions by a variety of waterbirds to approaches by UAS and found that the birds remained unaffected in most cases, suggesting the potential to use UAS without significant disturbance. In addition, SNPL AMMs 123 through 140 would be

implemented to ensure disturbance from UAS is minimized, including, but not limited to, ensuring UAS flight patterns are not erratic so they are not interpreted as an avian predator, scanning the area for roosting or foraging SNPL prior to every flight, flying UAS at least 100 feet above ground, and ensuring all flights are approved by the Senior Environmental Scientist. As a result, UAS are expected to have ***less-than-significant*** impact on foraging and/or roosting SNPL during the non-breeding season and/or outside occupied SNPL breeding habitat during the breeding season. Overall, UAS would likely have ***beneficial effects*** by collecting valuable information on SNPL habitat, predators, and breeding that will inform future management decisions within the HCP area.

Take of SNPL from Proposed New Covered Activities

Take numbers identified in the HCP include take for existing, proposed new, and potential future covered activities. Take numbers in the HCP are defined as mortality, injury, capture, abandonment, or chicks in the open riding area at risk of being struck by a vehicle.

Most of the highest documented take numbers reflect worst-case conditions. Those worst-case conditions are based both on past observations of mortality and injury, as well as observations of events that could potentially cause mortality or injury, such as chicks entering the open riding area or nests being abandoned after an adult has been observed being disturbed by recreation. The worst-case numbers were estimated with the recognition that historical data may undercount mortality; not every egg or individual SNPL may have been detected (Table 6-8.). Although the worst-case scenario of take has been observed or is thought to have occurred in the past, this level of take is not expected to occur within the HCP area in most years (if at all). Take for most years is lower than the worst-case scenario for take as documented in the monitoring data collected by CDPR since 2002 (Table 6-8.).

Of the four new proposed covered activities, mechanical trash removal (CA-21) and CDPR's use of UAS (CA-52) are not expected to cause take (defined above) of SNPL.

Reducing the 6 Exclosure (CA-50) could potentially increase take of SNPL chicks and eggs above existing worst-case take potential. No increase in take of SNPL adults and juveniles is expected to occur from CA-50 above the worst-case baseline conditions.

The HCP includes as a new covered activity SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b; AMM 22), which allows capture and captive rearing of eggs and chicks that would otherwise be at risk of take from covered activities not related to covered species management, such as motorized recreation and new proposed activities (Table 2-6.).[34] New SNPL AMM 22 specifies that egg and chick capture for this purpose is limited to up to 12 eggs and 12 chicks per year, and only if this action is determined to be appropriate by a CDPR Senior Environmental Scientist. CA-12b is formalized as new SNPL AMM 22 because it serves to reduce direct mortality or injury that might otherwise occur from covered activities (e.g., CA-1 Motorized Recreation, CA-50 Reduction of 6 Exclosure, CA-44 – New PMRP). Although AMM

[34] Currently, CDPR attempts to protect nests and/or move chicks back into the safety of the seasonal exclosure; however, chicks and eggs are still at risk of being injured or killed by covered activities. As a result, injury or mortality could occur if eggs or chicks are not observed by monitors and/or if chicks move back into areas where covered activities occur.

22 would be implemented as a response to potential mortality, injury, or harm, the capture itself is a form of take. As a result, AMM 22 would result in additional take above the worst-case scenario since this is a protective measure that would be used in lieu of protecting nests or moving chicks back to the safety of the seasonal exclosure.

It is difficult to forecast precisely which ongoing, new, and future covered activities may trigger implementation of SNPL AMM 22 from year to year. Attributing take to a specific activity can be difficult since, ultimately, take associated with some of these activities is speculative. For example, the 48-acre foredune closure was installed in December 2019, so although the closure is an existing condition, its effects have not yet been observed over the course of an SNPL and CLTE breeding season.

For purposes of this analysis, this EIR assumes that the new proposed CA-12b – Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activity and Other Non-Covered Species Management Activities (AMM 22) would result in additional take (capture) that was not previously conducted because currently CDPR attempts to protect nests and move chicks back to the safety of the seasonal exclosure. In addition, this EIR assumes that the new proposed (CA-50 – Reduction of 6 Exclosure) and future (CA-44 – New PMRP) covered activities could create an increased risk of mortality or injury of SNPL chicks and eggs above baseline conditions. As a result, this EIR apportions the increased take of 12 eggs and 12 chicks equally among CA-12b – Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activity and Other Non-Covered Species Management Activities (AMM 22), CA-50 – Reduction of 6 Exclosure, and CA-44 – New PMRP (a future activity discussed in EIR section 6.4.1.1). This analysis assigns 1/3 of the take increase to chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b, AMM 22), 1/3 of the take increase to the 6 Exclosure reduction (CA-50), and 1/3 of the take increase to the dust control foredune installation (CA-44 – New PMRP). Take of 4 eggs and 4 chicks is thus attributed to each of these activities for a total of 12 eggs and 12 chicks. Therefore, the total take of SNPL above baseline conditions associated with the proposed new covered activities (CA-12b [AMM 22], CA-21, CA-50, CA-52) is 8 eggs and 8 chicks. New take associated with CA-44 – New PMRP and other future activities is discussed further in EIR section 6.4.1.1.

The potential for an increased loss of up to 8 eggs and 8 chicks annually is significant to a federally-listed threatened species; however, this loss must be considered in the context of the overall conservation program implemented by CDPR in the HCP area. In 2001, CDPR began daily monitoring of SNPL nests. Since then the SNPL management program has evolved to include surveys, habitat enhancements, predator management, seasonal nesting area protections, law enforcement, and trash control. While past implementation of SNPL AMMs has not eliminated take of SNPL from visitor use or park operations, SNPL breeding success within the protected nesting areas has substantially increased the SNPL breeding population in the HCP area from 32 breeding adults in 2002 to 201 breeding adults in 2018 (HCP Table 3-8). SNPL continue to breed and forage and increase in numbers where active conservation management provides habitat enhancement and protection (HCP section 3.3.1). This side-by-side existence of visitor recreation and successful SNPL conservation is expected to continue in the future. The potential loss of four eggs and four chicks is not expected to diminish the enlarged SNPL population sustained by CDPR's conservation program or hinder species recovery efforts. As a

result, the SNPL take impact associated with the proposed new covered activities is ***less than significant***.

Table 6-8. Summary of Historic (2002–2018) and Proposed SNPL Permitted Take

Highest Documented Take[1]	Additional Documented Take	Years Without Documented Take	Population Range (2002–2018)	Proposed Annual[2] and 5-Year Running[3] Permitted Take
Covered Activity: Park operations, recreation, and other non-covered species management activities[4]				
Adults/Juveniles				
2017: 7 adults/juveniles killed and 2 adults/juveniles injured.	8 adults/juveniles killed in 2016 and 2018. 1–3 adults/juveniles killed in 2002 and each year from 2004 through 2015.	2003	32–226 breeding adults	Annual Take: 12 adults/juveniles. 5-year Running Take: 45 adults/juveniles.
Chicks				
2016: 6 chicks abandoned due to recreational disturbance. 2016: 19 chicks in the open riding area at risk of being struck by a vehicle[5].	1–15 chicks in the open riding area at risk of being struck by a vehicle[5] in 2002, 2003, 2011, 2012, 2013, 2014, 2015, 2017, and 2018.	2004, 2005, 2006, 2007, 2008, 2009, 2010	62–547 chicks	Annual Take: 28 chicks[6]. 5-year Running Take: 88 chicks.
Eggs				
2014: 12 eggs abandoned likely due to recreation disturbance and/or found in the open riding area.	1–6 eggs abandoned likely due to recreation disturbance and/or at risk of take if they are outside the exclosure in 2003, 2004, 2006, 2008, 2009, 2010, 2011, 2012, 2016, and 2017.	2002, 2005, 2007, 2013, 2015, 2018	35–281 nests	Annual Take: 27 eggs[7]. 5-year Running Take: 79 eggs.
Covered Activity: Covered species management-related activities[8]				
Adults/Juveniles				
2017: 5 adults/ juveniles captured and brought to captive rearing. 2016: 4 adults/ juveniles found injured or dead with wing injuries and it was suspected this	1–4 adults/juveniles captured and brought to captive rearing in 2005, 2006, 2007, 2009, 2012, 2014, 2016, and 2018. 1–2 adults/juveniles found injured or killed due to suspected fence strike or predation at a single-nest exclosure in 2003, 2004,	2002, 2008	32–226 breeding adults	Annual Take: 9 adults/juveniles. 5-year Running Take: 17 adults/juveniles.

Table 6-8. Summary of Historic (2002–2018) and Proposed SNPL Permitted Take

Highest Documented Take[1]	Additional Documented Take	Years Without Documented Take	Population Range (2002–2018)	Proposed Annual[2] and 5-Year Running[3] Permitted Take
was from striking an exclosure fence.	2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, and 2018.			
Chicks				
2017: 8 chicks captured and brought to captive rearing. 2005 and 2016: 3 chicks killed due to suspected predation at a single-nest exclosure.	1–6 chicks captured and brought to captive rearing in 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016, and 2018. 1 chick abandoned or injured due to monitoring activities in 2011 and 2018.	2015	62–547 chicks	Annual Take: 11 chicks. 5-year Running Take: 26 chicks.
Eggs				
2014: 26 eggs captured and brought to captive rearing. 2008: 18 eggs lost due to suspected predation at a single-nest exclosure.	1–15 eggs captured and brought to captive rearing in 2003, 2004, 2006, 2008, 2009, 2011, 2012, 2013, 2017, and 2018. 1–15 eggs lost due to suspected predation at a single-nest exclosure and/or injury during monitoring activities in 2004, 2005, 2006, 2009, 2010, 2011, 2012, 2013, 2014, and 2017.	2002, 2007, 2015, 2016	35–281 nests	Annual Take: 41 eggs. 5-year Running Take: 80 eggs.
Covered Activity: Banding activities (Capture only)				
Adults are currently not banded in the HCP area. From 2003 to 2018, between 156 and 423 chicks have been banded each breeding season.				35 adults/juveniles 500 chicks

Source: CDPR 2002–2018.

[1]Documented means take was observed or circumstances indicate take was potentially caused by park operations, recreation, or other non-species management covered activities. Actual cause of mortality or injury is often unknown. Take is defined as mortality, injury, capture, abandonment, or chicks in the open riding area at risk or being struck by a vehicle.

[2]Annual take numbers presented in this HCP are based on worst-case past observations of mortality and injury that have rarely been observed during the timeframe from 2002 to 2018 and do not happen every year. The numbers do recognize that not every egg or individual SNPL may be detected.

[3]The 5-year running take number is intended to represent the typical take levels in most years but account for 1 or 2 years in which a higher amount of take may occur and will not trigger an amendment to the HCP.

Table 6-8. Summary of Historic (2002–2018) and Proposed SNPL Permitted Take

Highest Documented Take[1]	Additional Documented Take	Years Without Documented Take	Population Range (2002–2018)	Proposed Annual[2] and 5-Year Running[3] Permitted Take

[4] These take numbers include capture of SNPL eggs and chicks if they are observed to be threatened by covered activities not related to covered species management (e.g., motorized recreation or new proposed activities). Although this form of take is considered capture only, these are included in the total take number since the eggs and chicks are removed from the population in the HCP area and because they would likely not survive if they were not captured for captive rearing.

[5]Chicks in the open riding area are considered to be at risk of being struck by a vehicle since they cannot fly. Despite this, the majority of chicks are not injured or killed due to the implementation of AMMs. However, some portion of these chicks may enter the open riding area and may not be observed or protected.

[6]The HCP includes capture of up to 12 chicks (i.e., 4 broods) each year if they are determined to be threatened by covered activities if they are determined to be threatened by recreational activity and other non-covered species management activities, including new proposed activities.

[7]The HCP includes capture of up to 12 eggs (i.e., 4 nests) each year if they are determined to be threatened by recreational activity and other non-covered species management activities, including new proposed activities.

[8] These take numbers are associated with the ongoing natural resources management program and include salvage and rescue of SNPL adults/juveniles, chicks, and eggs if they are observed to be injured, abandoned, or sick. Although this form of take is considered capture only, the any SNPL captured are removed from the population in the HCP area.

6.3.2.2 California Least Tern

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and other Non-Covered Species Management Activities (CA-12b). CLTE would not be captured for captive rearing since captive-rearing facilities for CLTE are not currently available and releasing CLTE to integrate into wild populations has proven challenging since CLTE typically migrate together as a family or in groups. As a result, no direct impacts to CLTE from SNPL egg and chick capture would occur.

SNPL chick and egg capture to prevent mortality from non-covered species management activities (e.g., motorized recreation) would occur outside the seasonal exclosure where SNPL eggs and chicks are at risk of being struck by vehicles. Since the majority of CLTE nest within the exclosure, impacts from this activity are expected to minimal. In the rare case that a CLTE nest or chick occurs outside the seasonal exclosure near a SNPL nest or brood being rescued, CLTE could be flushed from the nest or chicks could be separated from adults. However, as stated previously, this situation is unlikely to occur. In addition, SNPL chick and egg capture activities would be conducted by a USFWS-approved or 10 (a)(1)(A) permitted biologist that would implement appropriate CLTE AMMs to ensure any disturbance to CLTE is minimized. As a result, this impact is ***less than significant***.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would not occur within areas encompassed by the seasonal exclosure (i.e., from Post 6 south). Mechanical trash removal would be subject to CLTE AMMs 91 through 95, which include surveying the area for CLTE presence prior to mechanical trash removal and use of a biological monitor. Implementation of these measures would prevent mortality or injury of CLTE from equipment operation and this impact would be ***less than significant***.

Mechanical trash removal activities would not be conducted within 500 feet of any known CLTE nesting area (e.g., the seasonal exclosure, bumpouts, and individual nest exclosures) and is therefore unlikely to disturb nesting CLTE. CLTE AMMs 91 through 95 would also be implemented to reduce these impacts to ***less than significant***.

Mechanical trash removal would not be conducted in the seasonal exclosure area during the breeding season or in non-breeding (winter) season when the exclosure is no longer up; therefore, CLTE habitat in the seasonal exclosure would not be affected. Mechanical trash removal could affect favorable CLTE nesting habitat (i.e., primary and secondary habitat) outside the seasonal exclosure by altering dune composition and topography. Specifically, mechanical trash removal could reduce organic surface materials (e.g., driftwood) and microtopography. However, CLTE rarely nest outside the protection of the Southern Exclosure. In addition, most mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated and the substrate is already highly disturbed. These areas are unlikely to support the appropriate CLTE nesting habitat due to the high level of recreation; therefore, CLTE are not expected to nest in the areas where mechanical trash removal would typically occur. As a result, mechanical trash removal would have a ***less-than-significant*** impact on CLTE nesting habitat.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Reduction of the Boneyard Exclosure and 6 Exclosure is not expected to result in additional impacts to adult and/or juvenile CLTE beyond those described above for motorized recreation (CA-1) and pedestrian activities (CA-3) since CLTE almost exclusively nest within the protection of an exclosure fences. In addition, CLTE AMMs would be implemented, as appropriate, including installing single-nest exclosures or bumpouts around any CLTE nest within the open riding area and any CLTE adults and/or juveniles found outside an exclosure would typically be expected to fly out of harm's way.

Elimination of East Boneyard (49 acres) and incremental elimination of 6 Exclosure (60 acres) could result in the permanent loss of up to 109 acres of protected breeding habitat. This reduction represents approximately one-third of the 368 acres of CLTE breeding habitat currently protected by the seasonal exclosure (300 acres in the Southern Exclosure and 68 acres in Oso Flaco Exclosure).

Removal of the East Boneyard Exclosure from the Southern Exclosure is expected to be accomplished with ***no*** direct impact on nesting CLTE at East Boneyard because CLTE have not nested there for 14 years (i.e., since 2005). CLTE are also not known to form their night roost in the East Boneyard Exclosure; therefore, the East Boneyard Exclosure is expected to be removed with ***no direct impact*** on roosting CLTE.

CLTE are known to nest within the West Boneyard Exclosure and previously the East Boneyard Exclosure provided a buffer from any recreational disturbance in the open riding area. Removal of the East Boneyard Exclosure would thus result in motorized recreation activities adjacent to the West Boneyard Exclosure where CLTE could nest. However, if any CLTE within the West Boneyard Exclosure are observed to be disturbed by increased recreation and/or new travel patterns within the former adjacent East Boneyard Exclosure, a bumpout would be installed as described in the CLTE AMMs to ensure that disturbance in this area is minimized. As a result, this impact is ***less than significant***.

The 6 Exclosure has had greater nesting success and is one of the higher producing exclosure areas. From 2005 to 2018, between 4 and 39 (i.e., 35 to 80 percent of the total CLTE nests) CLTE nests were established in the 6 Exclosure annually. Therefore, removal of some of the 6 Exclosure could expose nesting and/or roosting CLTE to recreation and other activities. Individuals not protected by the exclosure fence could be killed, injured, or disturbed if activities occur close by. However, from 2005 to 2018, only one CLTE nest has occurred within the upper 328 feet[35] of the 6 Exclosure. As a result, the 6 Exclosure reduction could expose one nest during the first incremental decrease of the exclosure, although this is unlikely since CLTE are expected to avoid areas that are regularly disturbed and continue to move south in the protected seasonal exclosure area. If the entire 6 Exclosure is removed, between 4 and 39 nests could be exposed to recreation, assuming they do not relocate. In addition, if the CLTE population increases, more CLTE breeding activity could potentially occur in the open riding area.

During the breeding season, adult CLTE not engaged in incubation or chick care often assemble in a communal night roost and are joined by fledglings later in the breeding season. From 2007 to 2018, the high count of CLTE in the night roost has ranged from 35 to 95. The CLTE night roost has been located in the northern portion of the 6 Exclosure since 2004, except in 2015 when CLTE also used the 7 Exclosure. Therefore, reduction of the 6 Exclosure would reduce the habitat available for the CLTE night roost. Although unlikely,[36] if CLTE do form the night roost in the former 6 Exclosure area that is open to vehicles and recreation, from 35 to 95 individuals could be susceptible to vehicle strike and/or disturbance from recreation. Disturbance could deter CLTE from resting and could result in increased vigilance and stress.

From 2005 to 2018, the average density of CLTE nests within the 6 Exclosure has ranged from 0.01 to 0.9 nest/acre. CLTE chicks and adults have been observed leaving the exclosure and entering the open riding area in some years. Reduction of the 6 Exclosure could exacerbate this this issue by reducing the amount of habitat available for nesting and rearing so chicks and adults are pushed into the open riding area more frequently. If the 6 Exclosure is reduced incrementally by 328 feet nests CLTE outside the exclosure could move south into the remaining protected area, which would increase the density of nests in the 6 Exclosure. Ideally, the nest would be established in habitat available for CLTE to continue to nest without adverse interactions; however, it is estimated that in a worst-case-scenario nest density could increase to a point where CLTE nests and chicks would be pushed into the open riding area.

To ensure that CLTE continue to nest and roost within the HCP area at levels that contribute to the overall population of CLTE, the 6 Exclosure would not be reduced unless specific criteria are met and maintained (Chapter 5 in the HCP), including obtaining a CLTE breeding population with a 5-year average of 35 nesting pairs and a fledge rate of 1.0 fledglings per pair over the same period. In addition, the exclosure would be reduced in 328-foot increments, or alternative incremental reductions of similar acreage, allowing for close monitoring of and response to any nests initiated outside the exclosure. Any such nests would be protected by a single-nest exclosure or bumpout and a 330-foot buffer would be implemented around the single-nest

[35] CDPR may reduce the exclosure via other configurations, such as east-to-west, but for purposes of analysis this section focuses on a north-to-south, 328-foot (approximately 7.5 acre) reduction.

[36] CLTE are expected to move south and form a night roost in the protected area that is free of disturbance. In addition, the night roost is regularly monitored, so impacts a change in night roost location is expected to be observed quickly.

exclosure, thus reducing the likelihood of impacting nesting CLTE. If a CLTE chick is observed traveling outside a single-nest exclosure, the fencing would be modified to ensure a minimum 330-foot radius and increased if needed up to 600 feet in radius with silt fencing used around the exclosure fence to ensure that vehicles do not crush eggs or strike chicks (CLTE AMMs 14 and 15). Furthermore, monitors would track changes in the night roosting behavior of CLTE and ensure the night roosts are protected within an exclosure (CLTE AMM 16). With these measures in place, the reduction of the Boneyard Exclosure and 6 Exclosure are expected to have a ***less-than-significant*** impact on CLTE by minimizing mortality and disturbance-related impacts and by continuing to support a viable population of CLTE to breed within the HCP area.

CDPR UAS Use for Park Activities (CA-52). Impacts from CDPR's use of UAS (e.g., drones) in the HCP area on CLTE are similar to those discussed above for SNPL. CLTE AMMs 112 through 125 would be implemented to ensure disturbance from UAS is minimized, including, but not limited to, initiating flights at least 328 feet from the closest known nest location, following existing monitoring guidelines that have been established by USFWS, having a trained biologist scan the area for roosting and nesting CLTE before every flight, having a trained biologist monitor the flight if CLTE are observed, flying UAS at least 100 feet above ground at all times and moving UAS to higher altitude or aborting the mission if UAS are observed disturbing nests or chicks, and ensuring the flight plan does not include erratic flight patterns that could be interpreted as an avian predator. As a result, impacts from UAS are expected to be ***less than significant***. Overall, UAS would likely have ***beneficial effects*** by collecting valuable information on CLTE habitat, predators, and breeding that will inform future management decisions within the HCP area.

Take of CLTE from Proposed New Covered Activities

Take numbers identified in the HCP include take for existing covered activities. Take numbers in the HCP are defined as mortality, injury, capture, abandonment, or chicks in the open riding area at risk or being struck by a vehicle. The take numbers reflect worst-case conditions based on past observations of mortality and injury, as well as observations of events that could cause mortality or injury, such as chicks entering the open riding area or nests being abandoned after an adult has been observed being disturbed by recreation. The worst-case numbers were estimated with the recognition that historical data may undercount mortality; not every egg or individual CLTE may be detected (Table 6-9.). Although the worst-case scenario of take has been observed or is thought to have occurred in the past, this level of take is not expected to occur within the HCP area in most years (if at all). Take for most years is lower than the worst-case scenario for take as documented in the monitoring data collected by CDPR since 2002 (Table 6-9.).

The four new proposed covered activities would not contribute to CLTE take numbers identified in the HCP. CA-12b SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities only pertains to SNPL and would not impact CLTE. CA-21 mechanical trash removal would not occur within 500 feet of known CLTE nesting areas and is unlikely to impact CLTE. CA-50 Reduction of the Boneyard Exclosure and 6 Exclosure could potentially result in increased numbers of CLTE entering the open riding area; however, with existing AMMs, the potential number of CLTE injuries or mortalities is not expected to exceed the existing worst-case take potential. Therefore, no increase in take of CLTE adults and juveniles is expected to occur from CA-50 above worst-case baseline conditions. CA-52 CDPR UAS Use for Park Activities would be restricted in

proximity and flight pattern to avoid impact to CLTE. As a result, the proposed new covered activities would have ***no impact*** on CLTE take.

Table 6-9. Summary of Historic (2002–2018) and Proposed CLTE Permitted Take

Highest Documented Take[1]	Additional Documented Take	Years Without Documented Take	Population Size (2002–2018)	Proposed Annual[2] and 5-Year Running[3] Permitted Take
Covered Activity: Park operations, recreation, and other non-covered species management activities				
Adults/Juveniles				
2003: 2 adult/ juveniles died. 2008: Up to 12 juveniles in the open riding area at risk of being struck by a vehicle.[4]	One adult/juvenile killed or injured in 2010, 2013, 2014, and 2017. 2–8 juveniles in the open riding area at risk of being struck by a vehicle[4] in 2006, 2007, 2009, 2011, and 2012.	2002, 2004, 2005, 2015, 2016, 2018	21–66 breeding pairs	Annual Take: 6 adults/juveniles. 5-year Running Take: 10 adults/juveniles.
Chicks				
2008: 8 chicks in the open riding area at risk of being struck by a vehicle.[5]	1–6 chicks in the open riding area at risk of being struck by a vehicle[5] in 2007, 2009, 2010, 2011, 2013, and 2015.	2002, 2003, 2004, 2005, 2006, 2012, 2014, 2016, 2017, 2018	27–101 chicks	Annual Take: 8 chicks[6]. 5-year Running Take: 24 chicks.
Eggs				
2011: 4 eggs abandoned and thought to be due to recreation disturbance.	1–2 nests abandoned or found in the open riding area and at risk of being crushed in 2004, 2005, 2009, and 2014.	2002, 2003, 2006, 2007, 2008, 2010, 2012, 2013, 2015, 2016, 2017, 2018	22–79 nests (each nest had 1–2 eggs)	Annual Take: 8 eggs[7]. 5-year Running Take: 22 eggs.
Covered Activity: Covered species management-related activities[8]				
Adults/Juveniles				
2014: 6 adults/ juveniles found injured or dead with wing injuries, and it was suspected this was from striking an exclosure fence.	1–2 adults/ juveniles found injured or killed in 2009, 2010, 2011, 2013, 2015, 2016, and 2017.	2002, 2003, 2004, 2005, 2006, 2007, 2008, 2012, 2018	21–66 breeding pairs	Annual Take: 7 adults/juveniles. 5-year Running Take: 15 adults/juveniles.

Table 6-9. Summary of Historic (2002–2018) and Proposed CLTE Permitted Take

Highest Documented Take[1]	Additional Documented Take	Years Without Documented Take	Population Size (2002–2018)	Proposed Annual[2] and 5-Year Running[3] Permitted Take
Chicks				
2010: 1 chick found with fence wire around its wing.	None	2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018	27–101 chicks	Annual Take: 4 chicks[8]. 5-year Running Take: 20 chicks.
Eggs				
None	None	2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018	22–79 nests (each nest had 1-2 eggs)	Annual Take: 4 eggs[8]. 5-year Running Take: 20 eggs.
Covered Activity: Banding activities (Capture only)				
From 2003 to 2018, between 35 and 101 chicks have been banded each breeding season.				150 chicks

Source: CDPR 2002–2018.

[1]Documented means that take was observed or circumstances indicate take was potentially caused by park operations, recreation, and other non-species management covered activities. Actual cause of mortality or injury is often unknown. Take is defined as mortality, injury, capture, abandonment, or juveniles or chicks in the open riding area at risk or being struck by a vehicle.

[2]Annual take numbers presented in this HCP are based on worst-case past observations of mortality and injury that have rarely been observed during the timeframe from 2002 to 2018 and do not happen every year. The numbers do recognize that not every egg or individual CLTE may be detected.

[3]The 5-year running take number is intended to represent the typical take levels in most years, but account for 1 or 2 years in which a higher amount of take may occur and will not trigger an amendment to the HCP.

[4]Juveniles in the open riding area are considered to be at risk of being struck by a vehicle since they are inexperienced fliers. Despite this, the majority of juveniles are not injured or killed due to the implementation of AMMs. However, some portion of these juveniles may enter the open riding area and may not be observed or protected.

[5]Chicks in the open riding area are considered to be at risk of being struck by a vehicle since they cannot fly. Despite this, the majority of chicks are not injured or killed due to the implementation of AMMs. However, some portion of these chicks may enter the open riding area and may not be observed or protected.

[6]The HCP assumes that up to 2 chicks could be abandoned each year due to adult mortality associated with recreation activities or from the adult abandoning the chicks due to disturbance from recreation.

[7]Eggs are sometimes found abandoned and the cause of abandonment is often undetermined. This HCP assumes that up to 1 nest (i.e., 2 eggs) could be abandoned each year due to adult mortality from vehicle strike or from the adult abandoning the nest due to disturbance from recreation.

[8]Chicks and eggs have rarely (if ever) been observed injured or killed due to management activities. Despite this, chick or egg injury or loss could occur when monitors enter the exclosure, install exclosures, or conduct banding activities. As a result, this HCP assumes that up to 4 chicks could be injured or killed, and 2 nests (i.e., 4 eggs) could be lost each year due to management activities.

6.3.2.3 California Red-Legged Frog

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would have ***no impact*** on CRLF.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would not occur in aquatic habitat areas or in vegetated dunes. CRLF may disperse through upland habitat in the geographic areas proposed for mechanical trash removal north of Post 6. Mechanical trash removal could kill or injure a CRLF if it dispersed through the area while mechanical trash removal was occurring. Mechanical trash removal would not occur at night when most dispersal occurs and, therefore, would be unlikely to impact CRLF. Therefore, the impact of this activity on CRLF would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). CRLF occurs in the HCP area in suitable aquatic habitat, including Oso Flaco Lake and Arroyo Grande Creek. The East Boneyard Exclosure and 6 Exclosure are not located in aquatic habitat; therefore, this activity would have ***no impact*** CRLF in aquatic habitat.

CRLF may disperse through upland habitat in the geographic areas proposed for exclosure reduction. CRLF typically disperse at night during wet weather. It is unlikely that visitor uses, such as motorized recreation, would be occurring at times when CRLF disperse. In addition, CRLF dispersal through areas open to motorized recreation is likely infrequent. Therefore, the impact of exclosure reductions on CRLF is ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). UAS are not anticipated to disturb CRLF. Therefore, ***no impact*** on CRLF would occur.

Take of CRLF from Proposed New Covered Activities

Take numbers identified in the HCP include take for existing and potential future covered activities (Table 6-10.). Take numbers in the HCP are defined as mortality, injury, capture, and habitat loss.

Take of CRLF associated with park visitor and operations activities has not been observed in the HCP area, and few CRLF have ever been documented in the HCP area. Therefore, the take numbers for CRLF reflect worst-case conditions based on past observations of events that could cause mortality or injury. The worst-case numbers were estimated with the recognition that not every CRLF adult, subadult, tadpole, or egg mass may be detected. Although worst-case scenario of take could have occurred in the past, this level of take is not expected to occur within the HCP area in most years (if at all).

The HCP is not requesting additional take of CRLF from proposed new covered activities beyond baseline conditions. No additional take is anticipated from four proposed new activities (CA-12b SNPL Chick and Egg Capture for Captive Rearing if observed to be threatened by recreational activity and other non-covered species management activities, CA-21 Mechanical Trash Removal, CA-50 Reduction of the Boneyard Exclosure and 6 Exclosure, and CA-52 CDPR UAS Use for Park Activities) due to the low potential for CRLF to be present in the area where or when these activities occur. None of the proposed new covered activities would reduce CRLF habitat. As a result, the proposed new covered activities would have ***no impact*** on CRLF take.

Table 6-10. Summary of Proposed CRLF Permitted Take		
Covered Activity	**Estimated Maximum Annual Take**	**Estimated Take of Individual CRLF over the Permit Term**
Park operations, recreation, and other non-covered species management in aquatic habitat	4 adults/sub-adults/ juveniles 2 tadpoles 2 egg masses	20 adults/sub-adults/ juveniles 10 tadpoles 10 egg masses
Park operations, recreation, and other non-covered species management in CRLF upland habitat	5 adults/sub-adults/ juveniles	15 adults/sub-adults/ juveniles
Covered Species Management Activities	2 adults/sub-adults/ juveniles 10 tadpoles 10 egg masses	20 adults/sub-adults/ juveniles 50 tadpoles 50 egg masses
CRLF Dipnet Surveys (capture only)	20 adults/sub-adults/ juveniles 50 tadpoles	N/A

6.3.2.4 Western Spadefoot Toad

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). Western spadefoot toads are not expected to occur where SNPL adult, juveniles, chicks, and eggs are present. Therefore, SNPL chick and egg capture would have ***no impact*** on western spadefoot toad.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would not occur in aquatic habitat areas or in vegetated dunes. Western spadefoot toad may disperse through upland habitat or burrow in upland habitat in the geographic areas proposed for mechanical trash removal north of Post 6. Mechanical trash removal could kill or injure a western spadefoot toad if it dispersed through the area while mechanical trash removal was occurring. Mechanical trash removal would not occur at night when most dispersal occurs and, therefore, would be unlikely to impact western spadefoot toad. In addition, western spadefoot toads are thought to be rare in the HCP area and dispersal through or aestivation in areas open to motorized recreation is likely very rare, if it occurs at all. Therefore, the impact of this activity on western spadefoot toad would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Western spadefoot toad is thought to be rare in the HCP area. However, it could occur in the HCP area in suitable aquatic habitat, including Oso Flaco Lake. The East Boneyard Exclosure and 6 Exclosure are not located in aquatic habitat; therefore, this activity would have ***no impact*** western spadefoot toad in aquatic habitat.

Western spadefoot toad may disperse through upland habitat or aestivate underground in the geographic areas proposed for exclosure reduction. Western spadefoot toad typically disperses at night during wet weather. It is unlikely that visitor uses, such as motorized recreation, would be

occurring at times when western spadefoot toads disperse. In addition, western spadefoot toads are thought to be rare in the HCP area and dispersal through or aestivation in areas open to motorized recreation is likely very rare, if it occurs at all. Therefore, the impact of exclosure reductions on western spadefoot toad is ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). UAS are not anticipated to disturb western spadefoot toad. Therefore, ***no impact*** on western spadefoot toad would occur.

6.3.2.5 Coast (California) Horned Lizard and Silvery Legless Lizard

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). Coast horned lizards and silvery legless lizards are not expected to occur where SNPL adults, juveniles, chicks, and eggs are present. Therefore, SNPL chick and egg capture would have ***no impact*** on coast horned lizard and silvery legless lizard.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would not occur in vegetated dunes or vegetation islands. Coast horned lizard or silvery legless lizard may disperse through upland habitat in the geographic areas proposed for mechanical trash removal north of Post 6. Mechanical trash removal could kill or injure these species if it dispersed through the area while mechanical trash removal was occurring. Although areas where mechanical trash removal would occur are considered suitable upland habitat for coast horned lizard and silvery legless lizard, and these species could disperse through and be injured or killed by mechanical trash removal equipment, this habitat is likely infrequently used by these species for dispersal over other more suitable habitats since these areas provide minimal cover. As a result, the risk this activity injuring or killing a coast horned lizard or silvery legless lizard is expected to be low. Therefore, the impact of mechanical trash removal activity on coast horned lizard or silvery legless lizard would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Coast horned lizard has rarely been observed in the HCP area and it unlikely to be found within the East Boneyard Exclosure or 6 Exclosure. If present, coast horned lizard and silvery legless lizard are most likely to occur within the vegetated areas, which would still be closed off to motorized recreation. Coast horned lizard and silvery legless lizard may disperse through upland habitat in the geographic areas proposed for exclosure reduction. However, dispersal through areas open to motorized recreation is likely infrequent. Therefore. this activity would have a ***less-than-significant*** impact on coast horned lizard and silvery legless lizard.

CDPR UAS Use for Park Activities (CA-52). UAS are not anticipated to disturb coast horned lizard or silvery legless lizard. Therefore, ***no impact*** on these species would occur.

6.3.2.6 Western Burrowing Owl

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur during the avian breeding season; therefore, activities would have ***no impact*** on western burrowing owl which only occur in the HCP area in the winter.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Burrowing owls would be expected to fly out of harm's way if they are within the mechanical trash removal area.

Mechanical trash removal could result in destruction of burrowing owl burrows or other winter cover locations and temporarily displace wintering burrowing owls and/or alter normal behavior patterns. However, the risk of this impact occurring is low since western burrowing owl is uncommon within the HCP area. In addition, mechanical trash removal equipment would travel at a speed of no more than 10 mph and a CDPR Environmental Scientist would survey the area prior to equipment use. As a result, impacts would be ***less than significant***.

Mechanical trash removal could alter suitable wintering habitat by changing the microtopography or removing organic material (e.g., woody debris); however, these activities would be implemented in areas of high visitation where burrowing owl are less likely to occur due to the ongoing level of disturbance; therefore, the risk of this impact is low. In addition, driftwood and other organic materials would be expected to naturally develop again over time in many mechanical trash removal areas. Therefore, any impacts from mechanical trash removal to habitat would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Western burrowing owl only occurs in the HCP area in the winter when the East Boneyard Exclosure and 6 Exclosure are not present. As a result, reducing the East Boneyard Exclosure and 6 Exclosure would have ***no impact*** on western burrowing owl.

CDPR UAS Use for Park Activities (CA-52). CDPR may use UAS (e.g., drones) in the HCP area to cut down on the time and cost associated with data collection, especially in more remote areas. UAS flying over burrowing owl individuals could result in an individual flushing from the area or displaying increased vigilance. If the UAS is seen as a great enough threat, a burrowing owl could abandon its burrow or other winter cover and be exposed to predation and/or inclement weather. However, as part of the natural resources management program in the HCP area, AMMs would be implemented to ensure disturbance from UAS is minimized, including, but not limited to, ensuring UAS flight patterns are not erratic so they are not interpreted as an avian predator, flying UAS at least 100 feet above ground, and ensuring all flights are approved by the Environmental Resources Project Manager. As a result, UAS are expected to have ***less-than-significant*** impacts on burrowing owl.

6.3.2.7 Nesting Birds

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur on the open sand beaches when SNPL eggs or chicks are found to be at risk of being crushed, killed, or injured, especially from motorized recreation. The only birds known to nest on the open sand beaches are ground nesting birds, such as California horned lark and killdeer (*Charadrius vociferus*). If a nest was located within or near a SNPL nest or chick that was captured for captive rearing, this activity could result in destruction of the nest or disturbance of the chicks/incubating adults. However, this activity would be conducted by a 10 (a)(1)(A) permitted biologist (or a biologist approved by the USFWS) that would ensure any disturbance to other nesting birds was minimized. In addition, as part of CDPR's standard practices, nesting bird surveys would be conducted, as determined to be necessary by a CDPR Environmental Scientist, prior to conducting activities. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. As a result, this impact would be ***less than significant***.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would only occur above the wrack line and would be set back from creeks, riparian areas, and foredunes. As a result, riparian and aquatic nesting birds would not be impacted by the mechanical trash removal. Mechanical trash removal would also not occur within vegetated areas or areas encompassed by the seasonal exclosure (i.e., from Post 6 south).

Mechanical trash removal activities could result in equipment injuring or killing a ground-nesting bird, including California horned lark, within the area where activities occur. Mechanical trash removal activities could also disturb nesting birds within or adjacent to the area where activities would occur. Nesting adults could be driven from the nest and, ultimately, neglect or abandon the eggs or chicks. Foraging adults and chicks (if precocial) interrupted by humans stop foraging and move away from the area until the disturbance has passed. However, mechanical trash removal would occur in areas where recreation disturbance is already high and, therefore, birds are unlikely to nest. In addition, as part of the natural resource management program in the HCP area, CDPR Environmental Scientist staff would inspect and approve the area subject to mechanical trash removal prior to each deployment. As a result, impacts from mechanical trash removal activities on nesting birds would be ***less than significant***.

Mechanical trash removal could affect favorable nesting habitat for some ground nesting birds (e.g., California horned lark, killdeer) above the wrack line by altering dune composition and topography. Specifically, mechanical trash removal could reduce organic surface materials (e.g., driftwood) and microtopography. Most mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated and the substrate is already highly disturbed. In addition, due to the high level of disturbance already occurring in these areas, birds are unlikely to nest in mechanical trash removal locations. As a result, mechanical trash removal would have ***less-than-significant*** impacts on ground nesting bird habitat.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50) The East Boneyard Exclosure and 6 Exclosure do not contain suitable nesting habitat for most nesting birds in the HCP area, including shrub- and tree-nesting species, such as raptors. As a result, ***no impact*** to these birds or their nests would occur from reducing the East Boneyard Exclosure and 6 Exclosure.

California horned lark is a ground nester and has infrequently been observed nesting within the seasonal exclosure area each year. Only a few (if any) California horned lark are likely to be nesting within the East Boneyard Exclosure or 6 Exclosure since this species is sensitive to disturbance and is thought to be an uncommon nester in the region. If present, removal of the Boneyard Exclosure and/or the 6 Exclosure could expose nesting California horned lark to recreation and other activities. Individuals not protected by the exclosure fence could be killed, injured, or disturbed if activities occur close by. California horned larks are unlikely to nest within the Southern Exclosure area, and any such nests would be observed while conducting surveys for SNPL and CLTE. In addition, if a nest was observed, AMMs (e.g., no-disturbance buffer, biological monitoring) would be implemented to comply with the California Fish and Game Code. As a result, this impact would be ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). CDPR may use UAS (e.g., drones) in the HCP area to reduce the time and cost associated with data collection, especially in more remote areas. CDPR may use UAS for some activities (e.g., predator management, habitat enhancement, SNPL monitoring) during the breeding season in areas where nesting birds maybe located. When drones are flown too close to bird nests, the noise and unfamiliar presence of drones could drive adult birds from the nest, which could lead to neglect or abandonment of eggs or chicks. Some

birds, particularly raptors, are territorial and drones may be perceived as a threat that should be attacked. This could divert adults from caring for their eggs or young or from foraging. As part of the natural resources program in the HCP area, measures are implemented to minimize impacts from UAS, including, but not limited to, ensuring UAS flight patterns are not erratic so they are not interpreted as an avian predator, flying UAS at least 100 feet above ground, and ensuring all flights are approved by the Senior Environmental Scientist. As a result, impacts from UAS are expected to be ***less than significant***. Overall, UAS would likely have ***beneficial*** impacts by collecting valuable information on habitat, nest locations (e.g., raptor nests), and predators within the HCP area.

6.3.2.8 American Badger

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b), General Facilities Maintenance – Mechanical Trash Removal (CA-21), and Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). American badgers and/or badger dens have never been observed within the areas open to motorized recreation. American badger tracks were observed in April 2019 in the open riding area within and near BBQ flats and adjacent vegetation islands. This is the first time badger tracks or any other sign have been observed in this area, and the tracks indicate the badger was using the vegetation islands, which are closed to motorized recreation. Overall, American badgers are unlikely to occur in areas open to motorized recreation. As a result, these activities would have ***no impact*** on American badger.

CDPR UAS Use for Park Activities (CA-52). UAS have been shown to increase the heart rate of bears and cause female bears with cubs to run (Ditmer, et al., 2015). Therefore, UAS in the HCP area could result in a stress response from badgers or cause badgers to abandon their dens. However, as part of the natural resource management program, CDPR implements regulations for UAS flights including regulating the flight heights and ensuring all flights are approved by the Senior Environmental Scientist. As a result, this impact on American badger would be ***less than significant***.

6.3.2.9 Plants

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur on foot in open sand areas and would have ***no impact*** on special-status plant species.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal may be implemented year-round from the Grand Avenue entrance area south to Post 6 within open sand areas. Mechanical trash removal would be set back from all vegetated areas and from creeks and lagoons. Although unlikely, some special-status plant species could occur within sand dune areas and/or areas with sparse vegetation north of Post 6, including, but not limited to, Blochman's groundsel, Hickman's popcorn flower, Blochman's leaf daisy, California spineflower, coastal goosefoot, crisp monardella, dunedelion, fuzzy prickly phlox, red sand verbena, and suffrutescent wallflower. If special-status plant species were to occur in the areas where mechanical trash removal is allowed, these activities could crush or destroy special-status plant species individuals. However, mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated and the substrate is already

highly disturbed. These areas are unlikely to support special-status plants due to the high level of recreation. As a result, impacts from mechanical trash removal would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Reducing the size of the seasonal exclosure by eliminating the 6 Exclosure and East Boneyard areas would impact open sand areas (Boneyard) and beach (6 Exclosure) and allow year-round motorized activities in these areas. The impacts would, thus, be similar to those described for motorized recreation (CA-1) in EIR Appendix D and would be ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). UAS would have ***no impact*** on special-status plant species.

6.3.3 Sensitive Habitats

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur on foot in open sand areas and would have ***no impact*** sensitive habitats.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal is proposed to occur within unvegetated areas along the shoreline and margin of the foredunes, above the wrack line (i.e., outside of the intertidal zone). Mechanical trash removal would also avoid all live vegetation and aquatic areas. As a result, mechanical trash removal is only expected to impact bare, open sand areas. However, mechanical trash removal may occur within SNPL critical habitat (as described above in EIR section 6.3.2.1) and La Graciosa thistle critical habitat as well as ESHA defined by the CCC. Critical habitat and ESHA are considered to be sensitive habitat. Mechanical trash removal could temporarily remove favorable constituents within SNPL and La Graciosa thistle critical habitat as well as ESHA by altering dune composition and topography. Specifically, mechanical trash removal could reduce organic surface materials (e.g., driftwood) and microtopography. Most mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated. These areas have always supported an ongoing high level of recreation (i.e., presence of humans, pets, vehicles, and/or human attracted predators)[37] and, therefore, critical habitat and ESHA in this area has a reduced value. In addition, mechanical trash removal may improve the habitat by removing trash from the area. As a result, impacts to sensitive natural communities would be ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). The East Boneyard Exclosure and 6 Exclosure reduction would open new areas to motorized vehicle and pedestrian recreation during the SNPL and CLTE breeding season. Most of these areas consist of bare sand and any exposed native vegetation would continue to be protected with fencing. The East Boneyard Exclosure and 6 Exclosure are removed during the winter each year and open to motorized recreation where visitors can drive through ESHA, SNPL critical habitat, and La Graciosa thistle

[37] USFWS acknowledged that SNPL critical habitat at Oceano Dunes SVRA was already degraded at the time of listing by recreation activities, but it did not preclude the USFWS from designating it as critical habitat (USFWS 2012a).

critical habitat. Therefore, no changes to the existing impacts on sensitive natural communities would be expected and impacts would be ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). UAS would have ***no impact*** on sensitive natural communities.

6.3.4 Wildlife Movement

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur on foot in open sand areas. This activity could deter wildlife from moving through the area during the period of disturbance; however, it would not create an impediment to wildlife movement. As a result, the impact is ***less than significant***.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would occur in most heavily used beach areas at Grand Avenue and Pier Avenue and between Post 2 and Post 6. Tractor use could deter wildlife from moving through the area during the period of disturbance; however, tractor use would not create an impediment to wildlife movement. As a result, the impact is ***less than significant***.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Reduction of the East Boneyard Exclosure and 6 Exclosure would expose 109 acres of additional habitat to motorized and non-motorized recreation, which would likely deter wildlife from moving through the previously protected area. However, motorized and non-motorized recreation are already occurring in areas surrounding the East Boneyard Exclosure and 6 Exclosure; therefore, wildlife species are likely already deterred from moving through much of this area. In addition, wildlife with low dispersal distances, such as small mammals and reptiles, would be impacted by the exclosure reduction since they may avoid moving through the area open to recreation and, therefore, the exclosure reduction would restrict the habitat available for them move through. Despite this, the exclosure reduction would not create a barrier or impediment to wildlife movement in the HCP area since habitat free from recreation activities would still be available in the HCP area. Removing the exclosure fencing, which currently creates a physical barrier to large mammals migrating through the area, would allow large mammals to move through an additional 109 acres of habitat, although this is unlikely since the area is subject to a large amount of recreation disturbance and large mammals may not use this area during migration anyway. As a result, exposure of an additional 109 acres of additional habitat to recreation would have ***less-than-significant*** impacts on wildlife movement.

CDPR UAS Use for Park Activities (CA-52). UAS use could result in temporary disruption of wildlife movement during use by deterring them from migrating through the area. However, no barriers or impediments to wildlife movement would occur. As a result, all impacts would be temporary and are considered ***less than significant.***

6.3.5 Wintering/Migratory Birds

SNPL and CLTE Management – SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreation Activities and Other Non-Covered Species Management Activities (CA-12b). SNPL chick and egg capture would occur during the avian breeding season; therefore, activities would have ***no impact*** on wintering/migratory birds.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would only occur above the wrack line and would be set back from creeks, riparian areas, and foredunes. Mechanical trash removal would also not occur within vegetated areas or areas encompassed by the seasonal exclosure (i.e., from Post 6 south). Mechanical trash removal activities could result in equipment injuring or killing a foraging or roosting wintering/migratory bird within the area where activities occur. However, as part of the natural resource management program in the HCP area, mechanical trash removal equipment would not exceed 10 miles per hour; therefore, most wintering/migratory birds would be expected to fly out of harm's way. In addition, CDPR Environmental Scientist staff would inspect and approve the area subject to mechanical trash removal prior to each deployment. As a result, mortality and/or injury to wintering/migratory birds are not expected and impacts from mechanical trash removal activities on wintering/migratory birds would be ***less than significant***.

Mechanical trash removal activities could disturb wintering/migratory birds by temporarily flushing them and/or precluding them from foraging and roosting in these areas. However, this disturbance would be relatively short-term and temporary. Mechanical trash removal is also typically conducted in areas of high recreation that are already subject to disturbance. Likewise, additional open beach foraging habitat is present in the HCP area for wintering and migratory birds to forage during the period of disturbance. As a result, disturbance from mechanical trash removal would be minimal and impacts from mechanical trash removal activities on wintering/migratory birds would be ***less than significant***.

Mechanical trash removal could affect favorable foraging and/or roosting habitat for wintering/migratory birds above the wrack line by altering dune composition and topography. Specifically, mechanical trash removal could reduce organic surface materials (e.g., driftwood) and microtopography. Most mechanical trash removal would be conducted to remove litter in areas where recreation activities have been concentrated and the substrate is already highly disturbed. These areas are already expected to be subject to habitat alteration that could reduce organic surface material and microtopography. As a result, mechanical trash removal would have ***less than significant*** habitat impacts on wintering/migratory bird foraging and/or roosting habitat.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). Reducing the East Boneyard Exclosure and 6 Exclosure would not impact wintering birds since the exclosure would not be present during the winter. Some birds could migrate through the HCP area when the exclosure is still present and could forage and/or roost in the HCP area. Reducing the East Boneyard Exclosure and 6 Exclosure would likely have limited impacts on migrating birds, since most migrating birds would not be expected to use the exclosures for foraging and/or roosting. If migrating birds did use the East Boneyard or 6 Exclosure for foraging and/or roosting, reduction of the exclosure could expose migrating birds to motorized and/or non-motorized recreation, which could temporarily displace foraging birds, altering their normal behavior patterns. In addition, although most birds would be expected to fly out of harm's way, some foraging or roosting birds (especially those found in flocks) within areas that were previously protected by the East Boneyard Exclosure and/or 6 Exclosure where motorized vehicles would be permitted could be struck by vehicles and injured or killed. However, as part of their natural resource management program, CDPR implements measures, including, but not limited, to enforcing speed limits along the shoreline, providing educational materials and conducting ranger patrols to enforce natural resource and other regulations. As a result, the impact from reducing the East

Boneyard Exclosure and 6 Exclosure on migrating birds within the HCP area would be ***less than significant***.

CDPR UAS Use for Park Activities (CA-52). CDPR may use UAS (e.g., drones) in the HCP area to cut down on the time and cost associated with data collection, especially in more remote areas. CDPR may use UAS for some activities (e.g., predator management, habitat enhancement, SNPL monitoring) during the non-breeding season in areas where migratory birds maybe present. When drones are flown too close to flocks or individual birds, the noise and unfamiliar presence of drones could deter flocks or individual birds from foraging and or roosting. However, any impacts would be temporary and only last during the time the drone is being flown over. In addition, as part of the natural resources program in the HCP area, measures are implemented to minimize impacts from UAS, including, but not limited to, flying UAS at least 100 feet above ground and ensuring all flights are approved by the Environmental Resources Project Manager. As a result, impacts from UAS are expected to be ***less than significant***.

6.4 CUMULATIVE IMPACTS

6.4.1 Special-Status Species

Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities (CA-12b, CA-21, CA-50, and CA-52) would not have impacts on tidewater goby, western pond turtle, bats, marsh sandwort, sand mesa manzanita, Nuttall's milkvetch, Monterey paintbrush, Douglas spineflower, surf thistle, dune larkspur, beach spectaclepod, Kellogg's horkelia, southwestern spiny rush, Nipomo Mesa lupine, Gambel's watercress, and sand almond; therefore, there would be no cumulative impacts on these species, and they are dismissed from further discussion in this EIR. Direct and indirect impacts of potential future projects contemplated by the HCP on these species would be evaluated at the time they are proposed. The HCP proposed new covered activities would have potential impacts on the remaining special-status species, including certain HCP covered species. These impacts have been determined to be less than significant. The proposed new HCP covered activities could result in a significant cumulative impact if they impact the same species and habitats as foreseeable future projects. The cumulative effects would be less than significant if the AMMs or mitigation measures mitigate the potential impacts and there is not a significant cumulative loss of habitat or special-status species.

Potential future projects considered in the cumulative analysis are identified in EIR section 3.3, Table 3-1.. An overview of the risk of impacts of these activities on special-status species, where risk is defined as the likelihood and magnitude of effect, is presented in Table 6-11 (wildlife) and Table 6-12 (plants). Risk is defined as both the likelihood and magnitude of effect. As a result, risk is weighing both the frequency and severity of the impact. Therefore, even though an impact may be expected to occur, it may not result in a high or moderate risk if the impact is considered infrequent or is not severe. The risks of impact are classified as either high (H), moderate (M), low (L), no (N), and/or beneficial (B). These classifications are defined in the tables.

Table 6-11. Cumulative Risk of Impacts to Special-Status Animal Species[1, 2]

Covered Activity	HCP-Covered Animals			Non-Covered Animals					
	Western Snowy Plover	California Least Tern	California Red-legged Frog	California Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Burrowing Owl	Nesting Birds[3]	American Badger
HCP Potential Future Covered Activities									
CA-12b SNPL Adult Banding	H, B	L	N	N	N	N	L	L	N
CA-15 Listed Plant Management – Propagation and Outplanting	L	L	L	L, B	L, B	L	L	L	L
CA-28 Cable Fence Maintenance – Replacement	L	N	N	L	L	N	N	N	N
CA-38 Grover Beach Lodge and Conference Center	L	N	N	L	L	N	N	L	N
CA-41 Pismo Creek Estuary Seasonal (Floating) Bridge	L	L	L	N	N	L	N	L	N
CA-42 Riding in 40 Acres	N	L	L	M	M	L	L	L	L
CA-43 Replacement of the Safety and Education Center	L	L	L	L	L	L	L	L	L
CA-44 Dust Control Activities – New PMRP	H	H	L, B	L, B	L, B	L, B	L	M	L
CA-48 Oso Flaco Lake Boardwalk Replacement	N	L	M	N	N	L	N	L	N
CA-49 Special Projects	M	M	L	L	L	L	L	L	L
CDPR Public Works Plan Projects									
Project A: Oso Flaco Campground and Day Use Project	M	M	M	M	M	L	L	M	L
Project B: Park Corporation Yard Improvement Project	N	N	N	N	N	N	N	M	N
Project D: Oceano Campground Infrastructure Improvement Project	N	N	L	L	M	N	N	M	N
Project E: Grand Avenue and Pier Avenue Kiosks, Pier Avenue Lifeguard Tower	N	N	N	N	N	N	L	M	N
Project F: North Beach Campground Facility Improvements	N	N	L	L	M	N	N	M	N

Table 6-11. Cumulative Risk of Impacts to Special-Status Animal Species[1, 2]

Covered Activity	HCP-Covered Animals			Non-Covered Animals					
	Western Snowy Plover	California Least Tern	California Red-legged Frog	California Horned Lizard	Silvery Legless Lizard	Western Spadefoot	Burrowing Owl	Nesting Birds[3]	American Badger
Project G: Butterfly Grove Public Access	N	N	N	N	N	N	N	M	N
Project H: Pismo State Beach Boardwalk	L	N	L	M	M	L	L	M	L
USFWS									
Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan	M, B	M, B	M, B	M, B	M, B	M, B	M, B	M, B	N
Local Agencies									
Arroyo Grande Creek Channel Waterway Management Plan	N	N	M	L	N	N	N	L	N

[1] If both adverse and beneficial impacts can occur, both are shown as defined below. The discussion for each species within this section details the individual impacts.

[2] Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities would not have impacts on tidewater goby, western pond turtle, and bats.

[3] Nesting birds includes both common and special-status nesting bird species.

High (H). The covered activity has in the past or is highly likely in the HCP permit term to cause direct mortality, injury, or reproductive failure of one or more individuals of a covered species in most years (more than once every 2 years); and/or a degree of disturbance or indirect impacts that is highly likely to result in mortality, injury, or reproductive failure of one or more individuals of a covered species in most years. Permanent loss or reduction in quality of 1 acre or more of primary breeding habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that have a primary purpose of aiding in the protection and recovery of the target covered species, including protective fencing, surveys and monitoring, habitat enhancement, predator or invasive species control, etc.

Low (L). The covered activity is unlikely to cause mortality, injury, or reproductive failure; however, the covered activity will likely result in a degree of disturbance or indirect impacts that could disrupt the normal behavior patterns (e.g., breeding, feeding, sheltering) of one or more individuals of a covered species. Permanent loss or reduction in quality of 1 or more acre of tertiary (rarely used) habitat or temporary disturbance to habitat of one or more covered species also falls into this impact level. In the case of **beneficial (B)** effects, this category applies to covered activities that do not have a purpose related to natural resources protection, but nevertheless have some degree of beneficial effect to a covered species.

No Impact (N). The covered activity has not caused mortality, injury, or reproductive failure of a covered species in the past and does not have the potential to do so within the permit term of the HCP. The covered activity has not caused disturbance or indirect impacts in the past and is unlikely to during the permit term. The covered activity would also have no permanent or temporary impacts to covered species habitat. There are also no beneficial effects at the no impact level.

Table 6-12. Cumulative Impacts to Special-Status Plant Species[1]

Covered Activity	Red sand verbena	Coastal goosefoot	**La Graciosa thistle**	Blochman's leafy daisy	Suffrutescent wallflower	Fuzzy prickly phlox	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	Hickman's popcorn flower	Blochman's groundsel
HCP Potential Future Covered Activities												
CA-12b SNPL Adult Banding	L	L	L	L	L	L	L	L	L	L	L	L
CA-15 Listed Plant Management – Propagation and Outplanting	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B
CA-28 Cable Fence Replacement	N	N	N	N	N	N	N	N	N	N	N	N
CA-38 Grover Beach Lodge and Conference Center	N	N	N	L	N	N	N	N	N	N	N	L
CA-41 Pismo Creek Estuary Seasonal (Floating) Bridge	L	N	L	N	N	N	N	N	N	N	N	N
CA-42 Riding in 40 Acres	N	L	N	L	L	L	L	L	L	L	N	L
CA-43 Replacement of the Safety and Education Center	N	N	N	N	N	N	N	N	N	N	N	N
CA-44 Dust Control Activities – New PMRP	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B	L, B
CA-48 Oso Flaco Lake Boardwalk Replacement	N	N	N	N	N	N	N	N	N	N	N	N
CA-49 Special Projects	L	L	L	L	L	L	L	L	L	L	L	L
CDPR Public Works Plan Projects												
Project A: Oso Flaco Campground and Day Use Project	L	N	L	L	L	L	N	L	L	L	N	L
Project B: Park Corporation Yard Improvement Project	N	N	N	N	N	N	N	N	N	N	N	N
Project D: Oceano Campground Infrastructure Improvement Project	N	N	N	N	N	N	N	N	N	N	N	N
Project E: Grand Avenue and Pier Avenue Kiosks, Pier Avenue Lifeguard Tower	N	N	N	N	N	N	N	N	N	N	N	N

Table 6-12. Cumulative Impacts to Special-Status Plant Species[1]

Covered Activity	Red sand verbena	Coastal goosefoot	**La Graciosa thistle**	Blochman's leafy daisy	Suffrutescent wallflower	Fuzzy prickly phlox	Dunedelion	Crisp monardella	San Luis Obispo monardella	California spineflower	Hickman's popcorn flower	Blochman's groundsel
Project F: North Beach Campground Facility Improvements	N	N	N	N	N	N	N	N	N	N	N	N
Project G: Butterfly Grove Public Access	N	N	N	N	N	N	N	N	N	N	N	N
Project H: Pismo State Beach Boardwalk	L	L	L	L	L	L	N	L	L	L	N	L
USFWS												
Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan	B	B	B	B	B	B	B	B	B	B	N	B
Local Agencies												
Arroyo Grande Creek Channel Waterway Management Plan	N	N	N	N	N	N	N	N	N	N	N	N

[1] Per the project impact analysis presented in EIR section 6.2.3 the HCP proposed new covered activities would not have impacts on marsh sandwort, sand mesa manzanita, Nuttall's milkvetch, Monterey paintbrush, Douglas spineflower, surf thistle, dune larkspur, beach spectaclepod, Kellogg's horkelia, southwestern spiny rush, Nipomo Mesa lupine, Gambel's watercress, and sand almond.

High (H). Activity and habitat overlap in an area where species has been documented. Species is common throughout the HCP area. Activity may alter habitat.

Low (L). Activity and habitat may overlap. Activity may encroach upon habitat, but not alter it.

No Impact (N). Activity and habitat do not overlap.

Beneficial (B). Activity benefits species and/or habitat.

6.4.1.1 Western Snowy Plover

HCP Potential Future Covered Activities

SNPL/CLTE Management (CA-12b) – SNPL Adult Banding. Currently, adult SNPL are not banded in the HCP area; however, CDPR may request permission from the USFWS to band adults at a later date. Banding adults could pose risk of injury or mortality to adults. In addition, banding could substantially disturb nesting SNPL and ultimately cause them to abandon their eggs or chicks. To reduce these impacts, CDPR would implement established protocols during banding in accordance with the SNPL and CLTE management program. Specifically, a master

bander would be used to band any SNPL in the HCP area. In addition, monitors and master banders would be required to have a 10(a)(1)(A) Recovery Permit and/or be approved by the USFWS and follow careful protocols designed to minimize any adverse effects on SNPL during these activities. Furthermore, monitors that enter the exclosure would be aware of the location of nests, brood, and adults in order to minimize situations where an adult might abandon eggs or chicks. Ultimately, banding SNPL adults would provide beneficial information on adult mortality/survival, as well as population status and distribution. As a result, the impact would be ***less than significant***.

Listed Plant Management – Propagation and Outplanting (CA-15). Most listed plants do not occur in areas where SNPL would nest, forage, or roost. Beach spectaclepod and surf thistle occur in North and South Oso Flaco during the breeding season. Because of the timing of their blooming and growth periods, both plant species can only be accurately identified by doing surveys during the SNPL breeding season. Any propagation or outplanting of beach spectaclepod or surf thistle would be conducted by a 10(a)(1)(A) SNPL- and CLTE-permitted (or a USFWS-approved) biologist, or by crews working under the direction of the permitted/USFWS-approved biologist. As a result, no mortality or injury of SNPL is expected to occur. However, propagation and outplanting of these species could disturb nesting SNPL and deter them from incubating eggs or brooding chicks during the period of disturbance. CDPR staff would implement AMMs, including, but not limited to, SNPL AMMs 93 through 98 to minimize any impacts to SNPL. As a result, any disturbance-related impacts would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Replacement of the cable fence would occur during the non-breeding season. Cable fence replacement could be disruptive to wintering SNPL by interrupting foraging and/or roosting behavior. In addition, the noise associated with removing posts, excavating sand, and pile driving could displace foraging and/or roosting wintering SNPL, as well as cause increased vigilance. To minimize impacts associated with cable fence replacement, replacement of the cable fence would occur infrequently (i.e., every 10–15 years) and would be subject to pre-construction SNPL surveys. Any cable fence replacement work needed in or near SNPL foraging or roosting habitat would be conducted when SNPL were not observed to be present within 150 feet of the work area. Therefore, any disturbance-related impacts to wintering SNPL from cable fence replacement would be ***less than significant***.

Grover Beach Lodge and Conference Center (CA-38). Impacts to SNPL were analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). Central dune scrub habitat in the Grover Beach Lodge project area was determined to have potential to support wintering SNPL, and impacts could occur during construction. Pre-construction surveys were required to be conducted between October and February, and activities were not permitted within 500 feet of any wintering SNPL observed during the surveys. As a result, impact to wintering SNPL from the Grover Beach Lodge would be ***less than significant***.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). Direct mortality of SNPL eggs, chicks, juveniles, and/or adults from bridge construction or use would not occur from the construction or use of the Pismo Creek Estuary seasonal bridge. The bridge is located outside of SNPL breeding habitat and would have ***no impact*** on nesting SNPL. SNPL could forage or roost near the bridge location; therefore, visitor bridge use could disrupt foraging or roosting SNPL and displace SNPL from foraging or roosting habitat and/or deter them from foraging or roosting in the area during the disturbance. SNPL AMM 114 would close the bridge to public use until

the birds have left the area if visitor activities are significantly disrupting SNPL foraging and/or roosting behavior. With implementation of this measure, the impact to SNPL would be ***less than significant.***

Riding in 40 Acres (CA-42). Riding in 40 Acres would not occur within SNPL nesting, foraging, or roosting habitat. As a result, ***no impact*** would occur.

Replacement of the Safety and Education Center (CA-43). The safety and education center is located between Post 4 and Post 5, just south of Pavilion Hill. The kiosk comprises a simple metal frame structure supporting informational panels. Replacement of this structure would involve minimal ground disturbance. The kiosk is outside of the SNPL typical nesting area, which is south of Post 6. Any nests that may occur outside the typical SNPL nesting area in or near the safety and education center area would be identified by park staff through routine monitoring that is conducted as part of the SNPL management program and protected (SNPL AMMs 8 through 19). As a result, ***no impact*** to nesting SNPL is expected.

Replacement of the safety and education center could disturb foraging and/or roosting SNPL by displacing them from suitable foraging and/or roosting habitat during the disturbance and or deterring them from foraging and/or roosting during the disturbance. CDPR would conduct pre-construction surveys for SNPL prior to starting work and delay activity until SNPL are no longer present (SNPL AMM 102). As a result, potential impacts to foraging and/or roosting SNPL from kiosk maintenance or replacement would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Impacts to SNPL from dust control activities are described in HCP section 4.3.1.5.5. Most new dust control activities would occur within the backdunes, which is considered tertiary habitat for SNPL. Impacts in tertiary habitat would not impact SNPL.

The implementation of the HCP would ensure that all impacts on SNPL within primary and secondary habitat would be ***less than significant***. A detailed description of the impacts associated with dust control activities in primary and secondary habitat follows. Note that, as described in section 2.4.2.3, the PMRP, inclusive of the new foredune and additional foredune vegetation, are subject to separate CEQA review.

An approximately 48-acre area located outside the seasonal exclosure just north of Post 6 and within primary habitat for SNPL has been fenced as a preliminary step toward establishing a new foredune that would be permanently closed to vehicles and camping. Impacts on wintering SNPL associated with closing the 48-acre area are discussed in EIR Appendix D. The 48-acre area has not been planted or otherwise treated to develop foredune characteristics, but CDPR has proposed planting the area, subject to separate CEQA review and permitting. Impacts on breeding SNPL from fencing the 48-acre area and all impacts associated with planting the 48-acre foredune are discussed in this section. An additional approximately 4 acres of foredune area are also proposed to be fenced and vegetated as part of the dust control activities. It is assumed that the 4 acres of foredune vegetation would also be outside the seasonal exclosure but within primary habitat for SNPL. The foredune's associated air quality equipment could also be located in primary habitat but would be outside the seasonal exclosure.

Effects of Closing the Foredune Areas to Motorized Recreation and Camping on Breeding SNPL. The 48-acre area is currently open to pedestrians and CDPR staff that need to maintain the area. However, installing the fencing created a 48-acre closed area north of Post 6 that is free from ongoing motor vehicle and camping disturbance. The new 4-acre area would also be closed to

camping and vehicles. As a result, the new foredune areas may be conducive to nesting, especially prior to any vegetation being planted. If a SNPL nest is established outside of the seasonal exclosure in the newly closed areas, the cryptic nature of SNPL nests and chicks makes it possible for a nest/chick to be crushed/killed or injured if a nest has not yet been identified by monitors. Chicks are especially vulnerable as they move from the nest area to the shoreline, where they may encounter pedestrians and vehicles. In addition, vehicle and/or pedestrian activities occurring adjacent to the newly closed areas, and pedestrian and maintenance activities within the areas, could result in disturbance of nesting SNPL, and SNPL could be deterred from incubating eggs or brooding chicks. However, during the SNPL and CLTE breeding season, CDPR will implement the SNPL and CLTE management program within the closed areas. Monitors will conduct daily searches for nests in the closed areas. Any nests that are found will be protected by a single-nest exclosure, if appropriate, and a buffer zone a minimum of 100 feet will be established around all nests to ensure that recreation and maintenance activities do not encroach on SNPL nests. As a result, and given the success of the ongoing conservation program (see HCP section 3.3.1) and the implementation of the HCP, these impacts to SNPL nests and chicks would be ***less than significant***.

If a nest is established within the closed areas, any chicks that leave the nest would be vulnerable to injury or mortality as they move from the nest area to the shoreline where they may encounter vehicles. However, CDPR would implement SNPL AMMs, as appropriate, including SNPL AMMs 1 through 30 to reduce the risk of crushing/killing or injuring a nest/chick. These AMMs include monitors observing known nests prior to hatching and posting signs or symbolic fencing to provide safe passage. As a result, these impacts would be ***less than significant***.

SNPL nesting near the fenceline of the 6 Exclosure may be disturbed by vehicles traveling between the 6 Exclosure and southern edge of the new 48-acre area. Although this disturbance can occur under existing conditions, the narrow corridor (potentially between 300 and 400 feet wide) between the northern edge of the 6 Exclosure and the southern edge of the closed area may cause more vehicles to pass closer to the edge of the 6 Exclosure. Chronic disturbance of breeding adults from recreation activities could directly or indirectly affect chicks or eggs. Chicks or nests could be abandoned, left unattended for prolonged periods of time, or exposed to predation. In addition, chicks could be orphaned or inadequately nourished, and eggs could be buried by sand or not properly incubated. To reduce these impacts, CDPR will continue to implement the SNPL and CLTE management program in the HCP area. Specifically, CDPR will continue to conduct daily monitoring to enable better identification of potential threats. If broods are observed to be in harm's way, vehicle traffic flow will be diverted or regulated to allow the safe movement of the brood. In addition, a nest avoidance buffer of a minimum of 100 feet will be used to protect SNPL nests near the fenceline of the 6 Exclosure. The buffer will be increased, as necessary, until monitors observe that SNPL adults are no longer disturbed. As a result, and given the success of the ongoing conservation program (see HCP section 3.3.1) and the implementation of the HCP, these impacts to SNPL would be ***less than significant***.

The multi-strand metal fencing used to close the 48-acre area and that will be used to close the 4-acre area is similar to fences placed at other vegetation islands. Fences placed in otherwise open habitat can be hazardous to flying birds. Only SNPL nesting within these areas are expected to be at risk of striking the foredune fencing if they fly into the multi-strand fence when leaving a nest for another location. SNPL have not been documented striking other vegetation island fencing, however, and although they have been documented striking the symbolic fence at Oso

Flaco, this event has been rare and was documented only a few times from 2002 to 2018. As a result, SNPL are very unlikely to strike the foredune fencing, and this impact would be ***less than significant***.

SNPL chicks and adults/juveniles have been observed leaving the protection of the seasonal exclosure and entering the open riding area where they are at risk of being struck by a vehicle. Closing areas open to motorized recreation may exacerbate this issue since it limits the open sand areas for motorized recreation to occur and likely results in more vehicles traveling along the shoreline where SNPL chicks are brooded and/or adults and chicks are foraging. Vehicle alleys and other movement pathways in the foredune areas may allow vehicles to travel through this area without impacting SNPL; however, SNPL may also utilize the pathways for travel to the shoreline. As a result, SNPL could be vulnerable to vehicle strike due to the increased presence of vehicles on the shoreline. Chicks would be most vulnerable since they are unable to fly out of harm's way. This could be especially exacerbated in conjunction with the exclosure reduction, which is predicted to result in some adult aggression/density issues and push additional chicks and adults out of the protection of the exclosure into the open riding area. In addition, nests established in the closed areas would be at risk if they hatch and chicks leave the foredune and travel along trails used by motorized recreation in order to reach the shoreline to forage. To minimize the risk of vehicle strike along the shoreline, CDPR will implement SNPL AMMs 1 through 30. These AMMs include implementing SNPL AMM 22, which is a new AMM that establishes a maximum number for egg and chick capture associated with covered activities that are not associated with covered species management (i.e., up to 12 eggs/4 nests and 12 chicks/4 broods). Even with these AMMs, there is likely an increased risk of take associated with closing the 48-acre and 4-acre areas. However, this increased risk of take may be addressed all or in part via implementation of AMM 22, existing AMMs, and the HCP. Capturing eggs or chicks for captive rearing is a form of take, but one that avoids injury, death, or other immediate harm. With these measures, the risk of take from PMRP dust control activities are reduced, and the impact would be ***less than significant***.

Effects of Planting the Foredune Vegetation. Given the need to plant vegetation during the rainy season, vegetation is expected to be installed prior to March 1 (i.e., prior to the start of the SNPL breeding season) or after the season concludes in September, which would not impact nesting SNPL. Should any planting need to occur within the SNPL breeding season (after February 28/29), nest searches would occur before any equipment or personnel moved into the foredune area for planting. Any nests that are found would be protected by a single-nest exclosure, if appropriate, and a buffer zone a minimum of 100 feet would be implemented around the nest. As a result, vegetated foredune construction and planting would have ***less than significant*** impacts on nesting SNPL.

Foredune vegetation installed within SNPL primary habitat may impact breeding SNPL by providing habitat for predators to hide and stalk nesting, foraging, and/or roosting SNPL. At this time, these indirect impacts from dust control activities are not known. CDPR would implement all SNPL AMMs (HCP Table 5-2), as appropriate, to reduce impacts to from dust control activities. These measures will include erecting single-nest exclosures as needed around any SNPL that occur within the new foredune vegetation areas. In addition, CDPR implements a predator management program to control avian and/or mammalian predators that are observed targeting or disturbing SNPL adults, chicks, or eggs. With these measures, predation impacts to SNPL from foredune implementation are expected to be ***less than significant***.

Foredune vegetation installed within SNPL primary habitat would reduce available suitable SNPL breeding and/or wintering habitat by decreasing the amount of open, wide beaches. Any additional vegetation associated with dust control activities within SNPL secondary habitat would further reduce the quality of such habitat and ultimately potentially convert it into tertiary habitat (e.g., vegetated dune). Previous studies have found that SNPL select habitats that are open (or wide) and have less vegetative cover in order to facilitate early detection of predators and reduce predation risk [(Muir & Colwell, 2010); (Brindock & Colwell, 2011)]. Reducing SNPL habitat by planting vegetation in suitable primary and secondary habitat for this species could lead to less open (or wide), sparsely vegetated beaches and could potentially increase predation on adults, chicks, and/or eggs if SNPL are not able to detect predators moving towards the nest location. However, all vegetation installation has been designed to avoid the active nest area, and randomly spaced native foredune vegetation should avoid creating areas of heavy vegetation. CDPR would also implement all AMMs (HCP Table 5-2), as appropriate, to reduce impacts from dust control activities. In addition, CDPR implements a predator management program to control avian and/or mammalian predators that are observed targeting or disturbing SNPL adults, chicks, or eggs. As a result, and given the implementation of the HCP, these impacts to SNPL would be ***less than significant***.

Activities associated with developing the foredune, such as surface treatment and planting, could disturb foraging and/or roosting wintering SNPL by displacing them from suitable foraging and/or roosting habitat during the disturbance and deterring them from foraging and/or roosting during the disturbance. CDPR would conduct pre-construction surveys for SNPL prior to starting work and delay activity until SNPL are no longer present (SNPL AMM 101). As a result, potential disturbance impacts to foraging and/or roosting SNPL from foredune development would be ***less than significant***.

SNPL are present and vulnerable to vehicle strike or disturbance during the non-breeding season. Foraging and roosting wintering SNPL frequently concentrate on the relatively narrow beach between Grand Avenue and Pier Avenue and north of Post 2, where OHV use is prohibited but street-legal vehicles are allowed. Although not as common, some SNPL may roost or forage along the shoreline in the vicinity of where the new foredune would be located. Installation of vegetation in the new foredune would remove some shoreline area that can be utilized for both driving and foraging. As a result, SNPL could be more vulnerable to vehicle strike due to the reduced area along the shoreline. To reduce this impact, CDPR would implement the SNPL and CLTE management program along the shoreline open to vehicles in the foredune vicinity, which includes weekly monitoring for wintering SNPL in the HCP area to locate foraging and/or roosting birds, enforcement of the posted speed limits, placing additional speed limit signs near foraging and/or roosting flocks, and implementing public education methods (e.g., handing out brochures, posting signs). Implementation of the SNPL and CLTE management program would reduce the impacts to wintering SNPL from motorized recreation to a ***less-than-significant*** level.

SNPL Critical Habitat: Approximately 52 acres of foredune vegetation associated with dust control activities would be established in SNPL critical habitat. This foredune vegetation could make the critical habitat permanently less suitable for SNPL nesting and wintering by decreasing the amount of open, wide beaches. However, SNPL typically nest within the seasonal exclosure and often avoid nesting in habitat north of Post 6 due to the heavy recreation use occurring in this area. In addition, the foredune vegetation would be set back from the shoreline, and plantings would be randomly spaced and avoid creating areas of heavy vegetation; therefore, the area

would retain most of the physical and biological features essential to the conservation of SNPL. Overall, vegetation planting in 52 acres of critical habitat would only modify approximately 7 percent of the total critical habitat in the HCP area, approximately 3 percent of total critical habitat in Unit CA 31, and approximately 0.2 percent of the total critical habitat range-wide. Additionally, some air quality monitoring equipment may be installed within SNPL critical habitat, making such areas unsuitable for nesting, but the impact would cease once the equipment is removed. As a result, critical habitat would not be adversely impacted, and this impact would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). Oso Flaco boardwalk replacement would occur over Oso Flaco Lake and would not occur within SNPL nesting, foraging, or roosting habitat. As a result, ***no impact*** would occur. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D.

Special Projects (CA-49). Special projects entail the construction of new facilities that may occur in Pismo State Beach or in Oceano Dunes SVRA. Special projects are precluded from occurring in SNPL nesting habitat south of Post 6, where SNPL are currently known to nest. Special projects in tertiary habitat are not expected to affect SNPL. If SNPL nest in new areas within primary and secondary habitat, special projects could result in disturbance of nesting SNPL and SNPL could be deterred from incubating eggs or brooding chicks. These activities could also result in disturbance of SNPL during foraging or roosting. Specifically, SNPL could be displaced from foraging or roosting habitat during the period of disturbance and/or could be deterred from foraging or roosting during the period of disturbance. Special project plans, including AMMs (e.g., conducting surveys prior to special project activities and delaying construction until SNPL are no longer in the area), would be submitted to the USFWS for review and approval prior to constructing a special project that could impact SNPL. As a result, the impacts of special projects to SNPL would be ***less than significant***.

Placing special projects within SNPL primary and secondary breeding habitat reduces the amount of habitat available to SNPL for breeding by precluding them from nesting within the footprint of the structures. However, many special projects would not be placed within primary and/or secondary habitat. In addition, special projects are small (i.e., not to exceed 35 acres over the permit term), and they are placed in areas where SNPL do not typically nest (e.g., outside the seasonal exclosure). In addition, special project plans within areas that could impact SNPL would be submitted to the USFWS for review and approval prior to construction. As a result, the impacts of special projects to SNPL habitat would be ***less than significant***.

Increased SNPL Take from HCP Potential Future Activities

Take numbers identified in the HCP (Table 6-8.) include take for existing, proposed new, and potential future covered activities. Take numbers in the HCP are defined as mortality, injury, capture, abandonment, or chicks in the open riding area at risk of being struck by a vehicle.

As stated in EIR section 6.3.2.1, most of the take numbers for SNPL reflect worst-case conditions based on past observations of mortality and injury, as well as observations of events that could cause mortality or injury, such as chicks entering the open riding area or nests being abandoned after an adult has been observed being disturbed by recreation. Although the worst-case scenario of take has been observed or is thought to have occurred in the past, this level of take is not expected to occur within the HCP area in most years (if at all). Take for most years is

lower than the worst-case scenario for take as documented in the monitoring data collected by CDPR since 2002 (Table 6-8.).

Of the ten future covered activities, including SNPL adult banding (CA-12b), listed plant management – propagation and outplanting (CA-15), cable fence maintenance – replacement (CA-28), Grover Beach Lodge and Conference Center (CA-38), Pismo Beach estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center (CA-43), dust control activities – new PMRP (CA-44), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49), only SNPL adult banding (CA-12b) and dust control activities (CA-44 – New PMRP) are expected to result in take beyond baseline conditions. Specifically, SNPL adult banding (CA-12b) would result in additional temporary capture of SNPL adults and/or juveniles. Additional injuries and/or mortalities from SNPL adult banding are not expected with the implementation of AMMs. In addition, dust control activities (CA-44 – New PMRP) could potentially contribute to take, as defined above, of SNPL chicks and eggs above existing worst-case take potential. No increase in take of SNPL adults and juveniles is expected to occur from CA-44 above worst-case baseline conditions.

Up to 35 adults are expected to be captured each year due to SNPL adult banding in the future; however, no mortality or injuries are expected from these activities and any take would be temporary and last only during the time adults are being banded. As a result, no loss of SNPL adults, juveniles, eggs, or chicks would occur from SNPL adult banding (CA-12b).

As stated in EIR section 6.3.2.1, CDPR has included AMM 22 as a new measure to reduce potential injury/mortality impacts to SNPL from covered activities not associated with covered species management, such as CA-1 – Motorized Recreation, CA-44 – New PMRP, and CA-50 – Reduction of 6 Exclosure. The purpose of AMM 22 is to address an existing need[38] for CDPR to capture chicks or eggs for captive rearing if it is determined to be necessary to prevent injury and/or mortality. As a result, AMM 22 would allow up to 12 chicks and 12 eggs to be captured for captive rearing each year. Handling chicks and eggs for relocation is a form of take (see discussion of CA-12b above) but is less impactful than the injury or death that may otherwise occur if the chicks and eggs are left in harm's way.

As described in EIR section 6.3.2.1, it is difficult to forecast precisely which ongoing, new, and future covered activities may trigger implementation of SNPL AMM 22 from year to year. For purposes of this analysis, this EIR assumes that the new proposed and future covered activities CA-12b – Egg and Chick Capture for Captive Rearing if Threatened by Recreational Activities and Other Non-Covered Species Management Activities, CA-50 – Reduction of 6 Exclosure, and CA-44 – New PMRP could create an increase in take of SNPL eggs and chicks of 12 eggs and 12 chicks above baseline conditions and then apportions that take among the three activities. As a result, take of four eggs and four chicks is attributed to foredune construction dust control activity (CA-44 – New PMRP).

The potential for increased loss of up to four eggs and four chicks annually is significant to a federally-listed threatened species; however, this loss must be considered in context of the

[38] Currently, CDPR attempts to protect nests and/or move chicks back into the safety of the seasonal exclosure; however, chicks and eggs are often still at risk of being injured or killed by covered activities not associated with covered species management (e.g., motorized recreation). As a result, injury or mortality may occur if eggs or chicks are not observed by monitors and/or if chicks move back into areas where covered activities occur.

overall conservation program implemented by CDPR in the HCP area. While implementation of SNPL AMMs have not eliminated take of SNPL from visitor use or park operations, SNPL breeding success within the protected nesting areas has substantially increased the SNPL breeding population in the HCP area from 32 breeding adults in 2002 to 201 breeding adults in 2018 (HCP Table 3-8). SNPL continue to breed and forage and increase in numbers where active conservation management provides habitat enhancement and protection (HCP section 3.3.1). This side-by-side existence of visitor recreation and successful SNPL conservation is expected to continue in the future. The potential loss of four eggs and four chicks is not expected to diminish the enlarged SNPL population sustained by the CDPR's conservation program or hinder species recovery efforts. As a result, the SNPL take impact associated with the future covered activities is ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (Projects B through G) would occur outside of SNPL primary and secondary habitat and would have ***no impact*** on breeding or wintering SNPL or result in critical habitat modification. Oso Flaco Campground and Day Use Project (Project A) could include construction of a pedestrian trail and lifeguard tower that could impact breeding and/or wintering SNPL. In addition, the Pismo Beach Boardwalk (Project H) would include construction of a boardwalk within SNPL secondary habitat. Boardwalk construction and pedestrians accessing the boardwalk could disrupt SNPL during the non-breeding season if SNPL roost or forage nearby. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, under which the impacts of each project on breeding and non-breeding SNPL would be evaluated and mitigated as needed. CDPR would also seek an amendment to the HCP if SNPL take coverage is needed for a PWP project. As a result, the cumulative impact of these projects on SNPL would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to SNPL were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final Comprehensive Conservation Plan (CCP) Environmental Assessment (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some minor daytime disturbances and flushing of SNPL. However, the NWR CCP would benefit SNPL overall by monitoring for SNPL, controlling for feral swine, conducting avian and mammalian predator management, installing nest exclosure to minimize the loss of eggs to predation and accidental trampling by humans, restricting public access on the NWR during the SNPL nesting season and controlling invasive plant species. As a result, the cumulative impact of this project on SNPL would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

SNPL's potential to occur was evaluated as part of the Arroyo Grande Creek Channel Waterway Management Plan (WMP) EIR (SWCA Environmental Consultants, 2010). It was determined that suitable SNPL habitat is not present within the project area. As a result, no impact from this activity would occur.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the AMMs included in the HCP, would have a significant, adverse impact on SNPL. Furthermore, given the implementation of AMMs, impacts on SNPL

from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on SNPL.

6.4.1.2 California Least Tern

HCP Potential Future Covered Activities

SNPL and CLTE Management – SNPL Adult Banding (CA-12b). Adult CLTE would not be banded in the HCP area. As a result, no direct impacts would occur. SNPL adult banding would occur within the seasonal exclosure. Since the majority of CLTE nest within the exclosure, CLTE could be flushed from the nest or chicks could be separated from adults. However, SNPL adult banding activities would be conducted by a USFWS-approved or 10 (a)(1)(A) permitted biologist that would implement appropriate CLTE AMMs to ensure any disturbance to CLTE is minimized. As a result, this impact is ***less than significant***.

Listed Plant Management – Propagation and Outplanting (CA-15). Most listed plants do not occur in areas where CLTE would nest, forage, or roost. In addition, listed plant propagation and outplanting would occur outside the CLTE breeding season, if feasible. Beach spectaclepod and surf thistle occur in North and South Oso Flaco. Because of the timing of their blooming and growth periods, both plant species can only be accurately identified by doing surveys during the CLTE breeding season. CLTE is not known to nest within North and South Oso Flaco; therefore, impacts from propagation and outplanting of beach spectaclepod and surf thistle are not expected. In addition, any propagation or outplanting of beach spectaclepod or surf thistle would be conducted by or under the direction of a 10(a)(1)(A) SNPL- and CLTE-permitted (or a USFWS-approved) biologist. As a result, no injury or mortality impacts would be expected to occur even if CLTE did nest in the area. However, propagation and outplanting of these species could disturb nesting CLTE if they nest within North or South Oso Flaco in the future and could deter them from incubating eggs or attending chicks during the period of disturbance. CDPR staff would implement AMMs, including, but not limited to, CLTE AMMs 81 through 86 to minimize any potential impacts to CLTE. As a result, this impact would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Cable fence replacement would not occur within CLTE breeding season. As a result, ***no impact*** from this activity would occur.

Grover Beach Lodge and Conference Center (CA-38). CLTE's potential to occur was evaluated as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). It was determined that suitable CLTE habitat is not present within the project area. As a result, ***no impact*** from this activity would occur.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). The bridge is located outside of CLTE breeding habitat and would have ***no impact*** on nesting CLTE. CLTE could use the Pismo Creek bridge handrails for roosting, including after chicks have fledged and adults are teaching fledglings to fish; therefore, installation, use, and removal of the bridge could disturb roosting CLTE. However, CLTE AMM 101 would close the bridge to public use until the birds have left the area if visitor activities are significantly disrupting CLTE foraging and/or roosting behavior. With implementation of this measure, the impact to CLTE would be ***less than significant***.

Riding in 40 Acres (CA-42). Riding in 40 Acres would be located outside the seasonal exclosure and within tertiary CLTE breeding and roosting habitat. In addition, no CLTE foraging habitat is present in the 40 Acres area. Therefore, impacts to nesting, roosting, and foraging CLTE are not

expected. CLTE have been observed flying through the 40 Acres area to reach suitable lake foraging habitat nearby. At times, CLTE have been observed flying as low as 15 feet above ground. At this height, although unlikely, they could be struck by a vehicle travelling through the 40 Acres area. Although the potential for vehicle strike is low, it does exist. However, CLTE AMMs 1 through 23 would be implemented, as appropriate, to reduce this impact. As a result, this impact would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). The safety and education center is located between Post 4 and Post 5, just south of Pavilion Hill. The kiosk comprises a simple metal frame structure supporting informational panels. Replacement of this structure would involve minimal ground disturbance. The kiosk is outside of the CLTE typical nesting area, which is south of Post 6. Any nests that may occur outside the typical CLTE nesting area in or near the safety and education center area would be identified by park staff through routine monitoring occurring as part of the CLTE management program and would be protected (CLTE AMMs 7 through 16). As a result, impacts to nesting CLTE are not expected and potential impacts to CLTE from kiosk maintenance or replacement would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Impacts to CLTE from dust control activities are described in HCP section 4.4.1.5.5. Most new dust control activities would occur within the backdunes, which is considered tertiary habitat for CLTE. Impacts in tertiary habitat would not impact CLTE.

The implementation of the HCP would ensure that all impacts on CLTE within primary and secondary habitat would be ***less than significant***. A detailed description of the impacts to CLTE associated with dust control activities in primary and secondary habitat follows.

A 48-acre area located outside the seasonal exclosure just north of Post 6 and within primary habitat for CLTE has been fenced as a preliminary step toward establishing a new foredune that would be permanently closed to vehicles and camping. The 48-acre area has not been planted or otherwise treated to develop foredune characteristics, but CDPR has proposed planting the area subject to separate CEQA review and permitting. Impacts associated with planting of 48-acre foredune are discussed in this section. An additional approximately 4 acres of foredune area are also proposed to be fenced and vegetated as part of the dust control activities. It is assumed that the 4 acres of foredune vegetation would also be outside the seasonal exclosure but within primary habitat for CLTE. The foredune's associated air quality equipment could also be located in primary habitat but would be outside the seasonal exclosure.

Effects of Closing the Foredune Areas to Motorized Recreation and Camping on Breeding CLTE. The 48-acre area is currently open to pedestrians and CDPR staff that need to maintain the area. However, installing the fencing created a 48-acre closed area north of Post 6 that is free from ongoing motor vehicle and camping disturbance. CDPR anticipates fencing off and planting approximately 4 additional acres of foredune area, also in primary CLTE habitat, which would create an additional area free from motor vehicle and camping disturbances. CLTE almost exclusively nest in the Southern Exclosure, but the new closed areas may be conducive to nesting, especially prior to any vegetation being planted. If a CLTE nest is established outside the seasonal exclosure in the closed areas, the cryptic nature of CLTE nests and chicks makes it possible for a nest/chick to be crushed/killed or injured if a nest has not yet been identified by monitors. In addition, vehicle and/or pedestrian activities adjacent to the foredune vegetation, and pedestrian and maintenance activities within the foredune vegetation itself, could result in

disturbance of nesting CLTE, and CLTE could be deterred from incubating eggs or brooding chicks. However, CDPR would implement CLTE AMMs, as appropriate, including CLTE AMMs 1 through 23 to reduce the risk of crushing/killing or injuring a nest/chick. These AMMs include conducting daily searches for nests in the foredune area, protecting any nests found with a single-nest exclosure, and ensuring a minimum 330-foot nest avoidance buffer around any CLTE nests. As a result, and given the success of the ongoing conservation program (see HCP section 3.3.1) and the implementation of the HCP, these impacts to CLTE nests and chicks would be ***less than significant***.

The vegetated foredune area may increase recreation and motorized activity directly adjacent to the 6 Exclosure as vehicles travel in the narrow corridor (potentially between 300 and 400 feet wide) between the 6 Exclosure and southern edge of the foredune. Recreation and motorized activity adjacent to the 6 Exclosure could result in disturbance to nesting CLTE if they were to nest near the fenceline of the 6 Exclosure. However, for at least the last 8 years, CLTE have not been observed nesting within 500 feet of the northern 6 Exclosure fenceline (HCP Map 13c). In addition, CDPR would continue to implement the CLTE and SNPL management program, which includes ensuring that a minimum 330-foot no disturbance buffer is implemented around any CLTE nest and increasing this buffer, as necessary, to ensure nesting CLTE are not disturbed by recreation activities. As a result, and given the success of the ongoing conservation program (see HCP section 3.3.1) and the implementation of the HCP, these impacts to CLTE would be ***less than significant***.

The multi-strand metal fencing used to close the 48-acre area and that would be used to close off the 4-acre area is similar to fences placed at other vegetation islands. Fences placed in otherwise open habitat can be hazardous to flying birds. Although there are no direct observations of CLTE striking the seasonal exclosure fencing or South Oso Flaco symbolic fence, dead or injured adult/juvenile CLTE have been found within the Southern Exclosure or nearby shoreline; therefore, these birds might have been injured or killed due to striking the fence (CDPR 2014).

Nesting CLTE and/or CLTE within a night roost are expected to be most susceptible to fence strike. Based on previous nesting patterns from 2002 to 2018, CLTE are not expected to nest or form a night roost within the closed area since they are almost exclusively found nesting or forming their night roost within the Southern Exclosure. As a result, CLTE are unlikely to be impacted by fencing placed around the closed area. However, if a CLTE did nest or roost within the area, it could collide with the multi-strand metal fence when flying from or to the nest from another location. In 2015, CDPR placed brightly colored strips of fencing along sections of the Southern Exclosure to increase the visibility of the exclosure fence. The strip of fencing was attempted as an experiment in 2015 and was placed on the western and northern Southern Exclosure fence in 2016 with favorable results. As a result, if CLTE are observed to be at risk of fence collision in the area by a CDPR Environmental Scientist and it is determined necessary to protect CLTE from the risk of fence collision, CDPR would implement this program in the foredune areas by lining the top of the foredune fence with a strip of thicker plastic fencing (orange silt construction fencing cut into approximately 1-foot sections) in March of each year. It is anticipated the visible fencing will reduce or eliminate the likelihood of a CLTE striking a fence in areas where it is installed. As a result, and given the implementation of the HCP, this impact would be ***less than significant***.

In recent years, CLTE have selected an area within the 6 Exclosure for a night roost. Ultimately, fencing off 52 acres creates a closed area that at least initially—prior to vegetation

establishment—may be suitable for a CLTE night roost. Should CLTE change the location of their night roost to the new closed area, pedestrian and vehicle activities adjacent to the area could disrupt night roosting CLTE. To reduce the disturbance impacts, CDPR would implement the SNPL and CLTE management program in the HCP area. Environmental Scientists will closely monitor the CLTE night roost and will be able to identify most changes in roosting behavior. Over the past 10 years, the night roost has been located in the seasonal exclosure. If the location of the night roost changes, CDPR has a protocol in place to protect the CLTE in the night roost from disturbance by recreation activities, including, but not limited to, implementing an appropriate no-disturbance buffer of 330 feet around the night roost. As a result, impacts to CLTE in the night roost would be ***less than significant***.

Effects of Planting Foredune Vegetation. Some of the dust control vegetation may be planted within and/or adjacent to CLTE secondary habitat, but CLTE has not nested in this secondary habitat and would thus not be directly affected by the new vegetation.

Activities associated with dust control (e.g., vegetation planting, placement, and maintenance of artificial dust control measures, and maintenance of a temporary monitoring site) would not occur within the Southern Exclosure where CLTE almost exclusively nest. In addition, the foredune vegetation must be installed during the rainy season, which concludes prior to CLTE arriving on site for breeding. Activities would also not be conducted within aquatic habitat. As a result, impacts to nesting, roosting, and foraging CLTE from dust control installation are not expected.

Vegetation planted for dust control, especially vegetation planted within primary or secondary habitat, may impact breeding CLTE by providing habitat for mammalian predators to hide and stalk nesting and/or roosting CLTE. At this time, these indirect impacts from dust control activities are not known. CDPR would implement all CLTE AMMs (HCP Table 5-2) for dust control activities, as appropriate. These measures could include erecting single-nest exclosures as needed around any CLTE nests that occur within the foredune. In addition, CDPR implements a predator management program to control avian and/or mammalian predators that are observed targeting or disturbing CLTE adults, chicks, or eggs. With these measures, impacts are expected to be ***less than significant***.

The foredune vegetation proposed to be planted for dust control activities within the 48-acre fenced area and the additional 4-acre foredune area would be established in CLTE primary habitat. Ultimately, approximately 52 acres of primary habitat would be planted with foredune vegetation that could make it less suitable for CLTE nesting. Additional vegetation may also be planted within and/or adjacent to secondary habitat. However, CLTE currently nest almost exclusively within the Southern Exclosure and have avoided nesting in habitat north of Post 6 due to the heavy recreation use occurring in this area. In addition, randomly spacing the native foredune vegetation should avoid creating areas of heavy vegetation; therefore, the area would still retain some suitable CLTE nesting habitat. As a result, and given the implementation of the HCP, these impacts to CLTE would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). CLTE could use the Oso Flaco Lake boardwalk handrails for roosting, including after chicks have fledged and adults are teaching fledglings to fish. Oso Flaco Lake is also used by CLTE for foraging for fish. Therefore, Oso Flaco Lake boardwalk replacement could disturb foraging and/or roosting CLTE if work is conducted when CLTE are likely to be present in the HCP area (generally April 15 to September

15). To reduce impacts to foraging and/or roosting CLTE at Oso Flaco Lake, CLTE AMMs 102 and 103 would be implemented, which includes conducting surveys prior to any boardwalk construction in order to assess whether CLTE are present in the area, and if so, determining whether CLTE may be disturbed and delaying construction activities within 250 feet of the CLTE until it leaves of its own accord. Additionally, the Oso Flaco boardwalk is a long structure that will be replaced in sections, leaving many sections of the boardwalk and surrounding lake undisturbed at any given time. Given the surveys for CLTE, establishment of a buffer if needed, and the remaining undisturbed aquatic habitat, impacts of replacing the boardwalk on CLTE would be ***less than significant***. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D.

Special Projects (CA-49). Special projects entail the construction of new facilities that may occur in Pismo State Beach or in Oceano Dunes SVRA. Special projects are precluded from occurring in CLTE nesting habitat south of Post 6, where CLTE are currently known to nest. Special projects in tertiary habitat are not expected to affect CLTE and special projects would not be conducted within aquatic habitat; therefore, they would not impact foraging CLTE. Impacts to nesting and roosting CLTE, as well as CLTE breeding habitat, from special projects would be similar to those described for SNPL above. Special project plans, including AMMs (e.g., conducting surveys prior to special project activities and delaying construction until CLTE are no longer in the area), would be submitted to the USFWS for review and approval prior to constructing a special project that could impact CLTE. As a result, the impacts of special projects to CLTE would be ***less than significant.***

Increased CLTE Take from HCP Potential Future Activities

Take numbers identified in the HCP include take for existing covered activities. Take numbers in the HCP are defined as mortality, injury, capture, abandonment, or chicks in the open riding area at risk or being struck by a vehicle.

As stated in EIR Section 6.3.2.2, the take numbers reflect the worst-case conditions based on past observations of mortality and injury, as well as observations of events that could cause mortality or injury, such as chicks entering the open riding area or nests being abandoned after an adult has been observed being disturbed by recreation. The worst-case numbers were estimated with the recognition that historical data may undercount mortality; not every egg or individual CLTE may be detected (Table 6-9.). Although the worst-case scenario of take has been observed or is thought to have occurred in the past, this level of take is not expected to occur within the HCP area in most years (if at all). Take for most years is lower than the worst-case scenario for take as documented in the monitoring data collected by CDPR since 2002 (Table 6-9.).

The ten future covered activities, including SNPL adult banding (CA-12b), listed plant management – propagation and outplanting (CA-15), cable fence maintenance – replacement (CA-28), Grover Beach Lodge and Conference Center (CA-38), Pismo Beach estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center (CA-43), dust control activities – new PMRP (CA-44), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49), would not contribute CLTE take numbers above baseline conditions. As a result, future covered activities would have ***no impact*** on CLTE take.

CDPR Public Works Plan Projects

CDPR PWP projects (B–G) would occur outside of CLTE primary and secondary habitat and would have ***no impact*** on breeding CLTE. The Oso Flaco Campground and Day Use Project (Project A) could include constructing a pedestrian trail and vegetation buffer around Oso Flaco Lake. Construction and pedestrian use of the trail during the breeding season could disrupt foraging CLTE, including fledglings learning to feed, when present. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, under which the impacts of each project on CLTE would be evaluated and mitigated as needed. CDPR would also seek an amendment to the HCP if CLTE take coverage is needed for a PWP project. As a result, the cumulative impact of these projects on CLTE would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to CLTE were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final CCP Environmental Assessment (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some minor daytime disturbances and flushing of CLTE. However, the NWR CCP would benefit CLTE overall by documenting incidental sightings of CLTE, controlling for feral swine, conducting avian and mammalian predator management, restricting public access on the NWR during the CLTE nesting season and controlling invasive plant species. As a result, the cumulative impact of this project on CLTE would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

CLTE's potential to occur was evaluated as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). It was determined that suitable CLTE habitat is not present within the project area. As a result, ***no impact*** from this activity would occur.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the AMMs included in the HCP, would have a significant, adverse impact on CLTE. Furthermore, given the implementation of AMMs, impacts on CLTE from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on CLTE.

6.4.1.3 California Red-Legged Frog

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would have ***no impact*** on CRLF.

Listed Plant Management – Propagation and Outplanting (CA-15). Any propagation or outplanting of marsh sandwort and Gambel's watercress at Oso Flaco Lake could temporarily affect all life stages of CRLF (i.e., eggs, tadpoles, juveniles, and adults) by disturbing CRLF, if present. CDPR would implement CRLF AMMs 18, 19, and 20 to minimize the impact due to disturbance, including conducting surveys for CRLF and egg masses within 100 feet of activities to verify that no CRLF are present. Activities would be delayed until any individuals have moved from the area or appropriate AMMs (e.g., relocation or biological monitoring) are in place. As a result, impacts would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). This activity would not occur within CRLF aquatic habitat and CRLF are not expected to disperse through this area. As a result, ***no impact*** would occur.

Grover Beach Lodge and Conference Center (CA-38). Impacts to CRLF were analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). According to the EIR, construction of the Grover Beach Lodge would not impact CRLF. As a result, ***no impact*** to CRLF would occur from the Grover Beach Lodge.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). The floating bridge would be installed in aquatic habitat. CRLF are not known to occur in Pismo Creek within the HCP area and the Pismo Creek Estuary is considered low-quality suitable habitat for CRLF due to the intrusion of saltwater. Therefore, there is low potential for CRLF to be present in the area where the floating bridge would be installed. As a result, this activity is unlikely to impact CRLF and would have a ***less-than-significant*** impact.

Riding in 40 Acres (CA-42) and Replacement of the Safety and Education Center (CA-43). These activities would not occur within CRLF aquatic habitat and CRLF are unlikely to disperse through this area. As a result, potential impacts would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities would not result in impacts to CRLF aquatic habitat. Dust control activities could temporarily disturb aestivating or dispersing CRLF during activities. It is unlikely, but possible that CRLF could disperse through or be found in open sand areas prior to dust control measures being installed. Individuals in a dust control work area could be injured or crushed. AMMs for CRLF would be applied as appropriate, including conducting pre-activity surveys, as necessary, and delaying activities until the individual moves from the work area or appropriate AMMs are in place (e.g., relocation, exclusion fencing, biological monitoring). As a result, impacts to dispersing CRLF are ***less than significant***.

Dust control activities could permanently alter up to 420 acres of upland dispersal habitat for CRLF through planting of vegetation and placement of dust control devices and monitoring equipment. This impact is ***less than significant*** since few CRLF have been found in the HCP area, and additional dispersal habitat continues to be available in the HCP area. In addition, vegetation planted for dust control activities and some dust control devices provide necessary cover for CRLF if they are dispersing through the area and may ***benefit*** CRLF.

Oso Flaco Lake Boardwalk Replacement (CA-48). CRLF is known to occur in aquatic habitat of Oso Flaco Lake and Little Oso Flaco Lake. The Oso Flaco Boardwalk spans approximately 940 linear feet of aquatic habitat including wetlands and open water. The layout and/or location of the new boardwalk might need to shift slightly to accommodate conditions at the time of replacement, such as changes in codes or other operational or design considerations. Thus, although it is anticipated the replacement boardwalk would be located in roughly the same location, the HCP includes the loss of up to 1.5 acres of CRLF aquatic habitat (less than 1 percent of modeled HCP area aquatic habitat). Replacing the boardwalk would also cause temporary disturbance of CRLF aquatic habitat. Additionally, construction activities to replace boardwalk segments could also potentially impact individual CRLF by injury or mortality if they are present in the work area. CRLF adults, juveniles, or tadpoles could also be temporarily disturbed by activities.

The HCP identifies AMMs (CRLF AMMs 38 through 41) to reduce the potential impact on CRLF. Timing of the construction would be limited to when CRLF egg masses are less likely to be present. Surveys would be conducted prior to start of work to determine presence of CRLF. Any found individuals would be relocated by a qualified biologist. Construction personnel would be trained for CRLF identification. With these measures in place, the direct impacts to CRLF and the small loss of aquatic habitat would be ***less than significant***. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D.

Special Projects (CA-49). Special projects covered by the HCP would not be located in aquatic habitat. Projects could be located in upland dispersal habitat. Construction of a special project could result mortality or injury of a dispersing adult/sub-adult/juvenile if they dispersed through the construction area. Pre-activity surveys would be conducted prior to commencing activities that could disturb CRLF dispersal habitat. Therefore, this impact on CRLF would be ***less than significant***.

Special projects could remove up to 35 acres of dispersal habitat, but this habitat impact would be ***less than significant*** since suitable dispersal habitat would still be present throughout the HCP area.

Increased CRLF Take from HCP Potential Future Activities

Take numbers identified in the HCP include take for existing (EIR Table 6-10.) and future covered activities. Take numbers in the HCP are defined as mortality, injury, capture, and habitat loss. As stated in EIR section 6.3.2.3, the take numbers for CRLF reflect worst-case conditions based on past observations of events that could cause mortality or injury.

The HCP is not requesting additional take in the form of mortality, injury, or capture for CRLF from future covered activities including SNPL adult banding (CA-12b), listed plant management – propagation and outplanting (CA-15), cable fence maintenance – replacement (CA-28), Grover Beach Lodge and Conference Center (CA-38), Pismo Beach estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center (CA-43), dust control activities – new PMRP (CA-44), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49), beyond baseline conditions.

The HCP is requesting an additional 1.5 acres of CRLF aquatic habitat loss from Oso Flaco Lake boardwalk replacement (CA-48). A loss of 1.5 acres of aquatic habitat out of the 178 acres of aquatic habitat within the HCP area would be ***less than significant***.

Table 6-13. Summary of Estimated Loss of CRLF Habitat

	Activity	Total Estimated *Permanent* Loss of Habitat
CRLF aquatic habitat	Oso Flaco Lake Boardwalk Replacement (CA-48)	1.5 acres

Table 6-13. Summary of Estimated Loss of CRLF Habitat

	Activity	Total Estimated *Permanent* Loss of Habitat
CRLF upland habitat	Dust Control Activities (CA-44 – New PMRP)	3 acres
	Special Projects (CA-49)	35 acres

[1] Although the location of some meteorological monitoring stations may not be permanent, this HCP assumes that up to 3 acres of dispersal habitat could be occupied by monitoring stations at any given time. Vegetation planting associated with dust control activities is not considered a permanent loss of habitat since CRLF can use this habitat for cover and dispersal.

CDPR Public Works Plan Projects

CDPR PWP projects (B, C, E, and G) would occur outside of CRLF aquatic and upland habitat and would have ***no impact*** on CRLF. Oceano Campground Infrastructure Improvement Project (Project D) and North Beach Campground Facility Improvements (Project F) are located adjacent to Meadow Creek, Carpenter Creek, and Oceano Lagoon. CRLF have been observed in Oceano Lagoon, Arroyo Grande Creek and Estuary, and Oso Flaco Lake. In addition, in 2019, a tadpole observed in Carpenter Creek is presumed to have been a CRLF based upon its characteristics. As a result, improvements at the North Beach Campground or Oceano Campground could result in mortality or injury of dispersing adult and juvenile CRLF. Pismo State Beach Boardwalk (Project H) would occur within suitable upland habitat for CRLF and could cause direct mortality or injury of dispersing adult and juvenile CRLF during construction of the boardwalk. The Oso Flaco Campground and Day Use Project (Project A) could include constructing a pedestrian trail and vegetation buffer around Oso Flaco Lake and a trail across aquatic habitat at Oso Flaco Lake. Oso Flaco Lake is suitable habitat for CRLF; therefore, CRLF individuals, tadpoles, and egg masses in aquatic habitat could be impacted, and construction of the Oso Flaco Campground and Day Use Project could also result in mortality of injury of dispersing adult and juvenile CRLF. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, under which the impacts of each project on CRLF would be evaluated and mitigated as needed. CDPR would also seek an amendment to the HCP if CRLF take coverage is needed for a PWP project. As a result, the cumulative impact of these projects on CRLF would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to CRLF were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final CCP Environmental Assessment (USFWS, 2016). CRLF are known to occur and breed at six marshes and ponds in the NWR. The Guadalupe-Nipomo Dunes NWR Final CCP could result in some impacts to CRLF. However, the NWR CCP would benefit CRLF overall by documenting incidental sightings of CRLF, controlling for feral swine, and controlling invasive plant species. As a result, the cumulative impact of this project on CRLF would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Impacts to CRLF were analyzed as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). The Arroyo Grande Creek Channel WMP project area is considered suitable habitat for CRLF and project activities were determined to have the potential

to directly or indirectly impact CRLF. Pre-construction surveys and relocation, if necessary, were required prior to dewatering associated with the project. In addition, permanent habitat loss was required to be mitigated through development of a Mitigation and Monitoring Plan (MMP). As a result, the cumulative impact to CRLF from the Arroyo Grande Creek Channel WMP would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the AMMs included in the HCP, would have a significant, adverse impact on CRLF. Furthermore, given the implementation of AMMs, impacts on CRLF from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on CRLF.

6.4.1.4 Coast (California) Horned Lizard and Silvery Legless Lizard

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). Coast horned lizards and silvery legless lizards are not expected to occur where SNPL adults, juveniles, chicks, and eggs are present. Therefore, SNPL adult banding would have ***no impact*** on coast horned lizard and silvery legless lizard.

Listed Plant Management – Propagation and Outplanting (CA-15). Propagation and outplanting activities for surf thistle, beach spectaclepod, Nipomo lupine, and La Graciosa thistle could result in injury or mortality of coast horned lizard and silvery legless lizard if they are present within the work area. The potential to encounter these species would be highest in already vegetated or moist areas (e.g., vegetation islands); however, these species can also be found in open sand areas as they travel and disperse between more suitable habitat areas. As part of CDPR's standard practices in the HCP area, pre-construction surveys are required, if determined necessary by a CDPR Environmental Scientist, prior to conducting listed plant management activities in the vegetation islands or other suitable habitat for coast horned lizard and silvery legless lizard to avoid harm and injury to individual lizards. If an individual were observed, activities would be delayed until the individual has moved from the area or a qualified biologist moves the individual from the area. Overall, these activities could create additional vegetated and/or cover habitats for both silvery legless lizard and coast horned lizard; the activities could remove potential non-native predators and, therefore, are beneficial to this species. As a result, impacts on coast horned lizard and silvery legless lizard would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Cable fencing occurs outside of vegetated areas (i.e., typical coast horned lizard and silvery legless lizard habitat). Although open sand areas are considered suitable upland habitat for coast horned lizard and silvery legless lizard and these species could disperse through and be injured or killed by equipment associated with these activities, this habitat is thought to be infrequently used by these species for dispersal over other more suitable habitats since these areas provide minimal cover. As a result, the impact of this activity on coast horned lizard or silvery legless lizard would be ***less than significant***.

Grover Beach Lodge and Conference Center (CA-38). Impacts to silvery legless lizard and coast horned lizard were analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). Central dune scrub habitat in the Grover Beach Lodge project area was determined to have potential to support coast horned lizard and silvery legless lizard and impacts

to these species, including vehicle strike, entrapment in trenches or stockpiled materials, or trampling, could occur during construction. Pre-construction surveys were required to be conducted for silvery legless lizard and coast horned lizard. If an individual is observed during the survey, the EIR requires removal of the individual to suitable habitat outside the construction area. As a result, impact to silvery legless lizard and coast horned lizard from the Grover Beach Lodge would be ***less than significant***.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). Pismo Creek Estuary seasonal floating bridge would not occur within coast horned lizard or silvery legless lizard habitat. As a result, ***no impact*** would occur.

Riding in 40 Acres (CA-42). The 40 Acres site comprises vegetated dunes near in the Oso Flaco Lake area. Coast horned lizard and silvery legless lizard could be present in the 40 Acres site during trail construction or visitor use. Construction of the trail could result in injury or mortality of these species if they are present within the work area. As part of CDPR's standard practices in the HCP area, the work area would be clearly defined using fencing or flagging, as appropriate, to ensure impacts do not occur outside the work area. In addition, pre-construction surveys would be conducted prior to trail construction, as determined to be necessary by a CDPR Environmental Scientist, to avoid harm and injury to individual lizards. If an individual is observed during the construction of the 40 Acres trail, activities would be delayed until the individual has moved from the area or the species would be relocated out of harm's way by a qualified biologist. With implementation of these measures, impact on coast horned lizard and silvery legless lizard would be ***less than significant***.

Vegetation within the 40 Acres site would be removed along up to 2 miles of trail alignment at a maximum width of 20 feet. This would result in a loss of up to 4.8 acres of suitable coastal dune habitat for coast horned lizard and silvery legless lizard. The HCP area contains approximately 1,079 acres of suitable vegetated dune habitat (e.g., silver dune lupine - mock heather scrub) for coast horned lizard and silvery legless lizard. The potential loss of 4.8 acres of this vegetation for trail construction in the southern riding area would not result in a substantial habitat loss for the California horned lizard and silvery legless lizard. As a result, this impact would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). The safety and education center is located between Post 4 and Post 5 in open beach habitat. Replacement of the safety and education center could kill or injure coast horned lizard and/or silvery legless lizard if they dispersed through the area while construction was occurring. Although the safety and education center location is considered suitable upland habitat for coast horned lizard and silvery legless lizard, and these species could disperse through and be injured or killed by beach construction equipment. However, this habitat is likely infrequently used by these species for dispersal over other more suitable habitats since these areas provide minimal cover. As a result, the risk this activity injuring or killing a coast horned lizard or silvery legless lizard is expected to be low. Therefore, the impact of this activity on coast horned lizard or silvery legless lizard would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities could result in injury or mortality of these coast horned lizard and silvery legless lizard if they are present within the work area. The potential to encounter these species would be highest in already vegetated or moist areas, which would be unlikely to require dust control measures; however, these species can be found in open sand areas as they travel and disperse between more suitable habitat areas.

These species could also be attracted to areas where dust control measures are implemented (e.g., straw bales, wind fencing, and vegetation); therefore, maintenance of these areas could result in injury or mortality of these species. However, as part of their standard practices, CDPR would conduct pre-construction surveys, as determined to be necessary by a CDPR Environmental Scientist, prior to installing dust control measures to avoid harm and injury to individual lizards. If an individual is observed during the pre-construction survey or during the dust control activities, activities would be delayed until the lizard moves out of harm's way on its own accord and/or a qualified biologist relocates the individual. With implementation of these measures, mortality impacts on California horned lizard and silvery legless lizard would be ***less than significant***.

Dust control activities would permanently alter approximately 400 acres of upland dispersal habitat for coast horned lizard and silvery legless lizard through planting of vegetation and placement of dust control devices and monitoring equipment. Dust control measures would ultimately create additional vegetated and/or cover habitats for both silvery legless lizard and California horned lizard and would, therefore, be beneficial to this species. As a result, this impact would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). The Oso Flaco Lake boardwalk spans aquatic and beach habitat. Oso Flaco Lake boardwalk replacement in aquatic habitat would have ***no impact*** on coast horned lizard or silvery legless lizard. Boardwalk maintenance in upland habitat is discussed under Boardwalk/Other Pedestrian Access (CA-31) in EIR Appendix D.

Special Projects (CA-49). Special projects covered by the HCP would not be located in vegetation islands or directly adjacent to aquatic habitat where coast horned lizard and silvery legless lizard are most likely to occur. Special projects could be located in bare sand areas where these species could disperse. Construction of a special project could result mortality or injury of a dispersing individual if they dispersed through the construction area. As part of CDPR's standard practices in the HCP area, the work area would be clearly defined using fencing or flagging, as appropriate, to ensure impacts do not occur outside the work area. In addition, pre-construction surveys would be conducted prior to construction, as determined to be necessary by a CDPR Environmental Scientist, in order to avoid harm and injury to individual lizards. If an individual is observed during the pre-construction survey or during construction, activities would be delayed until the individual has moved from the area or the species would be relocated out of harm's way by a qualified biologist. With implementation of these measures, impact on coast horned lizard and silvery legless lizard would be ***less than significant***.

Special projects could remove up to 35 acres of bare sand habitat that could be used for dispersal, but this impact would be ***less than significant*** since suitable dispersal habitat will still be present throughout the HCP area.

CDPR Public Works Plan Projects

CDPR PWP projects (B, E, and G) would not occur within suitable coast horned lizard or silvery legless lizard habitat. Therefore, ***no impacts*** to these species from PWP Projects B, E, and G would occur. Silvery legless lizards have been observed in the designated campgrounds, and silvery legless lizard and coast horned lizard could occur in the dune scrub or other vegetated habitats throughout the HCP area. As a result, silvery legless lizard and coast horned lizard could be injured or killed during construction of the Oso Flaco Lake Campground and Day Use Project (Project A), Oceano Campground Infrastructure Improvement Project (Project D), North Beach

Campground Facility Improvement Project (Project F), and Pismo State Beach Boardwalk Project (Project H). As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on silvery legless lizard and coast horned lizard. As a result, the cumulative impact of these projects on these species would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Coast horned lizards are not known to occur in the Guadalupe-Nipomo Dunes NWR (USFWS, 2016). Silvery legless lizards are known to occur in the NWR (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some impacts to silvery legless lizard. However, the NWR CCP would benefit silvery legless lizard overall by controlling for feral swine and controlling invasive plant species. As a result, the cumulative impact of this project on silvery legless lizard would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Silvery legless lizard's potential to occur was evaluated as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). It was determined that suitable habitat for silvery legless lizard is not present within the project area. As a result, ***no impact*** to silvery legless lizard from this activity would occur.

Impacts to coast horned lizard were analyzed as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). The Arroyo Grande Creek Channel WMP project was determined to have limited suitable habitat for coast horned lizard, and project activities were determined to have the potential to directly or indirectly impact coast horned lizard within suitable habitat. Biological monitoring and relocation, if necessary, were required prior to construction activities. As a result, the cumulative impact to coast horned lizard from the Arroyo Grande Creek Channel WMP would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the CDPR's standard practices, would have a significant, adverse impact on coast horned lizard and silvery legless lizard. Furthermore, given the implementation of CDPR's standard practices, impacts on coast horned lizard and silvery legless lizard from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on coast horned lizard and silvery legless lizard.

6.4.1.5 Western Spadefoot Toad

HCP Potential Future Covered Activities

The impacts to western spadefoot toad from future activities, including SNPL adult banding (CA-12b), listed plant management – propagation and outplanting (CA-15), cable fence maintenance – replacement (CA-28), Grover Beach Lodge and Conference Center (CA-38), Pismo Creek Estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center (CA-43), dust control activities – new PMRP (CA-44), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49) are expected to be similar to CRLF above. However, western spadefoot toad is thought to be very uncommon in the HCP area; therefore, this species is less likely to be impacted by covered

activities than CRLF. As a result, these projects would have ***no impact*** on western spadefoot toad.

CDPR Public Works Plan Projects

CDPR PWP projects (B–G) would occur outside of western spadefoot aquatic and upland habitat and would have ***no impact*** on western spadefoot. Pismo State Beach Boardwalk (Project H) would occur within suitable upland habitat for western spadefoot and could cause direct mortality or injury of dispersing or burrowing adult and juvenile western spadefoot during construction of the boardwalk. The Oso Flaco Campground and Day Use Project (Project A) could include constructing a pedestrian trail and vegetation buffer around Oso Flaco Lake. Oso Flaco Lake is not considered suitable breeding habitat for western spadefoot; therefore, Oso Flaco Campground and Day Use Project would not directly impact western spadefoot tadpoles and egg masses. Construction of the Oso Flaco Campground and Day Use Project could result in mortality of injury of dispersing or burrowing adult and juvenile western spadefoot. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on western spadefoot. As a result, the cumulative impact of these projects on western spadefoot would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Western spadefoot is not known to occur within the NWR (USFWS, 2016). As a result, the Guadalupe-Nipomo Dunes NWR Final CCP would have ***no impact*** on western spadefoot.

Arroyo Grande Creek Channel Waterway Management Plan

Western spadefoot's potential to occur was evaluated as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). It was determined that suitable western spadefoot habitat is not present within the project area. As a result, ***no impact*** from this activity would occur.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the CDPR's standard practices, would have a significant, adverse impact on western spadefoot. Furthermore, given the implementation of CDPR's standard practices, impacts on western spadefoot from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on western spadefoot.

6.4.1.6 Western Burrowing Owl

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur during the avian breeding season; therefore, activities would have ***no impact*** on western burrowing owl which only occur in the HCP area in the winter.

Listed plant management – Propagation and Outplanting (CA-15). Listed plant propagation and outplanting activities within the vicinity of a burrowing or foraging burrowing owl could temporarily displace individuals from their winter habitat or from foraging, altering their normal

behavior patterns. Activities could also flush individuals from optimal habitat to less suitable habitat where they could be exposed to inclement weather or predation. However, the risk of these impacts occurring is low since western burrowing owl is uncommon with the HCP area. In addition, any listed plant outplanting and propagation activities would be expected to be temporary and short in duration. Finally, pre-construction surveys are conducted, as determined to be necessary by CDPR Environmental Scientist staff, prior to listed plant management activities. If a wintering burrowing owl is observed, activities would be delayed until the individual has moved from the area or until appropriate AMMs (e.g., biological monitoring) are in place. As a result, impacts to western burrowing owl would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Cable fence replacement would not occur within areas where western burrowing owl individuals or sign (e.g., feathers, pellets, tracks) have been observed. As a result, ***no impact*** would occur.

Grover Beach Lodge and Conference Center (CA-38). The potential for western burrowing owl to occur in the project area was analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). Suitable habitat for western burrowing owl was determined to be absent from the project area. As a result, ***no impact*** to western burrowing owl from the Grover Beach Lodge would occur.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41) and Oso Flaco Lake Boardwalk Replacement (CA-48). Pismo Creek Estuary floating bridge and Oso Flaco boardwalk replacement would not occur within western burrowing owl habitat or areas where western burrowing owl individuals or sign (e.g., feathers, pellets, tracks) have been observed. As a result, ***no impact*** would occur. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D.

Riding in 40 Acres (CA-42). If a burrowing owl is present within the vicinity of 40 Acres trail construction and riding, it could be temporarily displaced, and normal behavior patterns could be altered. However, the risk of these impacts occurring is low since western burrowing owl is uncommon with the HCP area. In addition, as part of CDPR's standard practices in the HCP area, pre-construction surveys would be conducted prior to construction, as determined to be necessary by a CDPR Environmental Scientist, to avoid harm and injury to individual burrowing owls. If an individual is observed during the pre-construction survey, activities would be delayed until the individual has moved from the area or until appropriate AMMs are in place (e.g., a no-disturbance buffer). As a result, the impacts to western burrowing owl from riding in 40 Acres would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). If a burrowing owl is present within the vicinity of the safety and education center, it could be temporarily displaced, and normal behavior patterns could be altered. However, the risk of these impacts occurring is low since western burrowing owl is uncommon with the HCP area and has rarely been observed within the open riding area. In addition, as part of CDPR's standard practices in the HCP area, pre-construction surveys would be conducted prior to construction, as determined to be necessary by a CDPR Environmental Scientist, to avoid harm and injury to individual burrowing owls. If an individual is observed during the pre-construction survey, activities would be delayed until the individual has moved from the area or until appropriate AMMs are in place (e.g., a no-disturbance buffer). As a result, the impacts to western burrowing owl from replacement of the safety and education center would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities could temporarily displace foraging individuals or individuals using woody debris or dune vegetation for cover, altering their normal behavior patterns. It is also possible for dust control activities to displace birds from safe resting locations and move them into areas where they are vulnerable to predation and recreation disturbance. However, dust control activities would be temporary and short in duration, and foraging individuals would be expected to move from the area to forage elsewhere. In addition, as part of their standard practices, CDPR would conduct pre-construction surveys for burrowing owl, if determined to be necessary by a CDPR Environmental Scientist, to avoid disturbing wintering burrowing owl. If an individual is observed, activities would be delayed or appropriate AMMs (e.g., no-disturbance buffer) would be implemented. As a result, impacts would be ***less than significant***.

Little is known about the burrowing owl habitat in the HCP area during the winter. Planting vegetation associated with dust control activities within the HCP area could reduce available suitable wintering habitat for burrowing owl, including reducing areas with woody debris or reducing open areas with suitable small mammal burrows. However, burrowing owls may also use dune vegetation for cover during the winter, and dust control activities would increase the amount of vegetative cover. Overall, the habitat impacts are expected to be ***less than significant***.

Special Projects (CA-49). Special project activities could result in destruction of burrows or removal of other wintering habitat (e.g., woody debris or vegetation) if they occur within suitable burrowing owl habitat. In addition, if a burrowing owl is present within the vicinity of special project activities, it could be temporarily displaced, and normal behavior patterns could be altered. As part of CDPR's standard practices in the HCP area, the work area would be clearly defined using fencing or flagging, as appropriate, to ensure impacts do not occur outside of the work area. In addition, pre-construction surveys would be conducted prior to construction, as determined to be necessary by a CDPR Environmental Scientist, to avoid harm and injury to individual burrowing owls. If an individual is observed during the pre-construction survey, activities would be delayed until the individual has moved from the area or until appropriate AMMs are in place (e.g., a no-disturbance buffer). With implementation of these measures, impact on burrowing owl would be ***less than significant***.

Special projects could alter suitable wintering habitat by changing the microtopography or removing organic material (e.g., woody debris); however, these activities would be implemented in areas of high visitation where burrowing owl are less likely to occur due to the ongoing level of disturbance. Therefore, the risk of this impact is low and any impacts from special projects to habitat would be ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (B–D and F–G) would occur outside of suitable burrowing owl wintering habitat and would have ***no impact*** on wintering burrowing owl. Burrowing owls have been found near the Grand Avenue ramp and Oso Flaco Lake, as a result Oso Flaco Campground and Day Use Project (Project A), Pismo State Beach Boardwalk (Project H), and Grand Avenue and Pier Avenue Kiosks (Project E) could disturb wintering burrowing owl and ultimately cause them to move from wintering cover. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze the impacts of each project on burrowing owl. As a result, the cumulative impact of these projects on burrowing owl would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Burrowing owls have been observed in the NWR (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some impacts to burrowing owl, including disturbance and flushing. However, the NWR CCP would benefit burrowing owl overall by controlling for feral swine and controlling invasive plant species. As a result, the cumulative impact of this project on western burrowing owl would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Burrowing owl's potential to occur was evaluated as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). It was determined that suitable burrowing owl habitat is not present within the project area. As a result, ***no impact*** from this activity would occur.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account CDPR's standard practices, would have a significant, adverse impact on western burrowing owl. Furthermore, given the implementation of CDPR's standard practices, impacts on western burrowing owl from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on western burrowing owl.

6.4.1.7 Nesting Birds

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur on the open sand beaches where SNPL nests occur. The only birds known to nest on the open sand beaches are ground nesting birds, such as California horned lark and killdeer. If a nest was located within or near an adult being captured for banding, this activity could result in destruction of the nest or disturbance of the chicks/incubating adults. However, this activity would be conducted by a 10 (a)(1)(A) permitting biologist (or a biologist approved by the USFWS) that would ensure any disturbance to other nesting birds was minimized. In addition, as part of CDPR's standard practices, nesting bird surveys would be conducted, as determined to be necessary by a CDPR Environmental Scientist, prior to conducting activities. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. As a result, this impact would be ***less than significant***.

Listed Plant Management – Propagation and Outplanting (CA-15). Propagation and outplanting activities, if they occur in suitable habitat for nesting birds, could result in disturbance impacts to nesting birds. Specifically, activities during the breeding season could disturb nesting birds and deter them from incubating eggs or chicks during the period of disturbance. These activities could also disturb foraging birds by displacing them from foraging habitat during the period of disturbance and/or deterring them from foraging, which could ultimately result in starvation of the attending adult or chicks. As part of their standard practice, CDPR would conduct a nesting bird survey prior to conducting the activity if any activities are determined by a CDPR Environmental Scientist to have potential to impact nesting birds. If a nest is observed, activities

would be delayed until appropriate AMMs are in place. AMMs include establishing a no-disturbance buffer, as determined by a qualified biologist, and/or conducting biological monitoring. As a result, the impact from this activity on nesting birds would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Cable fence replacement would not occur within nesting bird season. As a result, ***no impact*** from this activity would occur.

Grover Beach Lodge and Conference Center (CA-38). Impacts to nesting birds were analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). Suitable habitat for numerous nesting bird species was determined to be present in the Grover Beach Lodge project area and nesting bird surveys were required to be conducted between March and September as part of the mitigation measures in the EIR. Buffers were required if an active nest was located. As a result, impact to nesting birds from the Grover Beach Lodge would be ***less than significant***.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). Birds would not nest in the location of the Pismo Creek Estuary floating bridge since it would be built within aquatic habitat. Some birds (e.g., shorebirds) could nest within the vicinity of the Pismo Creek Estuary floating bridge; however, very limited suitable nesting habitat is available within the vicinity of the bridge location and construction activities would be temporary and relatively short in duration. In addition, all pedestrian activities would be temporary and relatively short-term in nature. As a result, impacts from the Pismo Creek Estuary floating bridge on nesting birds would be ***less than significant***.

Riding in 40 Acres (CA-42). The 40 Acres site comprises vegetated dunes in the direction of the Oso Flaco Lake area. Nesting birds could be present in the 40 Acres site during trail construction. If construction occurs during the nesting bird season, construction of the trail could result in destruction of a nest if it is present within the work area and/or disturbance of nesting birds if they are present within or near the work area. However, if activities occur during the breeding season, as part of CDPR's standard practices, nesting bird surveys would be conducted prior to conducting trail construction activities. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. With implementation of these measures, impact on nesting birds would be ***less than significant***.

Visitor use of the 40 Acres trail would be expected to have similar impacts on nesting birds as other recreation activities, including motorized vehicle recreation and pedestrian recreation, as appropriate, as described in EIR Appendix D.

Replacement of the Safety and Education Center (CA-43). The safety and education center is located between Post 4 and Post 5 in open beach habitat. Most nesting birds, including raptors, would not be expected to nest in or near the safety and education center because suitable habitat is not present (e.g., trees, shrubs). Replacement of this structure would involve minimal ground disturbance. Suitable nesting habitat is present for ground-nesting birds (e.g., California horned lark, shorebirds) near the safety and education center. However, the safety and education center is located within an area open to recreation that is subject to frequent disturbance; therefore, it is unlikely that birds would nest there. In addition, as part of CDPR's standard practices, construction activities would be conducted outside the avian nesting season, if feasible. If activities occur during the nesting season and if determined to be necessary by a CDPR

Environmental Scientist, nesting bird surveys would be conducted prior to replacing the safety and education center. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. Therefore, the impact of this activity on nesting birds would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities would not impact aquatic or riparian nesting birds, since these activities do not occur in aquatic or riparian habitat. Dust control activities could result in destruction of a bird nest if they are present within the work area. Dust control activities could also disturb nearby nesting birds and drive adult birds from the nest and, ultimately, lead to neglect or abandonment of eggs or chicks. However, dust control activities would be conducted outside the avian nesting season (September 16 to February 28/29) to the extent feasible. If dust control activities occur in the avian nesting season (generally March 1 to September 15), pre-construction surveys for nesting birds would be conducted, as appropriate. If a nesting bird is found, a buffer zone would be established around the nest until the young have fledged or the nest is no longer active. With implementation of these measures, impact on nesting birds is ***less than significant***.

Planting vegetation associated with dust control activities within the HCP area can reduce available suitable nesting habitat for some ground nesting birds, including California horned lark, by decreasing the amount of bare ground. However, California horned lark is thought to be an uncommon nester in the HCP area. In addition, installing dune vegetation and monitoring equipment could provide nesting habitat for some birds, including raptors. As a result, the habitat impacts are ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). The Oso Flaco Lake boardwalk spans both aquatic, dune scrub, and beach habitat. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D. The Oso Flaco boardwalk in aquatic habitat would be replaced in the same location where possible but may need to be replaced adjacent to the current location. If boardwalk replacement activities occurred during the breeding season, nesting birds could be present within or directly adjacent to the work area in aquatic habitat. If bird nests are present, replacement activities could result in destruction of a nest. In addition, nesting birds could be disturbed by boardwalk replacement construction activities adjacent to a nest, which could drive adult birds from the nest and, ultimately, lead to neglect or abandonment of eggs or chicks. However, as part of CDPR's standard practices, construction activities would be conducted outside the avian nesting season, if feasible. If activities occur during the nesting season and if determined to be necessary by a CDPR Environmental Scientist, nesting bird surveys would be conducted prior to replacing the boardwalk. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. With implementation of these measures, impact on nesting birds would be ***less than significant***.

Special Projects (CA-49). Special projects entail the construction of new facilities may occur in terrestrial habitats in Pismo State Beach or in Oceano Dunes SVRA. Special projects could result in destruction of a bird nest if they were constructed during the breeding season and a nest was located within the work area. Special project in the breeding season could also result in disturbance of nesting birds adjacent to the work area. Specifically, adults could leave the nest exposing eggs or chicks to predation and/or inclement weather during the period of disturbance.

Foraging adults could also be disturbed from foraging during the activities, which could lead to delays in the adults returning to the nest to provide food or incubate the eggs or chicks. As part of CDPR's standard practices, construction activities would be conducted outside the avian nesting season, if feasible. If activities occur during the nesting season and if determined to be necessary by a CDPR Environmental Scientist, nesting bird surveys would be conducted prior to special project activities. If a nest is observed, activities would be delayed until appropriate AMMs are in place. AMMs would include a no-disturbance buffer, as determined by CDPR Environmental Scientist staff, and/or biological monitoring. With implementation of these measures, the impact on nesting birds would be ***less than significant***.

Special projects would reduce the amount of nesting habitat available to ground nesting birds by precluding them from the areas within the footprint of the structures. Special projects are small and only up to 35 acres of habitat would be lost during the permit term. As a result, habitat impacts would be ***less than significant***.

CDPR Public Works Plan Projects

Nesting birds could occur anywhere in the HCP area. As a result, CDPR PWP projects (A–H) could impact nesting birds if they are constructed during the nesting bird season (generally March 1 through September 15). If trees or shrubs are removed as part of the project, the project could result in destruction of a bird nest. In addition, any construction or pedestrian activity near a bird nest during the breeding season could result in disturbance of nesting birds. Ultimately, adults could leave the nest exposing eggs or chicks to predation and/or inclement weather during the period of disturbance. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on nesting birds. As a result, the cumulative impact of these projects on nesting birds would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to wildlife, including nesting birds, were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final CCP Environmental Assessment (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some minor daytime disturbances and flushing of nesting birds; however, many birds are anticipated to be habituated to some level of human disturbance on the NWR. In addition, the NWR CCP would ultimately benefit nesting birds by controlling for feral swine, conducting avian and mammalian predator management, restricting public access on the NWR during the CLTE and SNPL nesting season (which also coincides with many other birds nesting season), and controlling invasive plant species. As a result, the cumulative impact of this project on nesting birds would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Impacts to nesting birds were analyzed as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). Nesting birds were determined to have potential to occur throughout the project area and project activities were determined to have the potential to directly or indirectly impact nesting birds. Pre-construction surveys were required prior to construction activities in the nesting bird season (March 1 to September 15). If an active nest is found, a no-disturbance buffer is required to be implemented. In addition, biological monitoring of vegetation removal was required year-round. As a result, the cumulative impact to nesting birds from the Arroyo Grande Creek Channel WMP would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the CDPR's standard practices, would have a significant, adverse impact on nesting birds. Furthermore, given the implementation of CDPR's standard practices, impacts on nesting birds from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on nesting birds.

6.4.1.8 American Badger

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b) and Replacement of the Safety and Education Center (CA-43). American badgers and/or badger dens have never been observed within the areas open to motorized recreation. American badger tracks were observed in April 2019 in the open riding area within and near BBQ flats and adjacent vegetation islands. This is the first time badger tracks or any other sign have been observed in this area, and the tracks indicate the badger was using the vegetation islands, which are closed to motorized recreation. Overall, American badgers are unlikely to occur in areas open to motorized recreation. As a result, this activity would have ***no impact*** on American badger.

Listed Plant Management – Propagation and Outplanting (CA-15). Propagation and outplanting activities in the Phillips 66 Leasehold or vegetation islands could result in disturbance to American badger and ultimately result in burrow abandonment and relocation if badgers are present within or near the work area. As part of CDPR's standard practice, pre-construction surveys would be conducted, as determined to be necessary by CDPR Environmental Scientist staff, prior to conducting listed plant management activities in suitable habitat (e.g., areas where American badger or badger dens have been observed previously) to avoid disturbance to American badger. If an individual is observed during the pre-construction survey, activities would be delayed until the individual has moved from the area or until appropriate AMMs are in place (e.g., a no-disturbance buffer). With implementation of this measure, impact on American badger would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Suitable American badger habitat is not present within the cable fence area. As a result, ***no impact*** from cable fence replacement would occur.

Grover Beach Lodge and Conference Center (CA-38). The potential for American badger to occur in the project area was analyzed as part of the Grover Beach Lodge EIR (SWCA Environmental Consultants, 2012). Suitable habitat for American badger was determined to be absent from the project area. As a result, ***no impact*** to American badger from the Grover Beach Lodge would occur.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41) and Oso Flaco Lake Boardwalk Replacement (CA-48). Pismo Creek Estuary (floating) bridge and Oso Flaco boardwalk replacement would not occur within American badger habitat or areas where American badger or badger sign (e.g., dens) have been observed. As a result, ***no impact*** would occur.

Riding in 40 Acres (CA-42). Riding in 40 Acres would not occur within an area where American badger or badger sign (e.g., dens) have been observed. As a result, ***no impact*** would occur.

Dust Control Activities – New PMRP (CA-44). Although unlikely because American badgers are uncommon in the HCP area, dust control activities could crush an American badger den or result in disturbance to American badger if they are present within or near the work area and could ultimately result in burrow abandonment and relocation. However, as part of their standard practices, CDPR would conduct pre-construction surveys for special-status species (e.g., American badger), as determined to be necessary by a CDPR Environmental Scientist, to reduce impacts to American badgers. As a result, impacts would be ***less than significant***.

Planting vegetation associated with dust control activities within the HCP area, especially within the backdune areas, most likely has a ***beneficial*** impact on American badger by increasing the amount of suitable vegetated dune habitat in the HCP area.

Special Projects (CA-49). Special projects entail the construction of new facilities that may occur in Pismo State Beach or in Oceano Dunes SVRA. Special projects are not expected to result in injury or harm to American badger or badger dens because they are not expected to occur in areas where American badger have been observed and are expected to occur within areas subject to a high level of recreation where American badgers would not occur. However, special project activities could result in removal of dens or disturbance to American badger and ultimately result in burrow abandonment and relocation if special projects occur near vegetated areas and American badger are present within or in the vicinity of the work area. As part of CDPR's standard practices, pre-construction surveys would be conducted prior to conducting special projects, as determined to be necessary by a CDPR Environmental Scientist, in order to avoid impacts to American badger. If an individual is observed during the pre-construction survey, activities would be delayed until the individual has moved from the area or until appropriate AMMs are in place (e.g., a no-disturbance buffer). With implementation of this measure, impact on American badger would be ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (B–G) would not be expected to impact American badger since limited suitable habitat exists within these locations. American badgers and/or badger dens have never been observed within the areas open to motorized recreation. American badger tracks were observed in April 2019 in the open riding area within and near BBQ flats and adjacent vegetation islands. As a result, American badger could be impacted during construction and use of the Oso Flaco Campground and Day Use Project (Project A) and Pismo State Beach boardwalk (Project H). Specifically, these projects could result in disturbance to American badger and ultimately result in burrow abandonment and relocation. However, this is unlikely, since the track observation in 2019 is the first time badger tracks or any other sign have been observed in the open riding area and/or vegetation islands, and American badgers are expected to avoid areas where a high level of recreation activity occurs. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on American badger. As a result, the cumulative impact of these projects on American badger would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

American badger is not known to occur within the NWR (USFWS, 2016). As a result, the Guadalupe-Nipomo Dunes NWR Final CCP would have ***no impact*** on American badger.

Arroyo Grande Creek Channel Waterway Management Plan

American badger's potential to occur was evaluated as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). It was determined that suitable American badger habitat is not present within the project area. As a result, ***no impact*** from this activity would occur.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the CDPR's standard practices, would have a significant, adverse impact on American badger. Furthermore, given the implementation of CDPR's standard practices, impacts on American badger from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on American badger.

6.4.1.9 Plants

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur on foot in open sand areas and would ***not impact*** special-status plant species.

Listed Plant Monitoring – Propagation and Outplanting (CA-15). Propagating listed species, including marsh sandwort, Nipomo Mesa lupine, Gambel's watercress, La Graciosa thistle, surf thistle, and beach spectaclepod, requires collecting seed or plant materials and cultivating the species in the greenhouse to ultimately transplant individuals into suitable habitat. These activities provide a net benefit for the listed plant species; however, some listed plant individuals or other special-status species growing within the same habitat could be affected during these activities. Specifically, a plant could be inadvertently missed during monitoring and pre-restoration surveys and could be stepped on by field survey crews or work crew. Gathering materials for propagation also poses a similar risk of damaging specimens during field collection since propagated individuals could be damaged or destroyed in the greenhouse or during transplanting. To reduce these impacts, CDPR conducts regular surveys for the listed plant species as part of HMS implementation. In addition, CDPR staff conducting propagation activities would be staff who are familiar with the special-status plants in the HCP area and would limit the amount of time they spend in known occupied habitat to reduce the risk of trampling a special-status plant species. As a result, effects from these activities are ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). The cable fence would be replaced in the same area where it is currently located. No special-status plant species are known to occur at this location. As a result, ***no impact*** to special-status plants would occur.

Grover Beach Lodge and Conference Center (CA-38). An EIR has been prepared for the Grover Beach Lodge and Conference Center (SWCA Environmental Consultants, 2012) project area. Of the species considered in this EIR (Table 6-12), Blochman's groundsel and Blochman's leafy daisy were found within the project area. These special-status plants could be crushed or removed during construction of the lodge and conference center. The current Grover Beach Lodge and Conference Center EIR includes measures to protect special-status plants, including avoiding areas with potential to support special-status plants (as feasible), conducting rare plant

surveys in suitable habitat within the appropriate blooming period prior to construction, and propagating and/or mitigating for rare plants as necessary. As a result, impacts to special-status plants from the construction of the Grover Beach Lodge and Conference Center would be ***less than significant***.

Pismo Creek Estuary and Seasonal (Floating) Bridge (CA-41). The Pismo Creek bridge would be a seasonal, floating pedestrian bridge across Pismo Creek estuary Installing the bridge should reduce the pedestrian impact on Pismo Creek by reducing erosion and providing an alternative to walking through the mouth of the creek for pedestrians wishing to walk up the coast. As a result, overall impacts to special-status plants in the area and their habitat would be ***beneficial*** since the bridge would prevent existing trampling of bank vegetation by pedestrians.

Although unlikely, La Graciosa thistle and red sand verbena have the potential to occur along Pismo Creek estuary. Equipment use and worker foot traffic during construction of the bridge could result in the injury or mortality of individual special-status plants if they are present in the work area. Construction activities could also result in mechanical or physical removal of vegetation and modification of the seed bank due to grading and/or excavation. Construction activities and/or pedestrian traffic across the bridge—once it is operational—could introduce invasive weeds to the area, which could outcompete special-status plant species. However, as part of its standard practices, CDPR would conduct a survey for special-status plant species prior to the start of construction during the appropriate phenological period, if determined to be necessary by a CDPR Environmental Scientist. Any special-status plant species found would be flagged and/or fenced off and avoided during construction. In addition, CDPR will also continue to provide educational content to workers and pedestrians in the area, which includes information on what they can do to prevent introducing invasive species. With implementation of these measures, impacts on special-status plants would be ***less than significant***.

Riding in 40 Acres (CA-42). Potentially suitable habitat for special-status plant species considered in this EIR, including coastal goosefoot, Blochman's leafy daisy, suffrutescent wallflower, fuzzy prickly phlox, crisp monardella, San Luis Obispo monardella, California spineflower, and Blochman’s groundsel, could occur in the 40 Acres site. Equipment use and worker foot traffic during construction of the trail could result in the injury or mortality of individual special-status plants. Construction activities could also result in mechanical or physical removal of vegetation and modification of the seed bank due to grading and/or excavation. Finally, construction activities and/or motorized vehicle traffic on the trail once it’s operational could introduce invasive weeds to the area, which could outcompete special-status plant species. However, if CDPR pursues the option of opening the 40 Acres site, planning will include surveys for special-status plant species within all areas under consideration for vehicular recreation to ensure impacts to special-status plants are minimized. In addition, trails open to vehicles will be sited with adequate buffers from any known occurrences of special-status plants. Known special-status plant occurrences found in the 40 Acres site could also be fenced to protect populations from trampling by park visitors. With implementation of these measures, impacts on special-status plants would be ***less than significant***.

An increase in use of the 40 Acres site could increase wind-blown sand that eventually covers special-status plant populations adjacent to the trail. The amount of wind-blown sand that will result from opening the 40 Acres site is unknown at this point and will depend on how much scrub is removed. The 40 Acres site is subject to additional environmental review, which would

include measures to reduce or mitigate impacts to special-status plant species. Therefore, effects on special-status plants would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). The safety and education center would be constructed in the same area where it is currently located. No special-status plant species are known to occur at this location. As a result, ***no impact*** to special-status plants would occur.

Dust Control Activities – New PMRP (CA-44). Dust control activities have the potential to directly and indirectly impact special-status plants impacted by the HCP proposed new activities (Table 6-12), including by altering habitat (e.g., changing species composition as a result of altered wind, sand transport, or moisture content). The potential magnitude of impacts on special-status plants varies depending on where activities take place. The specific location of future dust control measures is not known at this time but would occur within both the foredunes and backdunes, with the majority of activity occurring in what is currently open sand habitat. In general, the potential magnitude of impacts on special-status plants are lowest when dust control activities take place in open sand habitat because these areas support little to no dune vegetation. As program activities approach the edge of vegetation islands and other vegetated areas, the potential to impact special-status plants increases. However, as part of its standard practices, CDPR would conduct a pre-activity survey for special-status plants, if determined to be necessary by a CDPR Environmental Scientist. Any plants observed would be flagged and avoided. Overall, planting of native dune vegetation for dust control activities may benefit special-status plants by providing additional native vegetation areas, which are suitable habitat for many special-status plant species. Therefore, effects on special-status plants would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). The Oso Flaco boardwalk would be replaced both on land and within aquatic habitat. Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D. Special-status plant species impacted by the HCP proposed new activities would not be impacted by Oso Flaco boardwalk replacement; therefore, there would be ***no impacts*** on special-status plants.

Special Projects (CA-49). Given that there is no defined project being considered by special projects, potential impacts are not known at this time. New facilities have potential to directly (e.g., trampling or crushing) or indirectly affect special-status plant species impacted by the HCP proposed new activities (Table 6-12). Facilities could be installed on open sand, adjacent to vegetation islands, and/or in backdunes; therefore, special-status plants throughout the HCP area could be impacted, including, but not limited to red sand verbena, coastal goosefoot, Blochman's leaf daisy, suffrutescent wallflower, fuzzy prickly phlox, dunedelion, crisp monardella, California spineflower, and Blochman's groundsel. Equipment use and worker foot traffic during construction of the special project could result in the injury or mortality of individual special-status plants. Construction activities could also result in mechanical or physical removal of vegetation and modification of the seed bank due to grading and/or excavation. Finally, construction activities could introduce invasive weeds to the area, which could out compete special-status plant species. CDPR, however, has the flexibility to install special project facilities in locations and in a manner that avoids negatively impacting native vegetation communities and/or special-status plant habitat. In addition, as part of CDPR's standard practices, to minimize the potential impacts to special-status plants, prior to the start of any special project installation

in suitable habitat for special-status plant species as determined by a CDPR Environmental Scientist, a biologist with experience in identifying the plants will conduct surveys for special-status plant species throughout the proposed special project area. Any special-status plants encountered will be marked on a map, flagged, or fenced, and avoided. Therefore, effects on special-status plant species would be ***less than significant***.

Special projects may also result in the permanent loss of up to 35 acres of potential La Graciosa thistle habitat. CDPR, however, has the flexibility to install special project facilities in locations and in a manner that avoids negatively impacting native vegetation communities and/or special-status plant habitat. Therefore, effects on special-status plant species habitat would be ***less than significant***. Specific impacts to La Graciosa thistle critical habitat are discussed below in section 6.4.2.

CDPR Public Works Plan Projects

CDPR PWP projects (Projects B, and D–G) would not occur within suitable special-status plant habitat. Oso Flaco Campground and Day Use Project (Project A) and Pismo State Beach Boardwalk Project (Project H) could occur in areas where rare plants, including red sand verbena, La Graciosa thistle, Blochman's leafy daisy, suffrutescent wallflower, fuzzy prickly phlox, crisp monardella, San Luis Obispo monardella, and/or California spineflower have been found. Special-status plants could be crushed or removed during construction of these projects. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on special-status plants. AMMs would be proposed to reduce any potential impacts, as necessary. As a result, the cumulative impact of these projects on special-status plants would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to special-status plants were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final CCP Environmental Assessment (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some trampling of vegetation, but these impacts would be limited and temporary. However, the NWR CCP would benefit listed plants and other special-status species overall by monitoring for listed plants and recording opportunistic sightings of other native plants, controlling for feral swine, fencing Myrtle and Colorada ponds, and controlling invasive plant species. In addition, seed collection and outplanting of La Graciosa thistle would be conducted intermittently when staff time permits. As a result, the cumulative impact of this project on special-status plants would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Impacts to special-status plants were analyzed as part of the Arroyo Grande Creek Channel WMP EIR (SWCA Environmental Consultants, 2010). Special-status plants were not observed during floristic survey and are were not expected to occur within the project area; however, some suitable habitat for special-status plant species is present in the project area. As a result, project activities were determined to have potential to impact special-status plants. Updated floristic surveys were required prior to construction, and all special-status plants observed were required to be fenced or flagged for avoidance. As a result, the cumulative impact to special-status plants from the Arroyo Grande Creek Channel WMP would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the AMMs included in the HCP and CDPR's standard practices, would have a significant, adverse impact on special-status plants. Furthermore, given the implementation of AMMs and CDPR's standard practices, impacts on special-status plants from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on special-status plants.

6.4.2 Sensitive Habitats

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur on foot in open sand areas and would ***not impact*** sensitive habitats.

Listed Plant Management – Propagation and Outplanting (CA-15). Any propagation and outplanting would benefit sensitive natural communities by decreasing the number of non-native plants and increasing the number of native and rare plant populations in in the HCP area. As a result, impacts to upland sensitive natural vegetation communities would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). Replacement of the cable fence would occur within open sand areas within SNPL critical habitat. This covered activity area may also be considered ESHA by the CCC. Replacement of the cable fence would occur in approximately the same location; therefore, there would be no new permanent impacts from this activity, and impacts to sensitive natural communities/ESHAs would be ***less than significant***.

Grover Beach Lodge and Conference Center (CA-38). An EIR has been prepared for the Grover Beach Lodge and Conference Center (Project C) project area. The EIR identifies sensitive natural communities/ESHAs, including central coast willow riparian scrub, central dune scrub, northern coastal salt marsh, and wetlands, within the project area. Construction and use of the lodge and conference center could directly and indirectly affect sensitive natural communities/ESHAs in the project area by removing vegetation within these communities, creating erosion, and/or introducing non-native, invasive species. The current Grover Beach Lodge and Conference Center EIR includes numerous measures and/or mitigation to reduce the impacts to sensitive natural communities/ESHAs. As a result, impacts to sensitive natural communities/ESHAs from the construction of the Grover Beach Lodge and Conference Center would be ***less than significant***.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). Pismo Creek Estuary seasonal floating bridge would have ***no impact*** on sensitive natural communities/ESHAs beyond impacts to jurisdictional waters, which are not affected by proposed new covered activities and are thus not considered in this analysis.

Riding in 40 Acres (CA-42). The 40 Acres is an area that was planted with native vegetation for dune stabilization and is currently closed to motorized recreation. The 40 Acres trail system is still in the concept stage, and no specific design has been selected for implementation. For analysis purposes, the HCP and this EIR assumes the design may include up to 2 miles of trail with basic amenities installed along the trail such as a picnic table or interpretive features. This

development in 40 Acres could remove up to 5 acres of vegetation in the silver bush lupine – mock heather dune scrub vegetation alliance, which occurs in Central Coast Dune Scrub, a CDFW listed sensitive natural community and may be considered an ESHA by CCC due to the potential presence of special-status plants.

Use of equipment, vehicle traffic, and worker foot traffic during construction of the 40 Acres trail may directly or indirectly affect vegetation outside of the trail footprint, including activities that could result in altered growth or reduced seed set of vegetation, damage to underground root structures, or direct disturbance or modification of vegetation. Disturbance by project activities may cause an increase in invasive weed cover. Invasive plants degrade habitat quality for native plants by altering vegetative structure and often outcompeting native plants. As part of their standard practices, CDPR would implement best management practices (BMPs) during construction activities, as necessary, to reduce impacts. These BMPs could include fencing off adjacent areas, erosion control, and/or biological monitoring. As a result, impacts on sensitive natural communities would be ***less than significant***.

Establishing a trail in the 40 Acres site could increase wind-blown sand that eventually covers native vegetation adjacent to the trail. The amount of wind-blown sand that would result from opening the 40 Acres site is unknown at this point and would depend on how much scrub is removed. The 40 Acres site is subject to additional environmental review, which would include measures to reduce or mitigate impacts to sensitive natural vegetation communities. Therefore, effects on sensitive natural communities would be ***less than significant***.

Proposed trail development in 40 Acres could remove up to 5 acres of vegetation in the silver bush lupine – mock heather dune scrub vegetation alliance. Therefore, a limited amount of permanent effects on sensitive natural communities would occur. The 40 Acres site is subject to additional environmental review, which will include measures to reduce or mitigate impacts to sensitive natural vegetation communities. As a result, impacts would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). Replacement of the safety and education center would occur within open sand areas within SNPL critical habitat and directly adjacent to Pavilion Hill which is critical habitat for La Graciosa thistle. This covered activity area may also be considered an ESHA by the CCC. Replacement of the safety and education center would occur in the same location; therefore, new permanent impacts from this activity would not occur. In addition, CDPR Environmental Scientist staff would ensure no permanent impacts occur to native vegetation in Pavilion Hill by flagging/fencing the area, if necessary. As a result, permanent impacts to sensitive vegetation communities would be ***less than significant***.

Construction vehicles and workers associated with the replacement of the Safety and Education Center may inadvertently spread invasive plants (e.g., on tires or equipment) by moving seeds or plant segments if they move from one place with invasive species to a less impacted area. To reduce these impacts, as part of their standard practices, CDPR would implement BMPs to avoid introducing invasive species during construction activities if activities could impact vegetation, including at Pavilion Hill. As a result, impacts to sensitive vegetation communities would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities have the potential to directly and indirectly impact sensitive natural vegetation communities, including by altering habitat (e.g., changing species composition as a result of altered wind, sand transport, or moisture content). The potential magnitude of impacts on sensitive vegetation communities

varies depending on where activities take place. The specific location of all future dust control measures is not known at this time, but would occur in the foredunes and backdunes, including with ESHA and critical habitat for La Graciosa thistle and SNPL. In general, the potential magnitude of impacts on sensitive vegetation communities are lowest when dust control activities take place in open sand habitat because these areas support little to no dune vegetation, and any impacts to this habitat would not be significant. As program activities approach the edge of vegetation islands and other vegetated areas, the potential to impact sensitive plant communities increases. Some dust control activities (e.g., deployment of temporary monitoring sites) would also require a minor amount (e.g., less than 0.5 acre) of native vegetation removal. However, as part of their standard practices, CDPR would implement BMPs during construction activities, as necessary, to reduce impacts. These BMPs could include fencing off adjacent areas, erosion control, and/or biological monitoring. In addition, new dust control activities identified in the Draft PRMP (CDPR, 2019) are subject to environmental review, which could include measures to reduce or mitigate impacts to sensitive natural vegetation communities. As a result, impacts to sensitive vegetation communities would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). Impacts from maintenance of the portion of Oso Flaco boardwalk in upland habitat are described in Boardwalk/Other Pedestrian Maintenance (CA-31) in EIR Appendix D. Replacing the Oso Flaco Lake boardwalk would have ***no impact*** on sensitive natural communities/ESHAs beyond impacts to jurisdictional waters, which are not affected by proposed new covered activities and are thus not considered in this analysis.

Special Projects (CA-49). Given that there is no defined project considered by CA-49, potential impacts cannot be specifically described or classified. Special projects are most likely to be required in areas where recreation use is high and, therefore, sensitive vegetation communities are already degraded. Any special projects proposed would be evaluated during the project design phase by a CDPR Environmental Scientist to ensure that impacts to native vegetation are minimized. In addition, no more than 35 acres of habitat within the HCP area would be impacted during the permit term. As a result, direct impacts to sensitive natural communities are expected to be minor.

Use of equipment, vehicle traffic, and worker foot traffic during construction of a special project may directly or indirectly affect vegetation outside of project footprint, including activities that could result in altered growth or reduced seed set of vegetation, damage to underground root structures, or direct disturbance or modification of vegetation. Disturbance by project activities may cause an increase in invasive weed cover. Invasive plants degrade habitat quality for native plants by altering vegetative structure and often outcompeting native plants. As part of their standard practices, CDPR would implement BMPs during construction activities, as necessary, to reduce impacts. These BMPs could include fencing off adjacent areas, erosion control, and/or biological monitoring. As a result, effects on sensitive natural communities would be ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (B and D–G) do not occur within a sensitive natural community. Therefore, ***no impact*** to sensitive natural communities would occur from these PWP projects. Oso Flaco Campground and Day Use Project (Project A) and Pismo State Beach Boardwalk (Project H) contain sensitive natural communities, including, but not limited to central dune scrub, central foredunes, wetlands, and riparian woodland habitat. ESHAs, including riparian woodland,

freshwater lakes, sand dunes, and wetlands are also present within or adjacent to the project areas. Construction and use of these projects could directly and indirectly affect sensitive natural communities/ESHAs in the project area by removing vegetation within these communities, creating erosion, and/or introducing non-native, invasive species. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on sensitive natural communities/ESHAs. As a result, the cumulative impact of these projects on sensitive natural communities/ESHAs would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Impacts to habitats, including sensitive natural communities/ESHAs, were analyzed as part of the Guadalupe-Nipomo Dunes NWR Final CCP Environmental Assessment (USFWS, 2016). The Guadalupe-Nipomo Dunes NWR Final CCP could result in some trampling of vegetation and or introduction of non-native species, but these impacts would be limited and/or temporary. Overall, the NWR CCP would benefit native habitats by controlling for feral swine, restoring native habitat, fencing Myrtle and Colorada ponds, and controlling invasive plant species. In addition, some platforms have been installed in wetlands areas to direct visitation in these areas. As a result, the cumulative impact of this project on sensitive natural communities/ESHAs would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Sensitive natural communities/ESHAs in the Arroyo Grande Creek Channel WMP project area consist of jurisdictional waters. Therefore, impacts to sensitive natural communities and ESHAs in the project area are discussed in below in EIR section 6.4.3.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account CDPR's standard practices, would have a significant, adverse impact on sensitive natural communities. Furthermore, given the implementation of CDPR's standard practices, impacts on sensitive natural communities from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on sensitive natural communities.

6.4.3 Wildlife Movement

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur on foot in open sand areas. This activity could deter wildlife from moving through the area during the period of disturbance; however, it would not create an impediment to wildlife movement. As a result, the impact is ***less than significant***.

Listed Plant Management – Propagation and Outplanting (CA-15). Propagation and outplanting activities would not have the potential to substantially interfere with the movement of native fish

or wildlife species or established wildlife corridors or impede the use of native wildlife nursery sites. As a result, impacts would be ***less than significant***.

Cable Fence Maintenance – Replacement (CA-28). The cable fence does not block wildlife movement and is not located in a nursery site. Replacement of the cable fence would have a temporary impact on wildlife since they may be deterred from moving through the area during activities. However, no barriers or impediments to wildlife movement would occur. As a result, the impact on wildlife movement or nursery sites is ***less than significant***.

Grover Beach Lodge and Conference Center (CA-38). The Grover Beach Lodge and Conference Center is not located in a nursery site. Construction of the Grover Beach Lodge would have a temporary impact on wildlife since they may be deterred from moving through the area during activities. In addition, the Grover Beach Lodge itself could block some common wildlife species from crossing through the area. However, the project area is already in an urban area and surrounded by other development. As a result, the impact on wildlife movement or nursery sites would be ***less than significant***.

Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41). The bridge could inhibit fish movement, especially during low flows when water levels in the estuary are low. However, the bridge would be designed to allow movement of all fish species, as well as an exchange of fresh and saltwater by construction the interlocking pieces of the bridge with wide openings. In addition, if water levels are so low that the bridge is not allowing the free movement of fish, the bridge would be removed until there is sufficient water to allow the bridge to float. As a result, wildlife movement impacts associated with the floating bridge would be ***less than significant***.

Riding in 40 Acres (CA-42). Trail development would enable riding in this area of the HCP that is presently closed. Recreational use of the trail would create temporary human presence. As a result, wildlife could be deterred from moving through the area at times when recreation is high or during trail development. However, no barriers or impediment to wildlife movement would occur. As a result, the impacts would be ***less than significant***.

Replacement of the Safety and Education Center (CA-43). The kiosk structure is open frame and does not block wildlife movement. It is not located in a nursery site. Maintenance, repairs, and replacement would have a temporary impact on wildlife since they may be deterred from moving through the area during activities. However, no barriers or impediments to wildlife movement would occur. As a result, the impact on wildlife movement or nursery sites is ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities would not have the potential to substantially interfere with the movement of native fish or wildlife species or established wildlife corridors or impede the use of native wildlife nursery sites because activities such as installing vegetation and temporary monitoring equipment would not represent a substantial barrier to wildlife migration or movement. As a result, impacts would be ***less than significant***.

Oso Flaco Lake Boardwalk Replacement (CA-48). Wildlife could be deterred from moving through the area during boardwalk replacement. Boardwalk replacement would be an in-kind replacement of the current structure. The new structure would be located in the same alignment at its current location; therefore, no new wildlife barriers would be constructed. As a result, the impact is ***less than significant***.

Special Projects (CA-49). Special projects could result in temporary disruption of wildlife movement during project construction by deterring them from migrating through the area. Special projects are anticipated to be small and would not create a permanent barrier to migration. As a result, impacts would be ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (B–F) are located in already developed areas and would have ***no impact*** wildlife movement. PWP projects (A, G, and H) could result in temporary disruption of wildlife movement during project construction by deterring them from migrating through the area. However, these projects would not be expected to result in a new permanent wildlife barrier. As part of the project planning process, the PWP projects would be subject to a separate CEQA review, which would analyze and mitigate as appropriate the impacts of each project on wildlife movement. As a result, the cumulative impact of these projects on wildlife movement would be ***less-than-significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Guadalupe-Nipomo Dunes NWR Final CCP actions could result in temporary disruption of wildlife movement by deterring them from migrating through the area. However, the NWR would continue to protect and create native habitat and would not create a permanent barrier to migration. As a result, impacts would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

Arroyo Grande Creek Channel WMP actions could result in temporary disruption of wildlife movement by deterring them from migrating through the area. However, the WMP would be implemented to improve habitat in Arroyo Grande Creek and would not create a permanent barrier to migration. As a result, impacts would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities, would have a significant, adverse impact on wildlife movement. Furthermore, given the implementation of AMMs included in the HCP and CDPR's standard practices, impacts on wildlife movement from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on wildlife movement.

6.4.4 Wintering/Migratory Birds

HCP Potential Future Covered Activities

SNPL Adult Banding (CA-12b). SNPL adult banding would occur during the avian breeding season; therefore, activities would have ***no impact*** on wintering/migratory birds.

Listed Plant Management – Propagation and Outplanting (CA-15), Cable Fence Maintenance – Replacement (CA-28), Grover Beach Lodge and Conference Center (CA-38), Pismo Creek Estuary Seasonal (Floating) Bridge (CA-41), Riding in 40 Acres (CA-42), Replacement of the Safety and Education Center (CA-43), and Oso Flaco Lake Boardwalk Replacement (CA-48). Activities could temporarily displace foraging or wintering birds, altering their normal behavior patterns. It is also possible for activities to flush wintering or foraging birds from optimal habitat to less suitable habitat. However, any disturbances would be temporary and additional foraging

and roosting habitat would be present away from activities. As a result, impacts would be ***less than significant***.

Dust Control Activities – New PMRP (CA-44). Dust control activities could temporarily displace foraging or wintering birds, altering their normal behavior patterns. Dust control activities could also displace birds from safe roosting locations and move them into areas where they are vulnerable to vehicle strike. Most birds fly out of harm's way to another safe location; therefore, this vehicle strike impact would not occur frequently. In addition, most dust control activities would be localized and short in duration. As a result, impacts would be ***less than significant***.

Closing off and planting approximately 4 acres of foredune vegetation could constrict the available area for wintering/migratory bird roosting/foraging. However, vehicles speed limits would be enforced in the HCP area and most flocks and/or individual birds would be expected to fly out of harm's way. As a result, this impact would be ***less than significant***.

Special Projects (CA-49). Special projects entail the construction of new facilities that may occur in Pismo State Beach or in Oceano Dunes SVRA. Special projects are not anticipated to result in injury or harm to foraging/migratory birds since individuals and/or flocks would be expected to move from the construction area to another location and/or special projects would not be constructed in a manner that would injure or kill a foraging or roosting individual or flock. Special project activities could result in disturbance of foraging or roosting wintering/migratory birds. Specifically, individuals or flocks could be displaced from foraging or roosting habitat during the period of disturbance and/or could be deterred from foraging or roosting during the period of disturbance. However, most activities would be temporary and short in duration and suitable foraging and roosting habitat would be present away from the activities. As a result, impacts would be ***less than significant***.

Special projects would reduce the amount of foraging/roosting habitat available to wintering/migratory birds for foraging and roosting by precluding them from the areas within the footprint of the structures. Most special projects are expected to be placed in open sand habitat where shorebirds and/or some waterbirds are expected to forage and/or roost and are not expected to impact every type of wintering/migratory bird, such as songbirds. However, special projects are small and wintering/migratory birds would only lose up to 35 acres of foraging or roosting habitat during the permit term. As a result, habitat impacts would be ***less than significant***.

CDPR Public Works Plan Projects

CDPR PWP projects (A–H) would not result in injury or mortality of foraging/migratory birds. PWP projects (A–H) could result in disturbance of foraging or roosting wintering/migratory birds. Specifically, individuals or flocks could be displaced from foraging or roosting habitat during the period of disturbance and/or could be deterred from foraging or roosting during the period of disturbance. However, most activities would be temporary and short in duration, and suitable foraging and roosting habitat would be present away from the activities. As a result, impacts to foraging/migratory birds would be ***less than significant***.

Guadalupe-Nipomo Dunes National Wildlife Refuge Final Comprehensive Conservation Plan

Guadalupe-Nipomo Dunes NWR Final CCP could result in disturbance of foraging or roosting wintering/migratory birds. However, most activities would be temporary and short in duration

and suitable foraging and roosting habitat would be present away from the activities. As a result, the cumulative impacts to foraging/migratory birds would be ***less than significant***.

Arroyo Grande Creek Channel Waterway Management Plan

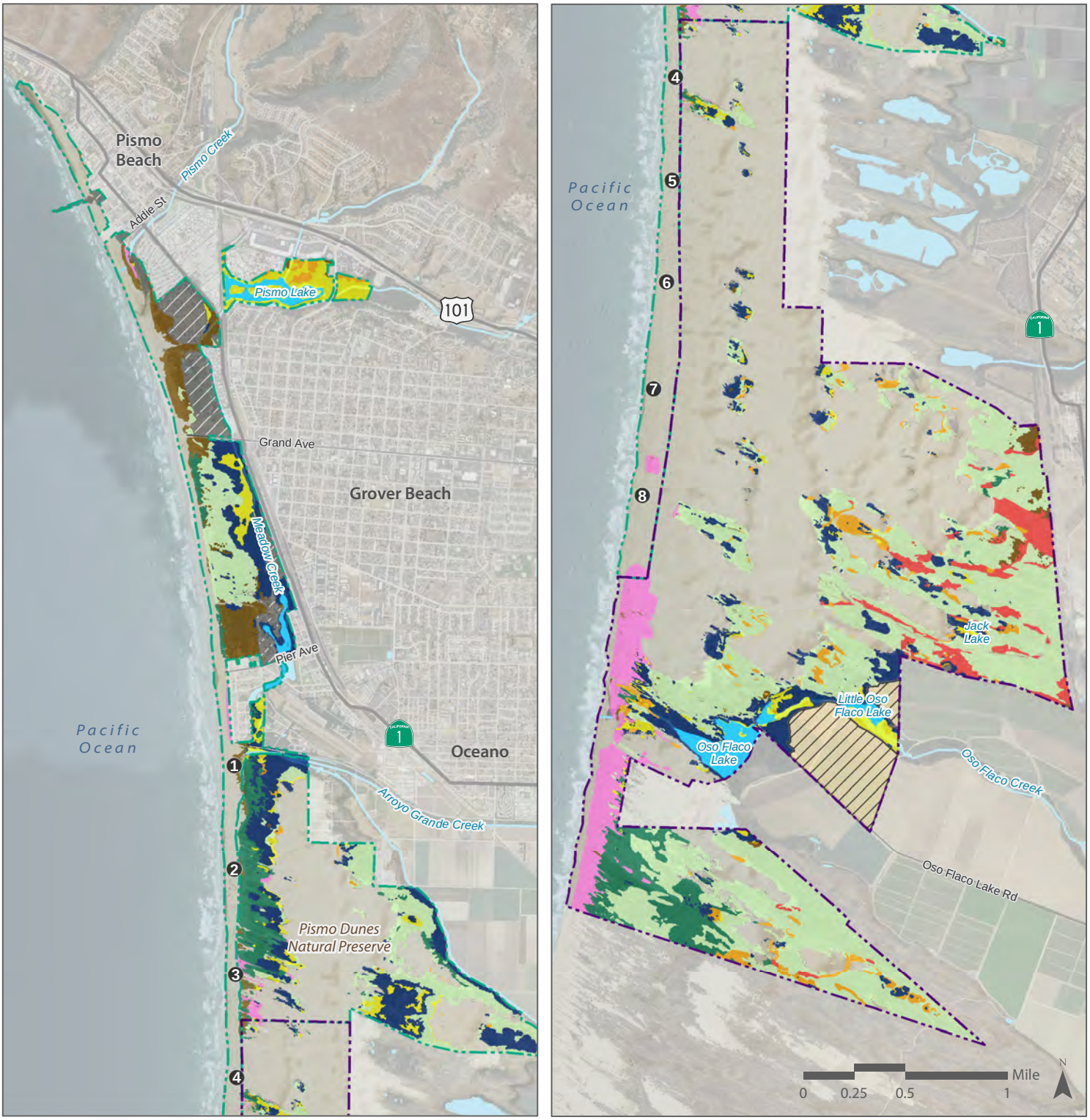
The Arroyo Grande Creek Channel WMP could result in disturbance of foraging or roosting wintering/migratory birds. However, most activities would be temporary and short in duration, and suitable foraging and roosting habitat would be present away from the activities. As a result, the cumulative impacts to foraging/migratory birds would be ***less than significant***.

Conclusion

As described above, none of the future projects, including potential future HCP covered activities when taking into account the CDPR's standard practices, would have a significant, adverse impact on wintering/migratory birds. Furthermore, given the implementation of CDPR's standard practices, impacts on wintering/migratory birds from the proposed new HCP activities, even when combined with future HCP covered activities, would remain less than significant. As a result, the new proposed activities would not have a significant cumulative impact on wintering/migratory birds.

6.5 MITIGATION MEASURES

No significant impacts have been identified for the project based on the analysis contained in EIR sections 6.3 and 6.3.5 above, which includes the OHMVR Division's implementation of the AMMs described in EIR section 6.3.2. Overall, the AMMs have been successful at offsetting the impacts on all covered species from existing covered activities and allowing CDPR to contribute to covered species recoveries locally and range-wide. For example, the seasonal exclosure that is erected each breeding season to protect SNPL and CLTE has been successful at protecting breeding habitat for SNPL and CLTE and increasing reproductive success for these species. The ongoing predator management program is expected to be successful at offsetting impacts associated with a potential increase in predators in the HCP area. In addition, the habitat restoration efforts and fencing of the vegetation islands appears to be successful at offsetting impacts to listed plant species. The effectiveness of these existing AMMs in reducing impacts on special-status species has been demonstrated. The existing AMMs along with new proposed AMMs would mitigate the effects of new proposed covered activities. As a result, additional mitigation measures are not necessary, and no mitigation is required.



Vegetation Types

- Agriculture
- Arroyo willow thicket
- Dune mat
- European beach grass sward
- Native upland alliance
- Native wetland alliance
- Non-native alliance
- Open water
- Perennial veldt grass stand
- Silver dune lupine-mock heather scrub
- Disturbed/developed

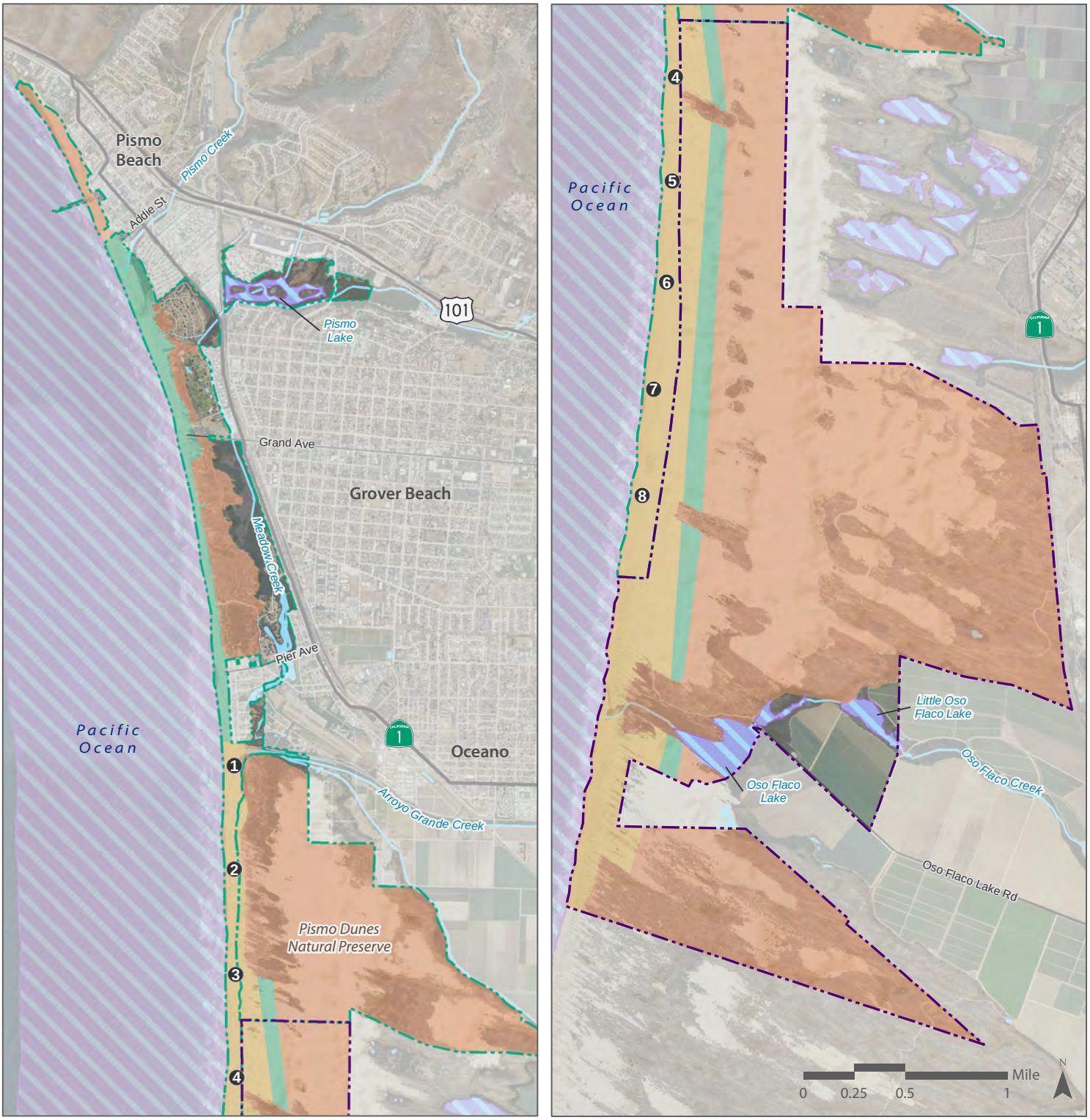
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 6-1 Vegetation Types

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



CLTE Habitat

- Primary habitat
- Secondary habitat
- Tertiary habitat
- Foraging habitat

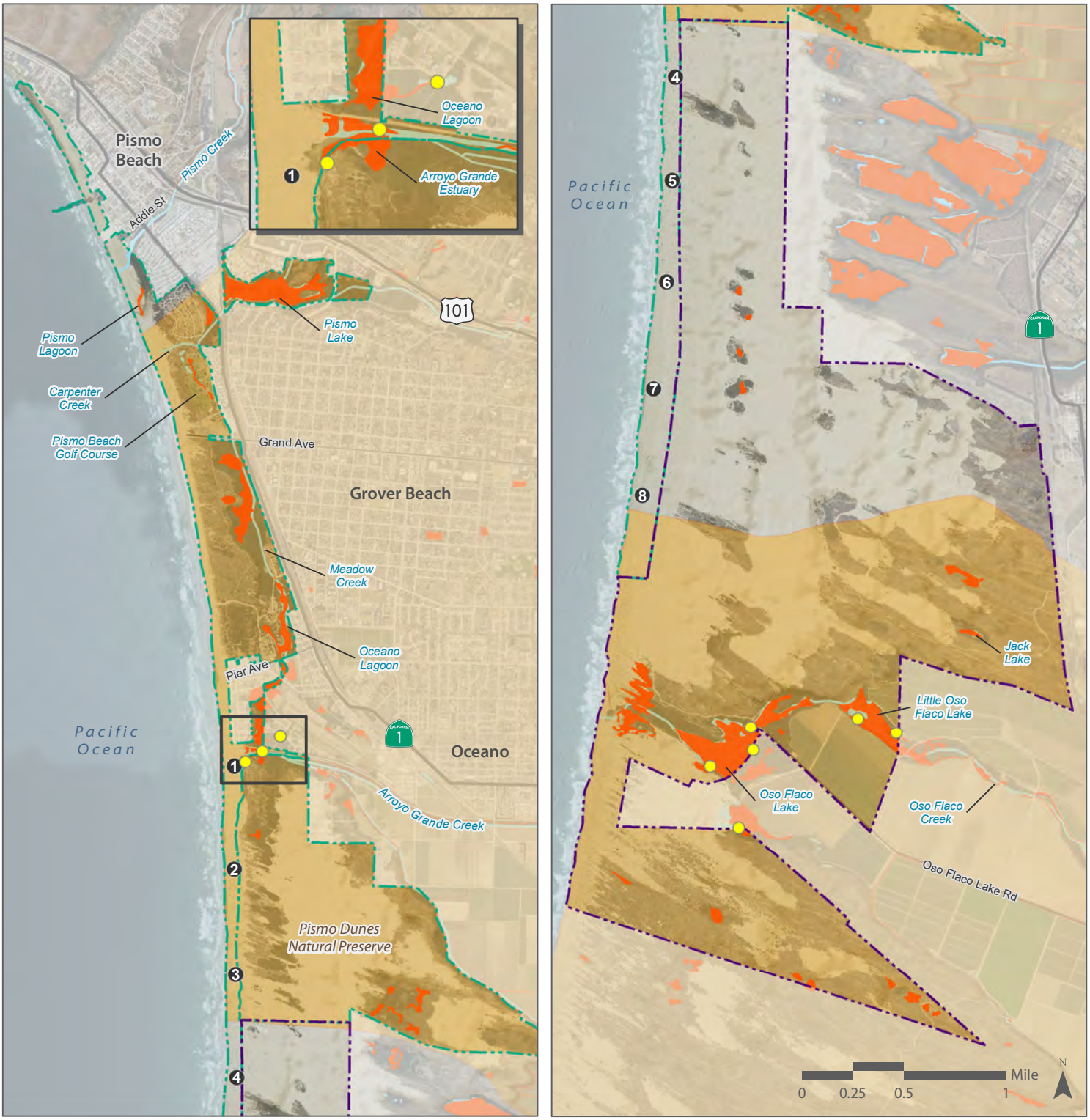
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 6-2 Western Snowy Plover and California Least Tern Breeding and Foraging Habitat

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



CRLF Habitat

- CRLF occurrence - survey data
- Potential CRLF breeding habitat - USFWS National Wetland Inventory
- CRLF recovery plan unit - core area 23

Base Map Features

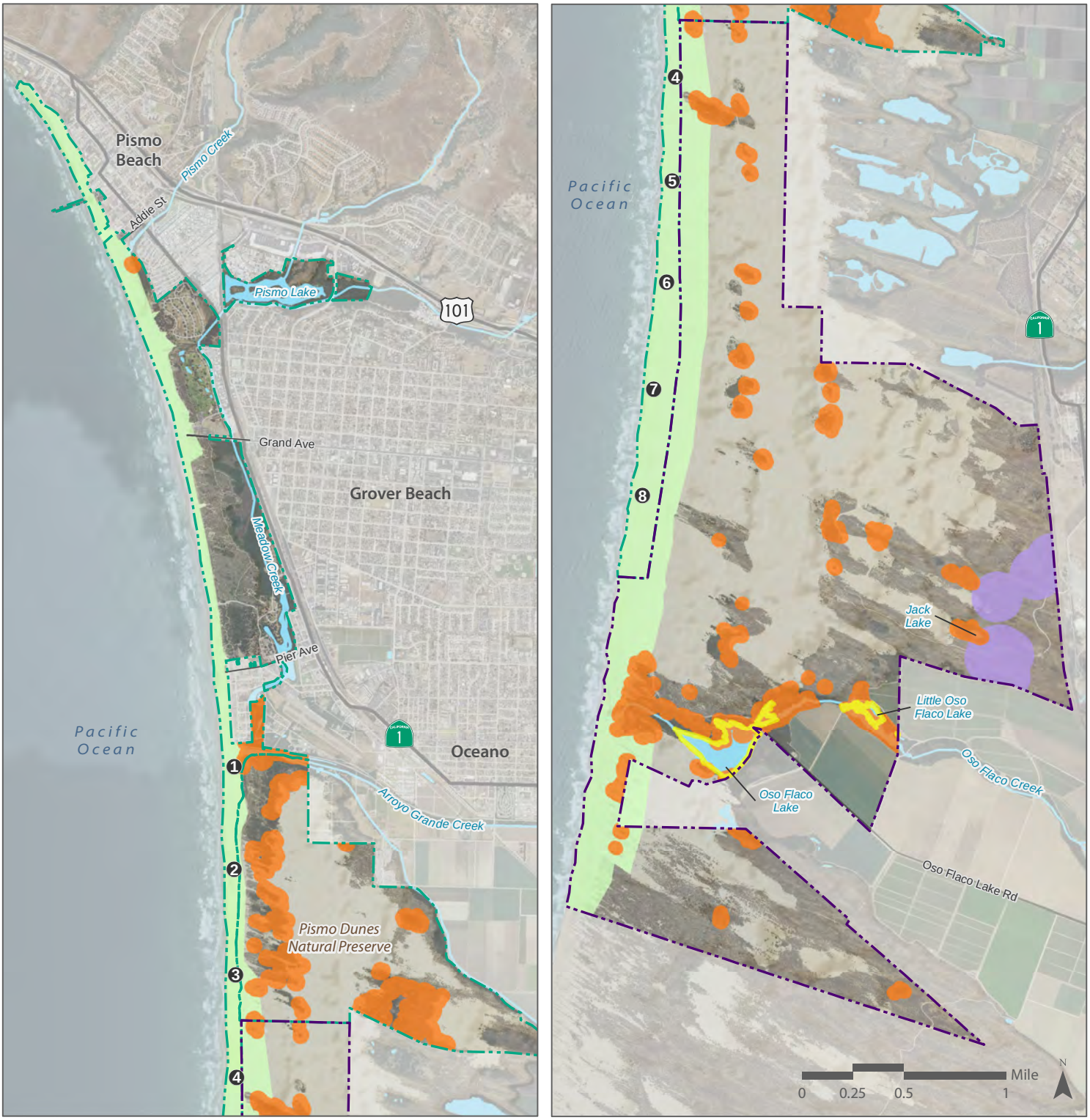
- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

Note: CRLF upland habitat is located throughout the HCP area wherever wetlands are absent. Wetland habitat includes: riverine, lake, freshwater pond, freshwater emergent, and estuarine wetlands.

February 2020
Source: USFWS, 2016 CDPR, 2020; MIG, 2020

Figure 6-3 California Red-legged Frog Occurrences, Potential Habitat, and Recovery Plan Unit

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



Sensitive Plant Habitat

- Marsh sandwort / Gambel's watercress: 11 acres
- La Graciosa thistle: 559 acres
- Surf thistle / Beach spectaclepod: 896 acres
- Nipomo Mesa lupine: 117 acres

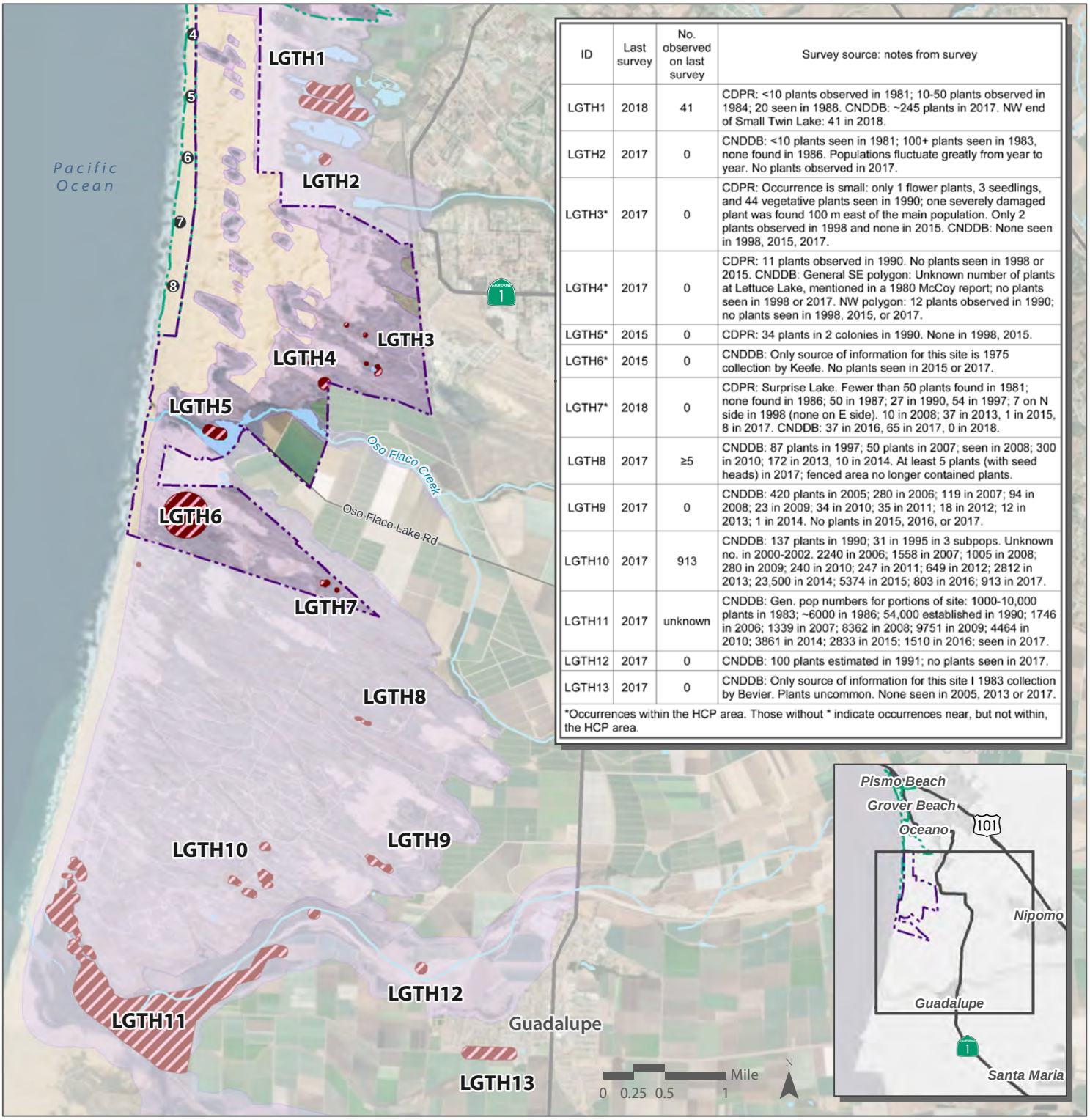
Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 6-4 Modeled Plant Habitat in the HCP Area

CDPR, Oceano Dunes District Habitat Conservation Plan EIR



ID	Last survey	No. observed on last survey	Survey source: notes from survey
LGTH1	2018	41	CDPR: <10 plants observed in 1981; 10-50 plants observed in 1984; 20 seen in 1988. CNDDB: ~245 plants in 2017. NW end of Small Twin Lake: 41 in 2018.
LGTH2	2017	0	CNDDB: <10 plants seen in 1981; 100+ plants seen in 1983, none found in 1986. Populations fluctuate greatly from year to year. No plants observed in 2017.
LGTH3*	2017	0	CDPR: Occurrence is small: only 1 flower plants, 3 seedlings, and 44 vegetative plants seen in 1990; one severely damaged plant was found 100 m east of the main population. Only 2 plants observed in 1998 and none in 2015. CNDDB: None seen in 1998, 2015, 2017.
LGTH4*	2017	0	CDPR: 11 plants observed in 1990. No plants seen in 1998 or 2015. CNDDB: General SE polygon: Unknown number of plants at Lettuce Lake, mentioned in a 1980 McCoy report; no plants seen in 1998 or 2017. NW polygon: 12 plants observed in 1990; no plants seen in 1998, 2015, or 2017.
LGTH5*	2015	0	CDPR: 34 plants in 2 colonies in 1990. None in 1998, 2015.
LGTH6*	2015	0	CNDDB: Only source of information for this site is 1975 collection by Keefe. No plants seen in 2015 or 2017.
LGTH7*	2018	0	CDPR: Surprise Lake. Fewer than 50 plants found in 1981; none found in 1986; 50 in 1987; 27 in 1990, 54 in 1997; 7 on N side in 1998 (none on E side). 10 in 2008; 37 in 2013, 1 in 2015, 8 in 2017. CNDDB: 37 in 2016, 65 in 2017, 0 in 2018.
LGTH8	2017	≥5	CNDDB: 87 plants in 1997; 50 plants in 2007; seen in 2008; 300 in 2010; 172 in 2013, 10 in 2014. At least 5 plants (with seed heads) in 2017; fenced area no longer contained plants.
LGTH9	2017	0	CNDDB: 420 plants in 2005; 280 in 2006; 119 in 2007; 94 in 2008; 23 in 2009; 34 in 2010; 35 in 2011; 18 in 2012; 12 in 2013; 1 in 2014. No plants in 2015, 2016, or 2017.
LGTH10	2017	913	CNDDB: 137 plants in 1990; 31 in 1995 in 3 subpops. Unknown no. in 2000-2002. 2240 in 2006; 1558 in 2007; 1005 in 2008; 280 in 2009; 240 in 2010; 247 in 2011; 649 in 2012; 2812 in 2013; 23,500 in 2014; 5374 in 2015; 803 in 2016; 913 in 2017.
LGTH11	2017	unknown	CNDDB: Gen. pop numbers for portions of site: 1000-10,000 plants in 1983; ~6000 in 1986; 54,000 established in 1990; 1746 in 2006; 1339 in 2007; 8362 in 2008; 9751 in 2009; 4464 in 2010; 3861 in 2014; 2833 in 2015; 1510 in 2016; seen in 2017.
LGTH12	2017	0	CNDDB: 100 plants estimated in 1991; no plants seen in 2017.
LGTH13	2017	0	CNDDB: Only source of information for this site I 1983 collection by Bevier. Plants uncommon. None seen in 2005, 2013 or 2017.

*Occurrences within the HCP area. Those without * indicate occurrences near, but not within, the HCP area.

La Graciosa Thistle

- La Graciosa thistle critical habitat
- La Graciosa thistle occurrence

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: USFWS, 2009; CDPR 2020; CNDDB, 2019; MIG, 2020

Figure 6-5 La Graciosa Thistle Occurrences and Critical Habitat in and near the HCP Area

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

This page intentionally left blank

Chapter 7 CULTURAL AND TRIBAL RESOURCES

7.1 REGULATORY SETTING

Federal, state, and local laws and regulations governing cultural resources exist to protect cultural, historic, and paleontological resources from damage and destruction. Violation of these laws and regulations would constitute a significant impact to cultural and paleontological resources. The laws and policies that pertain to the cultural resources potentially present on the project site or affected by the project are discussed below.

7.1.1 California Environmental Quality Act

CEQA establishes statutory requirements for the formal review and analysis of projects. CEQA recognizes archaeological resources as part of the environment. A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (PRC § 21084.1).

CEQA Guidelines (§ 15064.5(b)(2)) state that the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historic Resources (CRHR).

7.1.1.1 Historical Resources

Pursuant to CEQA Guidelines section 15064.5 (a), the term "historical resources" includes the following:

- A resource listed or determined to be eligible by the State Historical Resources Commission (SHRC) for listing, in the CRHR (PRC § 5024.1, 14 CCR § 4850 *et seq.*).
- A resource included in a local register of historical resources, as defined in PRC section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1 (g), shall be presumed historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets one of the criteria for listing on the CRHR (PRC § 5024.1, 14 CCR § 4852), including the following:
    a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

- The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC § 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC § 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined by PRC section 5020.1(j) or 5024.1.

7.1.1.2 Unique Archaeological Resources

Pursuant to CEQA (PRC § 21083.2(g)), a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required (PRC § 21083.2(c)). If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment, and it shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR (14 CCR § 15064.5(c)(4)).

7.1.1.3 Assembly Bill 52 / Cultural Tribal Resources

AB52 creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the CRHR
    b. Included in a local register of historical resources as defined in PRC section 5020.1(k)
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC section 5024.1 (c). In applying the criteria set forth in PRC section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above may also be a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC section 21084.1, a unique archaeological resource as defined in PRC section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC section 21083.2(h) may also be a tribal cultural resource if it conforms to the above criteria.

AB52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation. AB52 states: "To expedite the requirements of this section, the [Native American Heritage Commission (NAHC)] shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area."

7.1.2 National Register of Historic Places Criteria

The criteria for determining whether a property is eligible for listing in the NRHP are found in Title 36 of CFR section 60.4 and are reproduced below:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> - That are associated with events that have made a significant contribution to the broad patterns of our history; or
> - That are associated with the lives of persons significant in our past; or
> - That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or
> - That have yielded, or may be likely to yield, information important in prehistory or history.

For a property to qualify for the NRHP, it must meet at least one of the above National Register Criteria for Evaluation by being associated with an important context and retaining historic integrity of those features necessary to convey its significance.

7.1.3 California Register of Historical Resources

The Office of Historic Preservation administers the CRHR, which was established in 1992 as an authoritative guide to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected from substantial adverse change. The CRHR includes all cultural resources that have been formally determined

eligible for, or listed in, the NRHP, State Historical Landmark Number 770 or higher, Points of Historical Interest recommended for listing by the SHRC, resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the SHRC, and resources and districts designated as city or county landmarks when the designation criteria are consistent with CRHR criteria.

Typically, a resource also has to be at least 50 years old to be eligible for listing, although some properties of "exceptional importance" may be eligible even if the period of significance was achieved less than 50 years ago. Additionally, properties must possess several of the seven aspects of integrity to be eligible for listing in the NRHP and/or the CRHR. Integrity is defined as "…the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." The seven levels of integrity are location, design, setting, materials, workmanship, feeling, and association. Resources that are listed in the NRHP are automatically eligible for the CRHR (PRC § 5024.1(c)).

7.1.4 California Public Resources Code (PRC)

7.1.4.1 Public Resources Code Sections 5024 and 5024.5

PRC section 5024 requires each state agency to make a good faith effort to formulate policies to preserve and maintain all state-owned historical resources under its jurisdiction and to submit to the State Historic Preservation Officer (SHPO) an inventory of all state-owned structures over 50 years of age under its jurisdiction. Additionally, section 5024 permits the SHPO to determine which historical resources identified in inventories meet NRHP and state historical landmark criteria for inclusion on the master list of historical resources. The SHPO will maintain this master list comprised of all inventoried structures submitted and determined significant pursuant to PRC section 5024 (d), along with all state-owned historical resources currently listed in the NRHP or registered as a state historical landmark under state agency jurisdiction. PRC section 5024.5 sets limits on and establishes a protocol for any state agency action that may adversely affect historical resources identified pursuant to section 5024.

CDPR has had an active and ongoing historic preservation program with the SHPO since 1982 and is required to submit annual inventory updates as well as preservation and protection measures of historical resources to SHPO. To comply with PRC section 5024, state agencies can establish a Cultural Resource Management Program. CDPR's program includes Cultural Resource Management Guidelines that ensure that all cultural resources under CDPR jurisdiction are inventoried, evaluated, monitored, and protected.

7.1.4.2 Public Resources Code Section 5090

PRC section 5090.35(f) requires the OHMVR Division to protect cultural and archaeological resources within SVRAs.

7.1.4.3 Public Resources Code Section 5097.5

PRC section 5097.5 states, "It is illegal for any person to knowingly and willfully excavate or remove, destroy, injure, or deface cultural resources." Furthermore, the crime is a misdemeanor punishable by a fine not to exceed $10,000 and/or county jail time for up to 1 year. In addition to a fine and/or jail time, the court can order restitution, and restitution will be granted of the

commercial and archaeological value of the property. The OHMVR Division's law enforcement officers are the primary personnel responsible for the protection of OHMVR Division cultural resources on a daily basis.

7.1.5 California Health and Safety Code

Health and Safety Code section 7050.5 regulates procedures in the event of human remains discovery. Pursuant to PRC section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the County Coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are determined to be Native American, the County Coroner is required to contact the NAHC. The NAHC is responsible for contacting the most likely Native American descendent, who would consult with the local agency regarding how to proceed with the remains.

7.1.6 CDPR Native American Consultation Policy and Implementation

It is CDPR policy to involve Native California Indian groups in all plans and practices that have impacts on the cultural resources under CDPR's stewardship (CDPR, 2007). Prior to implementing projects or policies that may have impacts to Native American sites within the State Park System, CDPR will actively consult with local Native California Indian groups regarding the protection, preservation, and/or mitigation of cultural sites and sacred places in the State Park System. Departmental Notice 2007 *Native American Consultation Policy and Implementation Procedures* (CDPR, 2007) identifies the following nine areas of activity where consultation between local Native California Indian groups and CDPR is required:

- Acquisition of properties where cultural sites are present
- During the General Plan process and/or development of Management Plans
- Planning, design, and implementation of capital outlay projects
- Issues of concern identified by the tribes
- Plant and mineral gathering by Native people
- Access to Native California Indian ceremonial sites
- Archaeological permitting
- Mitigation of vandalism and development of protective measures at Native American sites
- When using the Native voice in presenting the story of California native Indian people in park units

7.1.7 Executive Order B-10-11

Executive Order B-10-11 acknowledges the important relationship that many Native American California Tribes have with their native home of California. As described in the Executive Order, the term "Tribes" includes all Federally Recognized Tribes and additional California Native Americans. The Executive Order affirms that the State of California recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority over their members and territory. Most importantly, it is ordered that it is the policy of this Administration that every state agency and department subject to the Governor's control shall encourage communication and consultation with California Indian Tribes.

7.1.8 California Coastal Act

As described in greater detail in Chapter 7, Land Use and Planning, the California Coastal Act (PRC § 30000 *et seq.*) governs development within the Coastal Zone.

Chapter 2, section 30116 of the California Coastal Act defines "sensitive coastal resource areas" to mean those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity, including archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the SHPO.

Chapter 3 of the Act, Coastal Resources Planning and Management Policies, sets forth the policies that constitute the standards for development subject to the Coastal Act. The applicable standards (or parts of standards) of this chapter related to cultural resources include:

- Reasonable mitigations are required where development would adversely impact archaeological or paleontological resources as identified by the SHPO (PRC § 30244)

7.1.8.1 Coastal Development Permit (CDP) 4-82-300

Oceano Dunes SVRA operates subject to CDP 4-82-300, issued in 1982 by the CCC, and last amended in 2001. Since CDP 4-82-300 predates the County LCP, the CCC retains permit jurisdiction for activities governed by the permit. CDP 4-82-300, as amended, requires the OHMVR Division to protect archaeological resources located within Oceano Dunes SVRA with fencing.

7.2 ENVIRONMENTAL SETTING

7.2.1 Ethnographic

The HCP area is located within the Northern Chumash or Obispeño and Purisimeño language territory. The Obispeño practiced a regular seasonal round of population dispersal and aggregation in response to the location and seasonal availability of different food resources (Hoover 1990) (Greenwood, 1972) (Greenwood, 1978). They exploited a variety of fish, and shellfish (Pismo clam, mussel, and abalone, etc.) and hunted small and big game. (Fitzgerald, Farquhar, & Farrell, 2003) (Greenwood, 1978). (Fitzgerald, Farquhar, & Farrell, 2003). Their diet also included gathered acorns, seeds (acorn, chia), and plants (roots, tubers, greens) (Hoover, 1990) (Moratto, 1984).

In 1770, the Chumash population totaled between 15,000 and 20,000. A Chumash village could include up to 1,000 residents, representative of the most populous settlement in the aboriginal Far West (Moratto, 1984). Villages were not occupied year-round and likely disbanded into smaller social groups and dispersed to other areas for seasonal hunting or gathering (Fitzgerald, Farquhar, & Farrell, 2003).

There were six major Chumash villages adjacent to the project area. Starting in the north and working southward, these villages include: *Pismu', Chiliquini, Lachito, Stemectatimi* (or *Nipomo*), *Ajuaps* (or *Tmaps*), and *Atajes*. Chumash villages were headed by a chief (*wot* or *wocha*) who embodied an inherited authority over the entire village (Kroeber, 1925, p. 556).

The first of several Spanish encounters with the Obispeño near the HCP area occurred between 1769 and 1770 during Don Gaspar de Portolá's sojourn in the area (Gibson, 2002). By the early 1800s, the entire Chumash population, with the exception of those who had fled into the

mountains and the inland valleys, were incorporated into the mission system (Grant, 1978, p. 505). The mission period ended in 1834 with the passage of the Secularization Act. During this period, disease was wide-spread, killing many Chumash; alcoholism also contributed to Indian fatality [(Wallace P. , 1971) as cited in (Grant, 1978, p. 507)].

With the arrival of Anglo-Americans to California in 1847, the Chumash population continued to decline through their exploitation as cheap laborers, by alcohol abuse, and through disease-related deaths. In 1855, land near the Santa Ynez Mission became the permanent settlement for 109 Chumash. This reserve, known as Zanja de Cota, was at one point 75 acres in size and was the smallest official Indian reserve in the state (Grant, 1978, p. 507). The reserve has since grown to over 1,000 acres with a large land purchase in 2010 (Khan, 2018)).

7.2.2 Prehistoric

In general, there are three major prehistoric cultural divisions that are marked by highly distinctive tool assemblages: the Millingstone Culture, the Hunting Culture, and the Late Period (Jones, Stevens, Jones, Fitzgerald, & Hylkema, 2007, p. 135). The earliest documented survey and excavation conducted in areas within and adjacent to the project area were completed by William J. Wallace and Edith S. Taylor in 1958 (Wallace & Taylor, 1958). Based on several temporally diagnostic projectile points, these sites are associated with the Hunting Culture (3000 cal B.C. to cal A.D. 1250). A number of additional excavations were conducted on sites following Wallace and Taylor's 1958 study within and adjacent to the HCP area. Together, these excavation studies conclude the archaeology located within and adjacent to the HCP area dates between the Early/Middle Hunting Culture, cal. 3000 B.P. and the Late Period, cal A.D. 1250 to 1769.

7.2.3 Historic

A large portion of the Portolá exploration occurred in present-day San Luis Obispo County and represents the earliest recorded Spanish expedition for the County. Many of San Luis Obispo County's place names as well as those in the HCP area were given by Portolá and his crew. The group named present-day Oso Flaco (Spanish for "skinny bear") and Dune lakes after a lean bear they killed in the area (Dart, 1978, p. 10).

The first Mission to be established near the HCP area was Mission San Luis Obispo de Tolosa on September 1, 1772 (Robinson, 1957, p. 6). California Indians remained property of California's missions until 1834, when the Mexican Congress decreed secularization to be the new law for land in California (Robinson, 1957, pp. 10-11). The establishment of San Luis Obispo and Santa Barbara Counties shortly followed the 1848 Treaty of Guadalupe Hidalgo, at which point California became a territory of the United States. The Treaty put an end to a 3-year-long war between the United States and Mexico (Hoover, 1990) (Robinson, 1957, pp. 15, 17).

Between 1886 and 1894 the Southern Pacific Railroad was extended southward, starting at San Miguel and ending in San Luis Obispo. The coming of the Southern Pacific Railroad to San Luis Obispo County in 1895 led to the founding of the town of Oceano (Hammond, 1992, pp. 10-11). Establishment of the railroad triggered construction of a railroad depot and shortly thereafter a hotel, a store, and a saloon. Following these developments, speculators purchased land around the railroad right-of-way and formed a collective group in charge of surveying the area and mapping the new townsite known today as Oceano (Hammond, 1992, p. 11).

The expansive and isolated landscape of the dunes in present-day Oceano Dunes SVRA at one time made for an attractive place to live for a group of wayward individuals known as Dunites. The Dunites included an assortment of people who occupied areas throughout the dunes beginning in the early 20th century to the mid-1970s. The Dunites sought isolation, solitude, and solace amongst the dunes, either living alone or in small communities in make-shift homes erected from driftwood and additional locally found resources.

The events of World War II greatly impacted the Dunites. Following the attack on Pearl Harbor, the government determined California's Central Coast was vulnerable to attack and fortification was necessary. During this time the dunes were closed to visitors, and many Dunites left (Hammond, 1992, p. as cited in (Gruver et al. 2005: 7)). Following the war, life in the dunes began to change dramatically. The number of visitors to the dunes increased as people from the San Joaquin Valley came to escape the summer heat [(Hammond, 1992) as cited in Gruver et al. 2005: 7)]. The last Dunite, Bert Schievink, left the dunes in 1974. The Dunite cabins have long since vanished under sand, and those that did not disappear below the surface were burned for fun by the public (Hammond, 1992).

7.2.4 Cultural Resources

There are at least 48 existing cultural resources within the HCP area. Documentation for 45 of the resources is provided by a Cultural Resource Inventory (CRI) prepared in 2011 for the OHMVR Division (Perez, 2011). The CRI covered both Oceano Dunes SVRA and Pismo State Beach. The other three resources have since been discovered within the HCP area due to natural erosion. Details regarding the three resources have been provided by CDPR (Baker, 2018).

Of the known resources, 43 are prehistoric, 4 are historic, and 1 is multi-component (i.e., contains elements of both prehistoric and historic periods). Twenty-five of the prehistoric sites are considered eligible for inclusion on either the CRHR or NRHP or both. One prehistoric site is considered ineligible for any register. The remaining prehistoric sites require further archaeological investigation before a determination of eligibility can be made.

Additionally, there were 29 archaeological sites previously discovered prior to the 2011 CRI, which were not included in the CRI as they were unable to be relocated due to the highly mobile dune environment. Because of the shifting sands, there is potential for some or all of the sites to still be present beneath the surface. Although there have been a number of cultural surveys in the HCP area, the shifting environment may mean that cultural resources in the area are present that have not yet been discovered. The HCP area, therefore, has a high degree of sensitivity in terms of archaeological cultural resources.

7.2.4.1 Research and Study

Previous research and study have been carried out in the HCP area for prior CDPR projects. This EIR uses research that was gathered for the 2011 Cultural Resource Inventory (CRI) of Oceano Dunes SVRA, Pismo State Beach, Dunes Preserve, and Pismo Lake (Perez, 2011). Findings and background information was also utilized from the 2016 Oceano Dunes SVRA Dust Control Program EIR (MIG|TRA, 2016).

No additional research was carried out for the Oceano Dunes HCP EIR because of the CRI and ongoing documentation that occurs as new resources are identified.

7.2.4.2 Fieldwork

Fieldwork was not conducted specifically for this EIR; however, the OHMVR Division has performed two recent surveys within the HCP area. The first survey is the 2011 Oceano Dunes District CRI. The areas that were archaeologically surveyed during the 2011 Oceano Dunes District CRI were chosen based on a predictive model adapted from previous archaeological surveys of areas within the project boundary.

The second survey occurred in April 2013, when archaeological and Native American monitoring was conducted during installation of dust control equipment. The survey was conducted by Elise Wheeler and Matthew Goldman on May 2, 8, and 16, 2013. As a result of the archaeological monitoring program, all culturally sensitive areas were avoided during this 2013 monitoring. The results of the project monitoring were recorded in an archaeological monitor report (Perez, 2013). CDPR provided copies of the archaeological survey and archaeological monitor reports to representatives of the Northern Chumash Tribal Council, Santa Ynez Tribal Elders Council, yak tityu tityu – Northern Chumash Tribe, and the Odom family. The project concluded in October 2013.

Prior research and field studies show areas of archaeological sensitivity, where there is a higher chance of discovery of archaeological finds. GIS data has been created by CDPR using information from previous studies to show areas of archaeological sensitivity. Figure 7-1 Sensitive Cultural Resource Areas shows areas that have been mapped for archaeological sensitivity within the HCP boundary. To ensure protection of sensitive cultural resources, the specific resource locations are not shown.

7.2.4.3 Archaeological Discoveries

Due to the nature of the sand dunes within the HCP area, archaeological discovery often happens by accident, when sands shift and reveal cultural resources that were previously subsurface. When these are discovered, State Parks archaeologists record and catalog the discoveries and provide the Northwest Information Center with their findings for recordation within the California Historical Resources Information System (CHRIS) database. Consistent with PRC section 5090.35(f), CDPR resource staff ensure any newly discovered cultural resources are protected, including by erecting fencing or other barriers if needed. Since the last archaeological field survey in 2013, some new cultural sites have been discovered within the HCP area, all of which CDPR archeologists have cataloged and recorded and forwarded to the Northwest Information Center. These new resources are included in the cultural resources summary above.

7.2.4.4 Native American Scoping

A search of the NAHC Sacred Lands File (EIR Appendix E) indicated the presence of Native American cultural sites within portions of the HCP area. A Native American contact list of tribes who may have additional knowledge of the area was provided by the NAHC. CDPR initiated additional communication to request information that may not have been known at the time of previous communication. CDPR sent letters to the following tribes:

- Santa Ynez Band of Chumash Indians
- Barbareno/Ventureno Band of Mission Indians (3 representatives)
- Salinan Tribe of Monterey (2 representatives)
- Xolon-Salinan Tribe

- Coastal Band of the Chumash Nation
- Northern Chumash Tribe
- Northern Chumash Tribal Council

None of the tribes contacted responded to the request for information.

7.2.4.5 Assembly Bill 52 (AB52) Consultation

One tribe has formally requested consultation under AB52: the Northern Chumash Tribe. CDPR contacted the tribe on April 12, 2017 with information regarding the project and to initiate the AB52 consultation process. The tribe did not respond to the formal notification, and no AB52 consultation took place. Correspondence to the Northern Chumash Tribe is included in EIR Appendix E.

7.2.4.6 CDPR Native American Consultation

One tribal representative, Fred Collins of the Northern Chumash Tribal Council, attended a public scoping meeting for the HCP EIR on February 7, 2018 and requested consultation under AB52 (EIR Appendix A, Attachment 4). As no formal request for AB52 consultation was filed by the Northern Chumash Tribal Council, CDPR did not conduct an AB52 consultation for the HCP EIR. However, internal CDPR regulations require that Native American consultation takes place whenever a project may impact native resources. No additional communication from Mr. Collins has been received.

7.2.5 Reviews of Site Conditions

Sand dune systems are mobile and susceptible to movement. Thus, the process of relocating previously recorded sites and locating new cultural resources within the HCP area is difficult. Given the mobile dune environment, it is common for a resource to be identified in an area where no resources were previously noted. Additionally, the sand dune terrain has made it difficult for previous archaeological studies to adequately walk in methodically measured transects as is the standard for an archaeological pedestrian field survey of an entire HCP boundary.

7.3 PROJECT IMPACTS

7.3.1 Thresholds of Significance

Consistent with CEQA Guidelines Appendix G, the project would have a significant impact to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is

geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC section 5020.1(k); 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 PRC section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

7.3.2 Historical, Archaeological, and Tribal Resources

Pursuant to CEQA Guidelines section 5064.5(b), a substantial adverse change in the significance of a historical resource is defined as "the demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that its significance is materially impaired." In general, a historical resource's significance is materially impaired when it can no longer convey its historical significance and therefore can no longer justify its inclusion in, or eligibility for inclusion in, the CRHR, the local register of historical resources pursuant to PRC section 5020.1(k), or its identification in a historical resources survey meeting the requirements of PRC section 5024.1(g).

Within the HCP area there are 48 known cultural resources: 43 are prehistoric sites, 4 are historic period sites, and 1 is a multi-component site. Forty-four sites contain prehistoric elements, which could be considered Tribal Cultural Resources. It is considered likely that there are additional cultural resources as yet undiscovered within the HCP area, existing below the surface.

In general terms, implementation of the HCP would not impact existing cultural resources. The four new covered activities proposed by the HCP are discussed below.

SNPL Chick and Egg Capture for Captive Rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b). This activity would occur in the open riding area outside of the seasonal exclosure north of Post 6. This area has a low sensitivity to cultural resources. SNPL chick and egg capture would not result in ground disturbance and therefore would have ***no impact*** on cultural resources.

General Facilities Maintenance – Mechanical Trash Removal (CA-21). Mechanical trash removal would only occur in areas that are already disturbed by recreation and would not be allowed in any areas with known, covered or uncovered, cultural sites. A cultural monitor would review all proposed trash removal areas to confirm all known cultural sites, including sites currently buried, are avoided. Mechanical trash removal would thus not significantly increase the potential for disturbance of cultural resources. As described in EIR section 7.2.4.3, should an unknown cultural resource site be discovered, it would be recorded, assessed and protected from further disturbance. As a result, the proposed mechanical trash removal would have a ***less-than-significant impact*** on cultural resources.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). 6 Exclosure is not within an area of medium or high cultural sensitivity (Figure 7-1). The edges of the East Boneyard area overlap areas of medium and high cultural sensitivity (Figure 7-1) There are two sites partially within the East Boneyard boundary, CA-SLO-864 (lithic scatter) and CA-SLO-2851 (habitation debris).

Both sites are covered by the mobile dune environment and were not relocated during the 2011 CRI and are not fenced off. Recreational access already occurs in the East Boneyard Exclosure and 6 Exclosure areas 5 months out of the year during the non-breeding season for CLTE and SNPL. Allowing year-round access to the East Boneyard Exclosure and 6 Exclosure areas would not introduce new impacts to cultural resources in these areas. As a result, the proposed change in exclosure fencing would have a ***less-than-significant impact*** on cultural resources.

CDPR UAS Use for Park Activities (CA-52). CDPR's use of drones for data collection does not involve ground disturbance in culturally sensitive areas. As a result, drone use would have ***no impact*** on cultural resources.

7.3.3 Human Remains

One burial site is known within the HCP area containing at least one human burial. There is potential for undiscovered human remains to exist within the HCP area. However, as discussed above in EIR section 7.3.2, activities currently proposed by the HCP would not significantly impact subsurface or surface archaeological resources. Mechanical trash removal would sift through surface sand, albeit in areas already disturbed by vehicles. Should human remains be discovered CDPR will follow the procedure as outlined in California Health and Safety Code section 7050.5 to determine the appropriate course of action for dealing with the find. The HCP activities would not significantly increase the potential of discovery of human remains within the HCP area.

Future activities proposed by the HCP identified in EIR section 2.4.2.3 have the potential to unearth human remains, but those future activities are subject to further environmental review, and potential impacts to human remains would be considered under separate CEQA documents (see EIR section 2.5).

Implementation of the HCP would therefore have a ***less-than-significant impact*** on human remains.

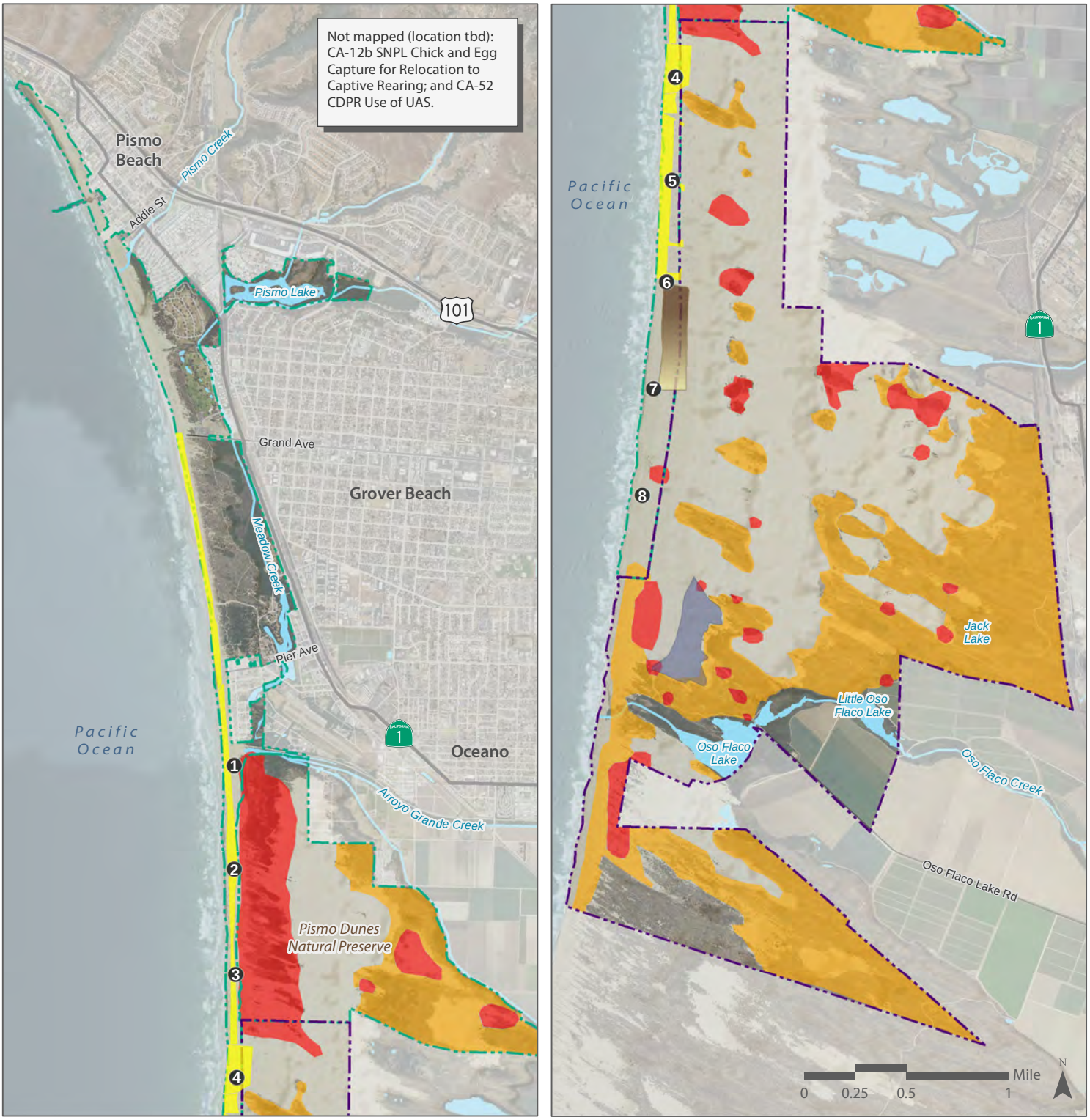
7.4 CUMULATIVE IMPACTS

The HCP-proposed new activities would not adversely impact cultural resources and therefore would not combine with impacts from other past, present, or foreseeable future projects to incrementally increase the impact on cultural resources. For these reasons, the HCP would have ***no cumulative impact*** on cultural resources.

Future potential activities covered by the HCP (EIR section 2.4.2.3) have the potential to impact cultural resources, but those future activities are subject to further environmental review, and potential impacts to cultural resources would be considered under separate CEQA documents (see EIR section 2.5).

7.5 MITIGATION MEASURES

No potentially significant impacts to cultural resources have been identified for the project based on the analysis contained in EIR sections 7.3 and 7.4. No mitigation is required.



Senstitive Cultural Resource Areas

- Medium Cultural Resource Sensitivity
- High Cultural Resource Sensitivity

Proposed New Covered Activities

- CA-21 Mechanical trash removal*
- CA-50 6 Exclosure reduction*
- CA-50 Boneyard Exclosure reduction*

*Approximate location

Base Map Features

- Oceano Dunes SVRA
- Pismo State Beach
- Marker post
- Waterbody
- Stream
- Highway
- Access road

February 2020
Source: CDPR, 2020; MIG, 2020

Figure 7-1 Sensitive Cultural Resource Areas

CDPR, Oceano Dunes District Habitat Conservation Plan EIR

This page intentionally left blank

Chapter 8 RECREATION AND PUBLIC ACCESS

8.1 REGULATORY SETTING

8.1.1 California's Recreation Policy

In the belief that all Californians should be provided with an array of opportunities allowing them to pursue their personal recreational interests, the Legislature delegated responsibility for preparing the state's Recreation Policy to the State Park and Recreation Commission. PRC section 540 directs the Commission to formulate, in cooperation with other state agencies, interested organizations and citizens, and recommend to the Director of CDPR for adoption, a comprehensive recreational policy for the State of California. The 2005 California Recreation Policy is intended to be broad in scope and considers the full range of recreation activities—active, passive, indoors and out-of-doors (CDPR, 2005c). It is a comprehensive policy directed at recreation providers at all levels: federal, state, and local agencies, as well as private and nonprofit suppliers. The policy mandates opportunities and access to recreation activities for all activities and populations, while preserving natural and cultural resources.

8.1.2 Off-Highway Motor Vehicle Recreation (OHMVR) Division

The OHMVR Division of CDPR promotes managed, environmentally responsible, and sustainable OHV use. OHMVR Division programs are carried out with the advisory oversight of the OHMVR Commission and are funded directly by the recreation community through gasoline taxes, green and red sticker fees, and entrance fees at SVRAs like Oceano Dunes SVRA. Consistent with its mission statement (see EIR section 2.2.1), the OHMVR Division provides education, training, and information to promote safe and environmentally responsible OHV recreation. Marketing and outreach conducted by the OHMVR Division promotes widespread understanding of environmental protection and safe and appropriate OHV recreation.

PRC section 5090.02 enumerates certain findings of the State Legislature with regards to OHV recreation, including its ever-increasing popularity and potential to have a deleterious impact on the environment if OHV recreation and access to non-motorized recreational activities is indiscriminate and uncontrolled. PRC section 5090.02(b) also sets forth the state Legislature's declaration that effectively managed areas and adequate facilities for the use of OHVs and conservation and enforcement are essential for ecologically balanced recreation. Accordingly, with passage of the OHMVR Act of 2003, the state legislature intended, in part, that: 1) Existing OHV recreational areas, facilities, and opportunities be expanded and managed to sustain long-term use (PRC § 5090.02(c)(1)); 2) New OHV recreational areas, facilities, and opportunities be provided and managed in a manner that sustains long-term use (PRC § 5090.02(c)(2)); 3) The OHMVR Division supports both motorized recreation and motorized OHV access to non-motorized recreation (PRC § 5090.02(c)(3)); and 4) When areas cannot be maintained to appropriate standards for sustained long-term use, they should be repaired to prevent accelerated erosion or closed and restored.

In addition, PRC section 5090.35(a) provides that protection of public safety, the appropriate utilization of lands, and the conservation of natural and cultural resources are of the highest priority in the management of SVRAs, and the OHMVR Division shall promptly repair and continuously maintain areas and trails and anticipate and prevent accelerated and unnatural

erosion and other OHV impacts to the extent possible. The OHMVR Division shall also take steps necessary to prevent damage to significant natural and cultural resources within SVRAs.

SVRAs consist of areas selected, developed, and operated to provide OHV recreation opportunities. Areas must be developed, managed, and operated for the purpose of providing the fullest appropriate public use of the vehicular recreational opportunities present in accordance with the OHMVR Act, while providing for the conservation of cultural resources and the conservation and improvement of natural resource values over time (PRC § 5090.43 (a)). To protect natural and cultural resource values, CDPR may establish sensitive areas within SVRAs. If OHV use results in damage to any natural or cultural resources or damage within sensitive areas, appropriate measures must be taken to protect these lands from any further damage. These measures may include erecting physical barriers and must include restoring natural resources and repairing damage to cultural resources (PRC § 5090.43).

8.1.3 State Beaches and Seashores

PRC section 5001.6 sets forth that state park system units may be located within, and be a part of, a state seashore.

Section 5001.6(b)(7) of the PRC establishes the San Luis Obispo State Seashore, which comprises lands extending from Cayucos to Lion's Head, including Cayucos State Beach, Morro Strand State Beach, Atascadero State Beach, Morro Bay State Park, Montana de Oro State Park, Avila State Beach, Pismo State Beach, [Oceano] Dunes SVRA, and Point Sal State Beach.

The PRC defines state seashores as areas that "consist of relatively spacious coastline areas with frontage on the ocean, or on bays open to the ocean, including water areas landward of the mean high tide line and seasonally connected to the ocean, possessing outstanding scenic or natural character and significant recreational, historical, archaeological, or geological values" (PRC § 5019.62). The purpose of state seashores is to preserve the outstanding values of the California coastline and to make possible the enjoyment of coastline and related recreational activities (PRC § 5019.62).

The PRC defines state beaches to consist of areas "with frontage on the ocean, or bays designed to provide swimming, boating, fishing, and other beach-oriented recreational activities" (PRC § 5019.56(c)).

8.1.4 California Coastal Act

As described in greater detail in Chapter 4, Land Use and Planning, the California Coastal Act (PRC § 30000 *et seq.*) governs development within the Coastal Zone. One of the legislative findings and goals of the Coastal Act is to "maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners" (PRC § 30001.5).

Chapter 2, Section 30116 of the Coastal Act defines "sensitive coastal resource areas" to mean those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity, including "areas possessing significant recreational value."

Chapter 3 of the Coastal Act, Coastal Resources Planning and Management Policies, sets forth the policies that constitute the standards for the adequacy of local coastal Programs and

development subject to the Coastal Act (PRC § 30200 *et seq.*). The applicable standards (or parts of standards) of this chapter related to recreation and public access are identified in Land Use and Planning, Table 4-1.

8.2 ENVIRONMENTAL SETTING

8.2.1 Regional Recreation Overview

Pismo State Beach and Oceano Dunes SVRA are two units of the California State Parks system, which consists of 280 classified park units and major unclassified properties (CDPR). A summary of the number of different parks in the state system, as well as the number of individual campsites and total attendance to these different parks, is provided in Table 8-1. Pismo State Beach has 185 designated campsites (Table 8-2.), and Oceano Dunes SVRA provides 1,000 camping units (i.e., up to 1,000 camping vehicles are allowed per night anywhere within the open riding area; EIR section 8.2.3.2). The HCP area accounts for less than 1 percent of the land area in the state parks system, while accounting for 8 percent of the total available camping units (1,185 out of 14,131).

Table 8-1. Summary of State Parks System Units (Fiscal Year 2016/17)[A]

Classification[B]	No. Units	Total Acreage[C]	Camp-sites[D]	Day Use Visitors[E]	Camping Visitors[F]	Total Attendance
State Park	88	1,186,949	5,626	27,483,749	3,058,600	30,542,349
State Beach	62	23,163	2,655	25,690,065	3,271,440	28,961,505
State Historic Park	52	32,345	92	8,263,542	14,257	8,277,799
State Recreation Area	33	185,711	4,190	6,070,559	374,268	6,444,827
State Natural Reserve	16	67,673	0	3,351,255	198	3,351,453
Unclassified[G]	16	12,340	0	662,760	0	662,760
SVRA	9	140,622	1,568	1,527,011	546,762	2,073,773
State Historical Monument	1	209	0	764,122	0	764,122
State Marine Park[H]	1	--	--	--	--	--
State Seashore[I]	1	1,860	0	0	0	0
Wayside Campground	1	66	0	35,719	0	35,719
TOTAL[J]	280	1,650,938	14,131	73,848,782	7,265,525	81,114,307

Source: CDPR n.d.

(A) The fiscal year ran from July 1, 2016 to June 30, 2017.

(B) These classifications do not include certain "internal" park subunits situated within the boundaries of other park units, including 61 Natural Preserves, 22 Cultural Preserves, and 12 State Wilderness areas.

(C) Includes CDPR-owned lands and lands owned by others but operated by CDPR in the classification listed.

(D) Campsite refers to individual family campsites and does not include group campsites. According to the CDPR Statistical Report for 2016/17, individual and family campsites include primitive and developed campsites,

including RV hookups, accessible by foot or vehicle. Most campsites are capable of accommodating up to eight people.

(E) Day use visitor data reflect free and paid day use (non-overnight) visits.

(F) Camping visitors represents overnight visitors that used individual or group campsites.

(G) This line item reflects major unclassified units of the state parks system (14) plus two state marine reserves.

(H) Data is included in State Seashore line item.

(I) Data includes information for both state marine reserve (2 units) and state seashore (1 unit).

(J) Totals may not add due to rounding.

Oceano Dunes SVRA is unique from a recreational standpoint because it is only one of two CDPR units that provides OHV recreation within the Central Coast Region, which generally comprises Santa Cruz, San Benito, Monterey, SLO, Santa Barbara, and Ventura Counties. The other unit is Hollister Hills SVRA in San Benito County, which is more than 18 miles east of the Pacific Ocean. At the county level, there are no county parks, open space areas, or other recreation lands in Santa Cruz, San Benito, Monterey, SLO, Santa Barbara, or Ventura counties where OHV recreation is permitted.

The HCP area is also located within one of the largest and most unique remaining sand dune complexes in the State of California, the Guadalupe-Nipomo Dunes Complex. This dune complex is 18,000 acres (USFWS, 2016b) in size and Table 8-2. These existing parks accommodate a wide range of recreation activities including hiking, camping, wildlife viewing, horseback riding, and motorized recreation.

Table 8-2. Public Recreation Lands at and Near the HCP Area

Park	Managing Agency	Recreation Activities Available	Size
Guadalupe-Nipomo Dunes Wildlife Refuge	USFWS	Hiking, fishing, wildlife viewing	2,553 acres
Pismo State Beach	CDPR	Camping, clam digging, fishing, hiking, horseback riding, shoreline vehicular access and recreation, swimming, wildlife viewing	1,515 acres 185 campsites
Oceano Dunes SVRA	CDPR	Camping, horseback riding, fishing, hiking, OHV recreation, surfing, swimming, wildlife viewing	3,490 acres 1,000[1] campsites
Coastal Dunes RV Park and Campground	SLO County	Camping, swimming, access to Pismo State Beach and Oceano Dunes SVRA	230 campsites
Oceano County Campground	SLO County	Camping, fishing, picnicking	22 campsites
Rancho Guadalupe Dunes County Park	Santa Barbara County	Hiking, wildlife viewing	612 acres

Sources: California Protected Areas Database, CDPR, OHMVR Division, USFWS, SLO County Parks.

[1]Administratively reduced to 500 camping units due to closures for dust control. Separate CEQA review underway.

8.2.2 Oceano Dunes District Visitor Attendance Data

Approximately two million people visit the Oceano Dunes District every year, engaging in pedestrian, camping, and motorized vehicle activities. In general, daily visitation to Oceano Dunes SVRA is lowest Monday through Thursday and highest on the weekend. Seasonally, visitation increases during the summer months (late May to early September) and is lower during the fall, winter, and spring, other than holiday weekends such as Thanksgiving and Christmas. In Fiscal Year 2016/2017, Pismo Beach had 600,000 visitors and Oceano Dunes SVRA had 1.4 million visitors. This level of visitation has been fairly constant over the last decade. A review of annual statistic reports from 2006 to 2015 show that during the economic recession of 2008 to 2012, visitation to Pismo State Beach and Oceano Dunes SVRA dropped approximately 14 percent (compared to non-recession years in 2005 to 2007 and 2013 to 2014), whereas visitation to the other SVRAs dropped approximately 40 percent.

In 2012, the OHMVR Division undertook a research effort in collaboration with Department of Recreation, Parks, and Tourism Administration at California State University to measure visitor attendance at SVRAs and collect social data related to SVRA visitors. As part of the research effort, approximately 1,000 visitors to Oceano Dunes SVRA were surveyed regarding the characteristics of their visit. This survey found:

- 96.5% of survey respondents lived in California, with most of these in-state visitors coming from Fresno County (13.4%), Kern County (11.8%), Tulare County (9.6%), Los Angeles County (8.2%), San Luis Obispo County (7.3%), Kings County (5.6%), and Stanislaus County (5.1%).
- 87% of survey respondents traveled more than 50 miles to Oceano Dunes SVRA, with the overall average trip distance of 217 miles.
- 86% of survey respondents indicated they had camped at Oceano Dunes SVRA on their last visit, with an average stay of 4 nights.
- Camping at Oceano Dunes SVRA occurred in four main forms, including trailers/fifth wheels (48%), tents (24.4%), RVs (21.9%), and truck campers (4.9%).
- 18.6% of survey respondents indicated they had come to Oceano Dunes SVRA less frequently because of the economic recession, whereas most respondents indicated they had visited the same (48%) or more frequently (29.1%).

In 2016, the Oceano Dunes District retained Strategic Marketing Group (SMG) to determine the economic impact of the visitors to Oceano Dunes SVRA on SLO County and its local communities (SMG, 2018). As part of this study, SMG conducted an after-trip email survey of visitors to the Oceano Dunes District. As shown in Figure 8-1, the top three activities that survey respondents participated in were ATV riding (62%), enjoying a beach bonfire (57%) and enjoying the sunsets (56%). When survey respondents were asked if they would still visit SLO County if Oceano Dunes SVRA was not in existence, 62% indicated they would not visit SLO County. This data suggests that Oceano Dunes SVRA provides a unique location and set of recreational experiences that is important on a local and regional level. The results of the CSU Sacramento study are generally consistent with the findings of the economic analysis conducted by SMG during the 2010/2011 time period.

8.2.3 Pismo State Beach and Oceano Dunes SVRA Recreational Opportunities

The California Coastal Act defines "coastal-dependent development or use" to mean any development or use that requires a site on, or adjacent to, the sea to be able to function at all (PRC § 30101). CDPR considers beach- and dune-oriented recreational opportunities to be coastal-dependent recreation activities.[39] For the purposes of this EIR, coastal-dependent recreation activities at Pismo State Beach and Oceano Dunes SVRA include:

- Non-vehicular recreational activities such as sand play, sunbathing, surf fishing, swimming (in the ocean), kite boarding and kayaking (in the ocean), marine wildlife viewing, and beach and coastal dune horseback riding
- Beach and coastal dune camping
- Beach and coastal dune vehicular recreation

As shown in Table 8-3., the HCP area comprises 5,005 acres of managed lands, the majority of which is managed for public recreation purposes. There are 844 acres located in the eastern portion of Oceano Dunes SVRA that are closed to all public access and recreation (see Figure 2-3); this area includes lands operated by the OHMVR Division but owned by Phillips 66 and lands leased from the OHMVR Division for agricultural purposes. Pismo State Beach consists of 1,515 acres of managed recreation lands, nearly all of which is open to the public. As described in more detail in EIR section 2.1, the parks provide both vehicular and non-vehicular recreation opportunities.

Table 8-3. HCP Area – Public Recreation Opportunity and Access

Park	Total Size (Acres)	Pedestrian		Equestrian		Street-legal Vehicles		OHV	
		Open (Acres)	Closed (Acres)	Open (Acres)	Closed (Acres)	Open (Acres)	Closed (Acres)	Open (Acres)	Closed (Acres)
Pismo State Beach	1,515	1,444	70(A)	1,413	101B)	273	1,241(C)	208	1,306(D)
Oceano Dunes SVRA	3,490	2,621	869(E)	1,389	2,102(F)	1,097	2,393(G)	1,097	2,393(G)
TOTAL(H)	5,005	4,065	939	2,802	2,203	1,370	3,634	1,305	3,669

Source: OHMVR Division / MIG 2020

(A) Pismo Lake (open, but public visitation is not encouraged due to lack of access points)

(B) Pismo Lake, Golf Course, and Ranger Station

(C) Pismo Lake, Pismo Dunes Natural Preserve, Pismo State Beach north of Grand Avenue

(D) Pismo Dunes Natural Preserve and all areas north of Post 2

(E) Phillips 66 leasehold and agricultural lease area

[39] The CCC is the sole agency with primary jurisdiction over the Coastal Act and as such may or may not find these activities to be coastal-dependent uses.

(F) Phillips 66 leasehold, agricultural lease area, and Oso Flaco area

(G) Phillips 66 leasehold, agricultural lease area, Oso Flaco area, vegetated islands, and northern portion of SVRA contiguous with Pismo Dunes Natural Preserve

(H) Totals may not add due to rounding.

8.2.3.1 Non-Vehicular Recreation

Non-vehicular recreation is allowed throughout all areas of Pismo State Beach and Oceano Dunes SVRA that are open to public recreation (4,091 acres) and include, but are not limited to, camping, pedestrian beach uses, dog walking and horseback riding, kite flying, sail sports, hiking, surfing/boating, and occasional bicycle riding. The acreages open to these uses are shown in Table 8-3. (also see Table 2-1). Non-vehicular recreation is particularly popular along the shoreline north of Grand Avenue and between Grand Avenue and Post 2. Non-vehicular recreation is also popular in the Oso Flaco Lake area in the southern portion of Oceano Dunes SVRA, which includes a parking lot, boardwalk, and other small visitor-serving facilities.

Pismo Dunes Natural Preserve (see Figure 2-3), a 695-acre subunit of Pismo State Beach, provides opportunities for non-vehicular recreation, except swimming and other water-related activities because the Pismo Dunes Natural Preserve does not adjoin the beach. Walking trails traverse the preserve, but otherwise there are no visitor-serving facilities in the preserve.

Pismo State Beach contains a variety of visitor-serving facilities and infrastructure, including a visitor center, education center, golf course, campgrounds, RV facilities, and parking areas.

Each year, Pismo State Beach and Oceano Dunes SVRA host numerous organized non-vehicular events, including beach clean-ups, weddings, family reunions, corporate dinners, bonfires, surfing and other sporting contests, media events, video commercials, and commercial still photography. Examples of non-motorized special events that occur are briefly described below and listed in HCP section 2.2.1.11.

- *Concerts*. Events may include amplified music, vendors, and camping. Music and other activities may occur around the clock. These events are typically weekend events.
- *Group Campfires and Receptions.* Group campfires and receptions are frequently set up on the beach near the Grand Avenue entrance.
- *Sports.* Running and/or walking racecourses may traverse the beach and dunes. Other non-motorized sporting events include soccer, baseball, and kiteboarding tournaments and exhibitions. These events may include food vendors, music, and other entertainment. These events usually take place in Pismo State Beach and are generally single-day or weekend events.
- *Weddings.* Approximately 25 weddings are held at Pismo State Beach each year. Most weddings occur either in the foredunes and cypress grove near the golf course or near the Grand Avenue entrance within the non-motorized portion of the park. Weddings planned with bonfires or other fire sources are set up within the motorized portion of the park.
- *Video Production and Still Photography.* Video production and still photography "shoots" require permits and may occur anywhere in the HCP area, with approximately 35 to 40 shoots occurring every year. Filmed activities are almost always only those activities already allowed in the area used for the production. Filming by UAS is allowed on a case-by-case basis.

8.2.3.2 Beach and Coastal Dune Camping

Pismo State Beach has two traditional campgrounds (North Beach and Oceano) with a total of 185 designated campsites. Camping within Oceano Dunes SVRA and the portion of Pismo State Beach open to OHVs is largely a vehicle-dependent activity as campers are generally based out of vehicles driven onto the beach, and camping is only allowed within the open riding and camping area. This beach camping is limited by CDP 4-82-300-A5 to 1,000 registered campers[40] ("campers" are based on each registered vehicle). There are no designated campsites; however, on a typical day most camping activity occurs near the beach, between Posts 2 and 6. During busy periods (holidays, weekends, and special events) camping activity can extend farther south and inland.

Importantly, many visitors engaging in non-OHV recreation, such as camping and beachcombing, also participate in OHV recreation (see HCP section 1.1.3.4).

Nearly all visitor-serving facilities at Oceano Dunes SVRA are located within the SVRA's open riding and camping area. These facilities include vault and chemical toilets, trash disposal areas, and mobile services provided by private concessionaires (e.g., drinking water delivery, holding tank pump-out, towing). Besides vehicle recreation, the ability to camp on the beach and dunes at Oceano Dunes SVRA is the significant recreational attraction. This primitive beach and dune camping also represents a very low-cost camping and recreation opportunity. The $10 fee is the lowest camping fee available within the Oceano Dunes District (North Beach and Oceano Campground fees range from $35 to $50).

8.2.3.3 Beach and Coastal Dune Vehicular Recreation

The Guadalupe-Nipomo Dunes Complex in general, and the HCP area specifically, has been a popular recreation destination for more than 100 years. Early photographs depict families enjoying the beach and dunes in horse-drawn carriages and bicycles, and motorized vehicles are known to have been driven on the beach as early as 1906 (OHMVR Commission, 2014). Prior to approximately 1975, most of the land at and in the immediate vicinity of present-day Oceano Dunes SVRA was open to all forms of recreation, including vehicular recreation. Present day, the area open to vehicular recreation and camping is a little over 1,300 acres (see Table 8-4.).

Table 8-4. Vehicular Recreation Lands in the HCP Area

Season	Street-Legal Vehicles Only(A)	Street-Legal and OHV Use + Camping	Total Vehicular Recreation Area
October to February	65 Acres	1,305 Acres(B)	1,370 Acres
March to September	65 Acres	1,005 Acres(C)	1,070 Acres

(A) Area represents vehicle recreation lands between Grand Avenue and Post 2.

(B) Area represents vehicle recreation lands south of Post 2. This area generally is reported as the size of Oceano Dunes SVRA open riding and camping area.

[40] CDPR has administratively reduced the number of allowable campers to 500 due to closures for dust control.

(C) The seasonal reduction in vehicle recreation lands is due to the installation of fencing to protect SNPL and CLTE. This nesting exclosure reduces the amount of land open to vehicular recreation by approximately 300 acres from March 1 through September 30 each year.

Oceano Dunes SVRA operates under daily vehicle limits established by CDP 4-82-300-A5, which was approved in 2001. The permit establishes the following daily limits on vehicles within Oceano Dunes SVRA: up to 2,580 street-legal vehicles, 1,000 street-legal vehicles for camping, and 1,720 OHVs (CDP 4-82-300-A5). On summer and holiday weekends, street-legal vehicle use approaches these daily limits (HCP Table 2-2). Off-season and weekday use levels are typically less than half of summer weekend levels. Due to recent installation of fencing for dust control that closes off over 48 acres of prime camping area, CDPR has administratively reduced camping permits to 500 vehicles. The impacts of this recreation closure and other effects of dust control measures under CA-44 New PMRP are being assessed in a separate CEQA document.

The Oceano Dunes District controls and records vehicular attendance via entrance kiosks at Grand and Pier avenues. In the summer, the kiosks are open from 8 a.m. to 11 p.m. or midnight. During the off-season, the kiosks are open from 9 a.m. to 6 p.m. (or sunset if staff is available). Hours are extended during all holidays, with the Pier Avenue kiosk staying open 24 hours. Once the Grand Avenue kiosk is closed, visitors can only enter the park via Pier Avenue. Entrance is allowed even when both kiosks are unattended. Motorized use is allowed in the designated areas 24 hours a day. Except for emergency responders, all vehicles must obey a 15-mph speed limit at all times while on the shoreline and in camping and developed areas; no formal speed limit is in place in the dunes when away from occupied campsites.

Street-legal vehicles can operate on all designated roads within North Beach Campground, Oceano Campground, and in day use parking areas (HCP Map 3; Pismo State Beach, monarch butterfly grove, Oso Flaco). Motorized vehicles, other than those used by park personnel, are allowed off road only in designated areas (Figure 2-3). Street-legal vehicles can operate from Grand Avenue south for 6 miles down the coast to the southern boundary of the Oceano Dunes SVRA open riding and camping area. From Grand Avenue to Post 2, vehicle recreation is limited to street-legal vehicles only (see Figure 2-3). This area is designated as a day use only area and predominately used by people who want to drive their street-legal vehicles on the beach to enjoy beach activities and by visitors towing their vehicles into the interior of the park.

OHVs can only operate within the open riding area. OHVs must be transported to Post 2 or farther south before off-loading. The designated staging area at Post 2 is primarily used for parking for concessionaires and concessions activities. Camping is allowed throughout the open riding area since formal campsites are not designated. Motorhomes, vehicles towing trailers, and other camping vehicles thus move throughout the open riding area to access camping areas.

In general, the part of Oceano Dunes SVRA area open to street-legal and OHV recreation is bound by a perimeter fence on the north (adjacent to the Pismo Dunes Natural Preserve), south, and east. This fence prevents OHV recreation from occurring in unauthorized areas. Motorized vehicle use is prohibited year-round within the fenced vegetation islands occurring within the riding area and seasonally prohibited (March 1 through September 30) within SNPL and CLTE nesting areas (Figure 2-7).

A well-traveled route known as the sand highway runs from south of Post 4 into the backdunes all the way to the southern boundary of the open riding area. The sand highway is marked with numbered signs for navigation (Figure 2-3). Within the dune area, OHV riders frequently gather

at various locations including near Independence Hill, Boy Scout Camp, Maidenform Flats, and Competition Hill (Figure 2-3). Typically, these informal gatherings are comprised of 15 to 20 street-legal vehicles and 25 OHVs. A high of 75 to 100 vehicles has been observed informally gathered at Competition Hill. A small OHV training area is also located in the northern portion of the open riding and camping area.

Organized events with a focus on motorized recreation occur within the HCP area that is open to vehicles. Events may be formal competitions, organized non-competitive gatherings, or other events requiring the use of vehicles on the beach or dunes. Examples of motorized special events anticipated during the permit term are listed in HCP section 2.2.1.11. This list is not comprehensive.

- *Poker Runs.* Poker runs are non-timed, non-race, self-guided activities during which participants drive to checkpoints along a course within the open riding area. Such events may include a vending/registration/staging area, typically less than an acre, which is also located within the open riding area. These events are typically single-day events.
- *Hucking.* Competitive truck jumping or "hucking" involves an exhibition of trucks jumping off a gradual incline sand dune ramp with a flat landing area. Hucking events have been held at the Competition Hill portion of the open riding area. Other motorized exhibitions may also be included in hucking events. Such exhibitions will be expected to include space for vendors, camping, a stage, and other temporary event facilities closer to the beach. To date, these exhibition areas have been less than 10 acres. From initial setup to final cleanup, the overall event lasts less than a week; however, the exhibition itself lasts no more than 2 days.
- *Vintage Car Races.* Such events may include car displays, races of pre-World War II-era motorcycles and cars on the hard sand, a beach party, bonfire, and vendors. The race itself comprises two vehicles racing on a short (less than 1,000 feet) stretch of beach. Cars and motorcycles cross the finish line with an average maximum speed of 35 mph. These events are typically weekend events.

8.2.3.4 Special Event Permits

Organized special events hosted by outside agencies, businesses, and organizations may require a CDPR Special Event Permit, which must be approved by the Oceano Dunes District Superintendent. Special Event Permits describe the activity or event that is to occur, the estimated number of participants, the entry fee schedule, the items to be sold, the insurance requirements, and any special conditions placed on the activity or event by the District Superintendent.

The permit conditions include AMMs required to protect resources during the event. Specific AMM recommendations are based on past experience and dependent on the event location, timing, and potential to impact covered species. Permit conditions also ensure that events are planned to avoid sensitive resources, including by adjusting the timing and location of the event. For larger events, the Oceano Dunes District resource staff surveys the special event area prior to the event to verify that no CLTE or SNPL are present. There is an internal protocol for smaller Special Event Permits (weddings, bonfires, family reunions, corporate dinners near Grand Avenue, etc.), requiring the resource staff survey and report any conflicts prior to the event. The

Oceano Dunes District also ensures that none of these events result in exceeding vehicle limits established by the CDP (section III.3.a. and d. of CDP 4-82-300-A5).

The specific events that occur during the ITP term will vary. The examples included above illustrate the nature of permitted special events potentially occurring in the HCP area. All of these events could occur in any month of the year. These and other similar events are expected to continue during the permit term. The Oceano Dunes District does not issue Special Event Permits for events on the City-operated portion of Pismo State Beach.

8.2.4 Pismo State Beach and Oceano Dunes SVRA Access

Regionally, access to coastal southwestern SLO County is primarily provided via State Route 1 and US 101. From San Luis Obispo to just north of Arroyo Grande, State Route 1 (Cabrillo Highway) and US 101 are a combined, four-lane highway (two lanes in each direction). Just north of Arroyo Grande, State Route 1 splits from US 101, running more westerly through Grover Beach and Oceano (see Figure 2-3). This segment of State Route 1 is a two-lane highway (one lane in each direction). Visitors coming to Pismo State Beach and Oceano Dunes SVRA from the north via the City of San Luis Obispo primarily exit US 101 at Hinds Avenue and travel along State Route 1 to Grand or Pier avenues. State Route 1 runs perpendicular to Grand and Pier avenues. Visitors coming from the south through Santa Barbara County exit US 101 at Grand Avenue or use State Route 1 through Oceano.

Pedestrian. North of Pismo Creek, visitors may walk in to Pismo State Beach via a network of roads and stairways off Price Street (via Ocean Way, Wilmar Avenue, and Kon Tiki Inn) and from State Route 1 (via Cypress and Main) and the Pismo Beach Boardwalk along the beach between Main Street and Addie Street. South of Pismo Creek, visitors can access the beach from the Pismo State Beach North Beach Campground and Le Sage Drive. Visitors may also walk into Pismo State Beach and Oceano Dunes SVRA via Grand Avenue, Pier Avenue, points along Strand Avenue, and South Oso Flaco Lake Road. Grand Avenue has a large parking area that provides easy access to the beach and is therefore the most convenient access point for “walk-in” visitors.

Other non-motorized access is also available via River Road and Creek Road just south of the Oceano County Airport (where the private Pismo Dunes Ranch RV Resort is located). These non-motorized access points lead into Pismo Dunes Natural Preserve, a subunit of Pismo State Beach that adjoins Oceano Dunes SVRA. These access points are not close to the beach or open riding and camping area and are less popular than Grand and Pier Avenue access.

The Oso Flaco area located at the southern end of Oceano Dunes SVRA can be accessed from Oso Flaco Lake Road off of State Route 1. The road is narrow and terminates at the Oso Flaco Lake entrance station and parking lot. This access way is primarily used by hikers, nature walkers, and fishermen. This entrance point does not provide access to the Oceano Dunes SVRA open riding and camping area.

Visitors access Pismo Lake via “informal” access points, as CDPR has not designated access points to the lake.

Equestrian. Equestrian users primarily access the ODD through the Grand Avenue entrance at Grover Beach (due to the presence of an informal staging area) or from the Pacific Dunes Ranch and RV Resort, which offers horseback riding and is located off Silver Spur Place just to the east

of the Pismo Dunes Natural Preserve. Equestrian access in the Oso Flaco area was eliminated in 1991 for resource protection.

Vehicle. Public vehicle access to Pismo State Beach and Oceano Dunes SVRA is only via Grand Avenue in the City of Grover Beach or Pier Avenue in Oceano. These two entrances provide sand ramps that lead vehicles down onto the beach. Visitor data indicate that the Grand Avenue ramp provides access for approximately 51 percent of the visitors entering Pismo State Beach and Oceano Dunes SVRA. The portion of Grand Avenue west of State Route 1 is mostly undeveloped, although a restaurant is located at its western terminus, and the planned and approved Grover Beach Lodge and Conference Center site is located near the intersection with State Route 1. The ramp located at the foot of Pier Avenue in Oceano lies approximately 1 mile south of Grand Avenue. Commercial establishments line Pier Avenue leading to the entrance kiosk, and sidewalks are located on both the north and south side of the avenue.

8.3 PROJECT IMPACTS

8.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, the HCP would have a significant environmental impact related to recreation and public access if it would:

- 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, or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment.

In addition, CDPR has determined the project would have a significant environmental impact related to recreation and public access in the project area if it would substantially limit, reduce, or interfere with established coastal recreational opportunities or public access.

The proposed HCP new activities (i.e., SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b]; mechanical trash removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]) would not increase use of existing neighborhood and regional parks or other recreational facilities. These activities would not result in changes to visitor use levels at the park or surrounding area nor would they change camping or visitor use limits established by CDP 4-82-300. The proposed HCP does not provide housing or otherwise contribute to population growth in the area by providing a significant amount of new jobs, and therefore, it does not create an indirect demand for recreation at local parks. Therefore, this impact is not further discussed.

The proposed HCP new activities do not propose or entitle the construction of new or expanded recreational facilities. The new activities do not directly or indirectly increase population (by providing housing) or recreational users (by increasing camping or visitor limits established by CDP 4-82-300); therefore, the HCP does not require the construction of new recreational facilities or indirectly require the expansion of any existing recreational facility. Therefore, this impact is not further discussed.

8.3.2 Established Coastal Recreational Opportunities and Public Access

Under the proposed HCP, the OHMVR Division would largely continue existing operations and maintenance activities at Pismo State Beach and Oceano Dunes SVRA. The HCP proposes take coverage for four new activities: SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), mechanical trash removal (CA-21), reduction in the size of the seasonal exclosure (6 Exclosure and East Boneyard Exclosure; CA-50), and CDPR's use of UAS (CA-52). These activities neither involve any changes to the established camping or visitor limits established by CDP 4-82-300, nor do they reduce areas available for recreational use. For these reasons, the project would not substantially limit, reduce, or interfere with established coastal recreation opportunities in Pismo State Beach and Oceano Dunes SVRA.

SNPL Chick and Egg Capture for Captive Rearing if Observed to be Threatened by Recreational Activity and Other Non-Covered Species Management Activities (CA-12b). CDPR monitors would capture SNPL chicks or eggs if they are threatened by covered activity and relocate the chicks and/or eggs to a captive-rearing facility. This activity does not impact recreational uses occurring in the HCP area and does not change or diminish access to coastal recreational opportunity. SNPL chick and egg capture for captive rearing would have ***no impact*** on coastal recreation opportunity and access.

Mechanical Trash Removal (CA-21). Mechanical trash removal is a temporary and transient maintenance activity to clean beach sand of debris. The mechanical trash removal would temporarily restrict portions of the beach during equipment activities. Mechanical trash removal would occur during the early morning hours (e.g., 6 a.m. to10 a.m.) prior to arrival of most visitors. The equipment is highly maneuverable and would move at a speed of 5 to 10 mph. Equipment operation would not create a public safety concern and would not cause a prolonged restriction in public access. Any restriction that does occur would be removed once the equipment operation is complete. One acre can be cleaned every 10 minutes. Two hours of work could cover roughly 12 acres. CDPR estimates that treatment of the Pismo State Beach day use and SVRA camping project area (Grand avenue south to Post 6) would take about 22 hours. Some areas could be treated several times in a month during a busy season, whereas others only once or twice a year, if at all. Therefore, mechanical trash removal would not adversely affect existing recreational activities or opportunities. Nor would it impede access to the beach or ocean. Mechanical trash removal would have ***a less-than-significant temporary impact*** on coastal recreation opportunity and access and should ultimately benefit recreation through debris removal.

Reduction of the Boneyard Exclosure and 6 Exclosure (CA-50). The HCP proposes elimination of the East Boneyard Exclosure (49 acres) and incremental reduction of the 6 Exclosure (60 acres) subject to meeting SNPL and CLTE biological performance requirements for breeding and fledge numbers and in consideration of additional factors (HCP section 5.2.3; EIR section 6.3.2). Exclosure reduction increments would also be subject to air quality performance standards specified in Mitigation Measures AIR-1A, AIR-1B, and AIR-1C (EIR section 5.50). This exclosure reduction does not change the overall size of either Pismo State Beach or Oceano Dunes SVRA. Under existing conditions, approximately 300 acres within the open riding area of Oceano Dunes SVRA are subject to seasonal exclosure during the 7 months of March through September. The HCP proposed elimination of the 6 Exclosure and East Boneyard Exclosure would open up to 109 of the 300 acres to year-round recreation. Access to 109 acres would be

changed from seasonally available for 5 months (October through February) to being available year-round. This acreage expansion increases the coastal recreational opportunity for camping and vehicle recreation during spring and summer months when park visitation is at its highest levels. The elimination of the East Boneyard Exclosure would expand the area used for open sand dune riding area by 49 acres. The reduced 6 Exclosure would expand the flat beach area along the shoreline used for camping and OHV recreation by up to 60 acres. The increase in available shoreline during the summer season would reduce congestion in a heavily used area. Increasing the acreage available for year-round recreational use is a recreational benefit of the proposed HCP. The HCP would have a ***beneficial impact*** on coastal recreational opportunity and public access**.**

CDPR UAS Use for Park Activities (CA-52). CDPR's use of UAS (e.g. drones) is proposed for data collection purposes such as monitoring of habitat conditions. Use of this aerial equipment would not interfere with recreation uses and would have ***no impact*** on coastal recreation opportunity or public access.

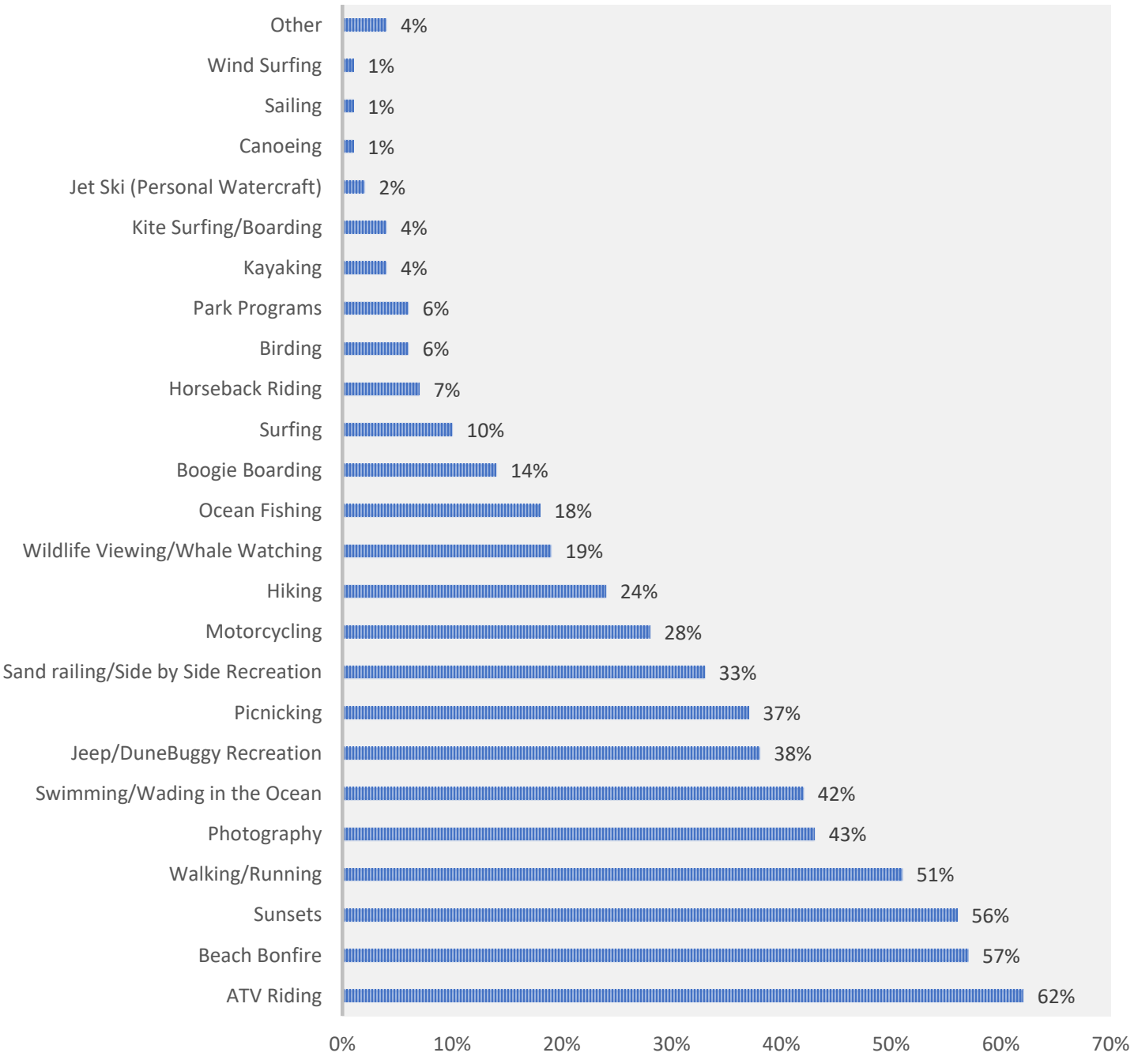
8.4 CUMULATIVE IMPACTS

The HCP proposed new activities of SNPL chick and egg capture for captive rearing (CA-12b); mechanical trash removal (CA-21), seasonal exclosure boundary changes (6 Exclosure and East Boneyard Exclosure; CA-50), and CDPR's use of UAS (CA-52) would not adversely impact recreation facilities, coastal recreation opportunity, or public access to recreation. As such, these activities would not contribute to impacts from other foreseeable projects listed in EIR section 3.3.3, including CA-44 Dust Control Activities – New PMRP and other future potential activities covered by the HCP (EIR section 2.4.2.3), to incrementally increase recreational impacts. Those future activities, including the new PMRP, are subject to separate CEQA review, and potential impacts to recreation would be considered under separate CEQA documents (see EIR section 2.5).

In addition, the HCP does not have the potential for significant adverse effects due to new or expanded recreational facilities, nor does the HCP have the potential to restrict coastal public access or coastal recreation. The HCP new proposed covered activities have the potential to increase recreational opportunities by providing opportunity to increase year-round recreation on up to 109 acres of open riding area that is presently closed to recreation for 7 months of the year. Therefore, the HCP proposed new covered activities would have no contribution to a cumulative adverse effect on coastal recreational opportunity or public access. The HCP would have ***no cumulative impact*** on coastal recreational opportunity and public access.

8.5 MITIGATION MEASURES

No significant impacts to recreation and public access have been identified for the project based on the analysis contained in EIR sections 8.3 and 8.4 above. No mitigation is required



February 2020
Source: SMG 2018

Figure 8-1 Visitor Survey Responses: Recreational Activity Participation (2016-2017)

This page intentionally left blank.

Chapter 9 ALTERNATIVES

CEQA Guidelines section 15126.6(f) states that an EIR shall describe a range of reasonable alternatives to a project or location of the project that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. An EIR's discussion of alternatives does not need to consider every conceivable alternative but must foster informed decision making and public participation. CEQA intends for the alternatives discussion to focus on alternatives that are capable of avoiding or substantially reducing any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives. Section 2.3.2 lists the following objectives for the proposed Oceano Dunes District HCP:

- Avoid, minimize, and mitigate the effects of take of the covered species.
- Implement biological goals and objectives for covered species (HCP section 5.5) to promote species and habitat conservation.
- Obtain a permit from the USFWS to authorize incidental take of covered species and ensure FESA compliance.
- Operate the covered park units in a manner that provides for public use and enjoyment while conserving park resources, consistent with the overall mandate of CDPR and the specific unit classifications, as prescribed by the Public Resources Code.
- Preserve, manage, and expand, as appropriate, motorized and non-motorized recreational opportunities.
- Manage, maintain, and maximize, as appropriate, access to the unique coastal camping and recreational amenities in the HCP area.
- Facilitate implementation of permit, legal settlement, and judicial or quasi-judicial order conditions and obligations applicable to one or both covered units.

An EIR is not required to consider alternatives that are infeasible (CEQA Guidelines § 15126.6(f)). A lead agency is responsible for selecting the range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. Factors that may be taken into account when considering feasibility include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

9.1 CONSIDERED AND REJECTED ALTERNATIVES

An EIR should identify any alternatives that were considered by the lead agency but were not compared to the proposed HCP in the EIR and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are: 1) failure to meet most of the basic project objectives (see above); 2) infeasibility; and 3) inability to avoid significant impacts. Below is a discussion of alternatives considered and rejected by CDPR based upon one or more of these factors.

9.1.1 No Take Park Operations

Oceano Dunes District manages 5,005 acres of state beach and SVRA land receiving approximately 2 million visitors annually. Four federally- and/or state-listed animal species and six federally- and/or state-listed plant species occur or have the potential to occur within the HCP area. Although plants are not subject to the FESA take prohibition, loss of listed plants is considered for the purposes of evaluating this No Take Alternative. Of these 10 species, CLTE, SNPL, and listed plants are most likely to be impacted by existing visitor uses or park operations. The greatest risk of impact (moderate to high) to SNPL and CLTE is from motorized recreation (CA-1), camping (CA-2), concentrated visitor use during holidays (CA-10) and special events (CA-11), and conservation activities (CA-12) and to certain listed plants from routine riparian maintenance (marsh sandwort and Gambel's watercress; CA-26) and special projects (potential loss of La Graciosa thistle, beach spectaclepod, and/or surf thistle habitat; CA-49). The proposed HCP would not alter the management of these covered activities and would not add to the existing risk of impact or take caused by these covered activities. The proposed HCP would introduce new but minimal risk of impact or take to CLTE and SNPL from mechanical trash removal (CA-21) and a moderate to high risk of impact or take to CLTE and SNPL from reduction of the 6 Exclosure (CA-50). These new covered activities would not increase risk of impact to listed plants.

The purpose of the No Take Alternative would be to modify park operations in order to substantially eliminate activities that have moderate to high potential for risk of take in the areas where the species occur. During the nesting season, CLTE and SNPL mostly congregate along the shoreline in primary habitat south of Post 6 but could be reasonably expected to occur in any of the 727 acres of primary habitat in the park south of Post 1. SNPL is more widely dispersed during the winter season (CLTE does not winter in the HCP area). Documented incidents of CLTE and SNPL take (mortality, injury, harassment) have occurred from vehicle strike, visitor disturbance, and from conservation activity (see Table 6-8. and Table 6-9.). SNPL take can occur year-round and is not limited to the protected nesting habitat after fencing is removed. There have been no documented incidents of CRLF take. Up to three tidewater goby individuals are known to have been harmed during permitted fisheries surveys (CA-13); none are known to have been taken from other covered activities. For all species, it is assumed that some level of unseen take could occur from park operations (see, e.g., HCP Table 4-1).

Closure of all primary and secondary habitat to vehicle use south of Grand Avenue would likely be required in order to avoid habitat disturbance and the potential for take of CLTE and SNPL from vehicle strike (HCP Maps 11 and Map 13). This closure would eliminate access to the entire open riding area, resulting in a severe modification of park operations and complete loss of motorized coastal access, and it would not eliminate the potential for take from non-motorized uses or from any CDPR vehicles needed to enter the area for park operations. Under this alternative, the loss of shoreline access for visitor use, vehicle recreation, and camping would be permanent as would the loss of motorized access to non-motorized recreation. Such closure is incompatible with the recreational purpose of the SVRA and CDPR's mandate to develop, manage, and operate the SVRA for the purpose of providing the fullest appropriate public use of the vehicular recreational opportunities present, while providing for the conservation of cultural resources and the conservation and improvement of natural resource values over time (PRC § 5090.43 (a)). This alternative would also fail to meet project objectives of providing for public use and enjoyment and preserving, managing, and expanding recreational opportunities as

appropriate and while conserving park resources. The conservation program laid out in the HCP has successfully and substantially increased the breeding population of SNPL and CLTE, demonstrating CDPR's ability to conserve park resources and improve natural resource values while providing motorized coastal access and recreation.

If a new access to the southern portion of the park is developed, it is possible that vehicle recreation in approximately 950 acres of sand dunes (non-primary CLTE and SNPL habitat) in the SVRA could be preserved for vehicle recreation in an area where take is unlikely to occur. As discussed in EIR section 9.1.3.2, southern access was previously studied and determined to have greater impacts than the current vehicle shoreline access from the north, but future studies may identify improved access options.

In addition to take from park operations, recreation, etc., the conservation program described in the HCP, which is designed to protect, monitor, and enhance the species and their habitat, also carries inadvertent risk of take associated with some of these activities that can be minimized but not completely avoided. A "no take" alternative could reduce or eliminate conservation activities such as habitat fencing, chick-banding, dipnet surveys, etc., as it is unknown whether CDPR would continue to fund such an intensive conservation program in a non-motorized recreation area. The value of these activities to species conservation far outweigh the take risk. Discontinuing conservation program activities in order to avoid take associated with those activities is incompatible with park conservation goals and protection of natural resources.

Short of park closure or substantial reduction in visitor access and discontinuation of many of the conservation program activities, the potential for unauthorized take would still exist. To the extent CDPR continued all or part of the conservation program, it is assumed that CDPR would seek a 10 (a)(1)(A) recovery permit, which would not eliminate take but would ensure management take was consistent with FESA requirements. Even with continuation of all or part of the conservation program, the severity of reduction in recreation opportunity that would be required in order to eliminate the possibility of the remaining incidental take makes this alternative infeasible, and therefore it is rejected from further consideration.

9.1.2 Off-site Mitigation in lieu of Nesting Exclosures

Off-site mitigation in lieu of nesting exclosures is a management strategy that redirects all or part of the species conservation effort in the HCP area to off-site locations where protected species habitat and recreation uses are not in conflict. Potential locations appropriate for consideration would include areas known to contain primary species habitat and capable of supporting populations in levels that would offset the loss of nesting habitat acreage and take impacts from less restricted park recreation. This strategy is an alternate approach to the park's existing conservation program, which seasonally closes off 300 acres of highly productive on-site primary SNPL and CLTE nesting habitat within the open riding area.

An off-site conservation approach does not reduce the potential for take within the HCP area associated with the covered activities. Complete elimination of seasonal nesting exclosures would remove fencing currently protecting nesting SNPL and CLTE from visitors and predators and likely result in a substantial take increase, reduced nesting attempts, and significantly lower breeding productivity and on-site populations. Loss of a robust population of CLTE and SNPL at this location could reduce its contribution to species regional recovery units. The proposed HCP does include some reduction in the size of seasonal nesting exclosures (CA-50), but only to the

extent such reduction does not damage the effectiveness of the conservation program, which is designed to maintain the success of on-site breeding.

To create an off-site mitigation area in lieu of all or part of the existing nesting exclosures, an unknown number—but presumably hundreds of acres—of suitable and equally productive off-site habitat would have to be located and targeted for in-kind replacement of nesting habitat no longer seasonally protected in the HCP area. The habitat would need to be within SNPL Recovery Unit 5 and preferably within CA-83. Off-site mitigation in lieu of the existing nesting exclosures would eliminate a successful conservation program that CDPR has slowly built over the last 2 decades in favor of an unproven program at a new location. It is possible that CDPR could attempt to expand or improve success of an established off-site breeding colony. Even if suitable property could be located and all agreements negotiated, there is no guarantee that breeding success of CLTE and SNPL occurring in the HCP area can be replicated off site. The risk is especially true for CLTE, which exhibit a high degree of site fidelity. As described in HCP section 3.3.2.5, the HCP-area CLTE breeding colony has become an important component of CLTE recovery.

An off-site conservation location would introduce new risk to species conservation and also new investment costs to CDPR for property search, technical studies, and property management or partnership with the landowner or resource agencies. Such costs could be reduced if suitable mitigation land could be found on existing CDPR property. Although this alternative better meets CDPR's objective to preserve, manage, and expand, as appropriate, motorized and non-motorized recreational opportunities, it likely would not succeed in conserving park resources consistent with the PRC. Specifically, by transferring all or part of the SNPL and CLTE breeding value off site, CDPR may not be providing for the conservation and improvement of natural resource values within the HCP area (see PRC § 5090.43 (a)). Given the uncertainty of success, new costs, increased risk of impact to on-site CLTE and SNPL populations, and the remaining need for a take authorization, this alternative is rejected from further consideration.

In conjunction with, or in lieu of, off-site mitigation, CDPR could attempt to manipulate habitat within South Oso Flaco to create additional SNPL and CLTE breeding habitat within the HCP area. Any SNPL and CLTE nesting in this new habitat would be farther away from areas heavily used for recreation and completely away from motorized use areas. Based upon habitat management work already done within the HCP area, including restoring approximately 180 acres in South Oso Flaco degraded by European beach grass, CDPR has determined that efforts short of major habitat modification would be unlikely to attract substantial numbers of breeding SNPL or CLTE to fully replace the breeding population in the current conservation area. Even with major modification, such as leveling the foredune complex, SNPL and/or CLTE may remain in current nesting habitat or may expand into the new area without abandoning the existing habitat. Given the extensive modification of sensitive dune habitat that would be involved and the uncertainty of any meaningful reduction in take potential, this alternative is also rejected from further consideration.

9.1.3 Changes in Oceano Dunes SVRA Access

9.1.3.1 Install Bridge Over Arroyo Grande Creek

Motorized vehicle creek crossing is a covered activity (CA-40) presently occurring at the park. Under this alternative park operation, a temporary vehicle crossing structure would be erected

over Arroyo Grande Creek at times when the creek flows connect to the ocean. There is a small possibility that vehicles crossing Arroyo Grande Creek could kill or injure tidewater gobies if the vehicles were to cross the creek during a high-flow, winter flood event, which is when tidewater goby may be migrating through the creek mouth. Tidewater goby wash out in high flows and come back during lower flow, but this is a rare event. Vehicles attempting to cross heavy creek flows can become stuck or washed toward the ocean. These vehicles could also leak fluids into the creek. Under current and proposed operations, however, vehicular crossing of Arroyo Grande Creek is prohibited or severely limited during high flows. As a result, vehicles are not anticipated to kill or injure tidewater goby. Furthermore, the alternative would not reduce the potential for take of SNPL and CLTE associated with park visitor use and operations or otherwise reduce impacts of the proposed HCP. The bridge would enable continued access south of the creek when creek flows have become unsafe for crossing, thereby allowing access to the SVRA at a time it would otherwise be closed. This alternative has been previously studied by CDPR (Condor, Environmental Planning Services Inc., 2006), however, and was determined not to be viable. It is rejected from further consideration as an access alternative in the HCP.

9.1.3.2 Alternate Access Route

CDPR previously evaluated developing alternative vehicle access at the southern end of the park in 1991 (CDGS, 1991) and again in 2006 (Condor, Environmental Planning Services Inc., 2006). The 1991 study investigated five alternative access points, of which one was chosen as the least environmentally damaging corridor and the preferred alternative. This alternative is the Grand Avenue corridor; it had less-than-significant impacts on all resources considered in the study and required no mitigation measures. The expansion of the Pier Avenue entrance was the second least damaging, and it also had less-than-significant impacts on all resources considered in the study. Other alternatives considered were located at Railroad Road, Silver Spur Place, and Callender Road.

The 2006 analysis presented a comprehensive analysis of six alternative routes in addition to the two existing access corridors at Grand Avenue and at Pier Avenue. The options included three access corridors at the north end of the beach (Ocean Street, Creek Road, or Silver Spur Place) and three at the south end of the park (ConocoPhillips, Little Oso Flaco Lake, or Oso Flaco Lake). Extensive environmental impacts were associated with the construction of new alternative access roads, such as impacts on wildlife and plant life, traffic, cultural resources, and the visual character of the area. Therefore, the report recommended against constructing any new roads based on the conclusion that the existing two access corridors at Grand Avenue and Pier Avenue were the best means for providing vehicular access to the beach.

Both the 1991 and 2006 studies determined access was feasible, but the optional routes would have involved greater impacts than the current impact of using the existing northern access route. For this reason, an alternate access route to Oceano Dunes SVRA was rejected from further consideration as an access alternative in the HCP. Based on the available information, this alternative was eliminated from further consideration as it would not facilitate project objectives or reduce impacts of the proposed HCP. Future studies evaluating alternative access approaches may identify a less impactful southern access route, determine impacts can be avoided, or conclude that conditions otherwise warrant a southern access route. CDPR is preparing a PWP that may consider alternate southern access to the park (see EIR section 3.3). If alternate access becomes feasible and is proposed, it could be included in the HCP through an amendment.

9.1.4 Restricted Riding Times

9.1.4.1 Night Riding Closure

Motorized vehicle use at Oceano Dunes SVRA may occur at any time of day or night without riding hour restrictions. Oceano Dunes SVRA is a camping area and providing access to the park obligates allowing vehicles to move around 24 hours a day. The public has a legal right to leave their campsites at any time. Enforcement of night riding restrictions on OHVs or street-legal vehicles would be infeasible without overnight patrols, which are outside the current ability of CDPR. The impacts of nighttime riding on the environmental are impacts of the existing park operations. The proposed new covered activities do not change night riding impacts above environmental baseline conditions.

Nighttime riding has been previously evaluated by CDPR for potential effects on SNPL (Mad River Biologists, 2005). The study found there is a higher degree of reaction to an approaching vehicle at night than day probably equating to a lower risk of collision. Birds were more likely to respond to an approaching vehicle with flight during the night than during the day. Birds reacted to a spotlight from vehicles before reacting to the vehicle itself. The study was inconclusive regarding an elevated risk of take from nighttime riding, and it is unknown how many, if any, shorebirds are struck by vehicles at night. Even if feasible, prohibiting nighttime riding would not eliminate potential take of CLTE and SNPL from motor vehicle recreation and would not resolve CDPR's need for authorized take pursuant to an ITP. AMMs are in place to reduce potential effects related to night riding such as protection of night roosting, seasonal exclosure protection of nighttime foraging, and distribution of educational pamphlets to park visitors. Vehicles traveling at night could impact dispersing CRLF but this very unlikely due to low CRLF populations and the poor quality of the open riding area as CRLF habitat. Nighttime vehicle use would not impact tidewater goby. As a result, restricting nighttime vehicle use would not likely reduce any potential take impacts of the HCP covered species. Additionally, because nighttime riding is less prevalent than daytime riding and occurs within the same areas disturbed by daytime riding, eliminating night riding is unlikely to affect particulate emissions.

Given that prohibiting nighttime vehicle use is not operationally feasible, is unlikely to substantially reduce environmental effects of the new covered activities (e.g., air quality emissivity levels and increased risk of take of SNPL and CLTE), and does not meet several project objectives (e.g., avoid, minimize, and mitigate effects of take of the covered species; preserve, manage, and expand, as appropriate, motorized and non-motorized recreation; manage, maintain, and maximize, as appropriate, access to the unique coastal camping and recreational amenities in the HCP area), the nighttime riding restriction is rejected from further consideration.

9.1.4.2 Seasonal Closure to Motorized Recreation

The Seasonal Closure to Motorized Recreation Alternative is a variation of the No Take Alternative. Rather than permanently closing areas of the SVRA, this alternative would close large portions or all of the SVRA to motorized recreation either during the March 1 through September 30 breeding season or the October 1 to February 28 non-breeding season (when the majority of SNPL take occurs). The purpose of this alternative would be to reduce the activity generating the highest risk of take to covered species.

Approximately 300 acres of the open riding area are already seasonally closed for 7 months out of the year to provide protected nesting habitat for CLTE and SNPL. The Southern Exclosure

protects the most valuable and productive habitat within the HCP area. Temporal closure of the entire open riding area to motorized recreation and camping would unnecessarily prohibit public access on over 900 acres of non-primary nesting and foraging habitat where take is less likely to occur.

Given the year-round presence of SNPL and their wide dispersal during non-breeding months, seasonal closure of the park to motorized recreation would have a limited effect on reducing SNPL or CLTE take beyond the protection afforded by the proposed HCP and would not resolve the need for a take permit. The non-breeding season closure would not address CLTE take at all since CLTE does not winter in the HCP area. Similar to the No Take Alternative, the impact of the Seasonal Closure to Motorized Recreation Alternative upon recreation access would be substantial and would not meet CDPR's mandate to develop, manage, and operate the SVRA for the purpose of providing the fullest appropriate public use of the vehicular recreational opportunities present, while providing for the conservation of cultural resources and the conservation and improvement of natural resource values over time (PRC § 5090.43 (a)).

This alternative would also fail to meet project objectives of providing for public use and enjoyment and preserving, managing, and expanding recreational opportunities as appropriate and while conserving park resources. Given the documented stability of the CLTE and SNPL population levels existing in proximity to motorized recreation in the HCP area, seasonal closure of the SVRA whether in greater measure or in its entirety is unwarranted due to recreation access impacts and is rejected from further consideration.

9.1.5 Increased Vehicle Use Limits

In 2001, the CCC amended CDP #4-82-300 establishing daily limits on vehicles within Oceano Dunes SVRA: up to 2,580 street-legal vehicles, 1,000 street-legal vehicles for camping, and 1,720 OHVs, which is consistent with a carrying capacity study completed in 1998 (CCC, 2001). The CDP limits were intended to be interim, but given that the limits have been in place for almost 2 decades, CDPR has considered them to be permanent (CCC, 2001). More recently, in response to closures for dust control, CDPR administratively reduced the number of available camping units to 500. An increase in daily vehicle limits or camping limits without a corresponding increase in recreation acreage would compress vehicle recreation and camping into a smaller space at a higher concentration. The increase in vehicle use numbers could increase the risk of take of SNPL and CLTE and could necessitate an increase in the proposed HCP take limit of these species, although an increase in take may be avoidable given the HCP's extensive conservation program. Increased vehicle use limits could cause increased emissivity of PM_{10} in the open riding area resulting in increased air quality impacts.

This alternative is consistent with the project objective to preserve, maintain, and expand, as appropriate, motorized and non-motorized recreational opportunities. However, an increase in OHV limits would not serve the HCP conservation goals of species protection and population enhancement. Increasing camping limits would also not be consistent with the recent reduction in allowable camping vehicles due to dust control closures. At some point in the future, CDPR could seek to adjust vehicle use limits, but no change is proposed by the HCP, and no change has been identified that would achieve project objectives better than the proposed HCP. A formal carrying capacity study and any resulting changes to vehicle, camping, or other visitation numbers is beyond the scope of the HCP and this EIR. Given that this alternative does not avoid

or substantially reduce environmental impacts (e.g., potentially significant air quality impacts or the risk of take of covered species), this alternative is rejected from further consideration.

9.2 ALTERNATIVES CONSIDERED

Pursuant to CEQA Guidelines section 15126.6, the rationale for selecting the alternatives presented in this EIR is to attempt to feasibly attain most of the basic project objectives while avoiding or substantially lessening the significant effects of the project. As summarized in Table S-1 and described in corresponding EIR section 5.3, the proposed new HCP covered activities (CA-21 and CA-50) would have potentially significant impacts on air quality that require mitigation. The alternatives presented below focus on substantially reducing or eliminating the impacts of these covered activities.

9.2.1 Alternative 1: No Project Alternative

9.2.1.1 Alternative Description

CEQA Guidelines (§ 15126.6(e)) require evaluation of a "no project" alternative along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. When the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the "no project" alternative is the continuation of the existing plan, policy, or operation into the future. In this situation, the projected impacts of the proposed plan or alternative plans are compared to the impacts that would occur under the existing plan (§ 15126.6(e)(3)(A)). The impact of the no project alternative is analyzed by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

Under this alternative, the USFWS would not issue an ITP for the ODD parklands. Incidental take of SNPL, CLTE, CRLF, and tidewater goby that may occur from visitor uses and park operations, whether occurring presently or in the future, would be unauthorized, leaving the violation of FESA unresolved. CDPR would maintain its current park operations and continue implementation of its current conservation program including its annual strategy to avoid take. Changes proposed by the HCP, including SNPL chick and egg capture for captive rearing when eggs and chicks are observed to be threatened by non-covered species management activities (CA-12b), mechanical trash removal (CA-21), reduction of the East Boneyard Exclosure and 6 Exclosure (CA-50), and CDPR's use of UAS (CA-52) would not occur. The existing adaptive management process employed by CDPR would be kept in place. CDPR would continue to enforce regulations and voluntarily implement AMMs identified in the HCP section 5.2.3 (see AMM list in EIR Appendix B) to prevent take of SNPL, CLTE, CRLF, and tidewater goby and impacts to listed plants during covered activities; CDPR's commitment to funding and implementing the conservation program absent the ITP would be non-binding.

Future activities that may be proposed by CDPR, such as those identified in the HCP and in Table 2-4., that may require take authorization would require individual review and permitting by USFWS rather than occurring in one comprehensive review under the proposed HCP. CDPR would submit individual permit applications to USFWS as projects are proposed.

9.2.1.2 Environmental Analysis

Land Use. The No Project Alternative would have no impact on land use. The HCP does not propose a change in land use of the park property or conflict with land use policy. The current land uses of the park would remain unchanged similar to the proposed HCP.

Air Quality. Under the No Project Alternative, no changes would occur to the seasonal exclosure boundary. As a result, the potential increase in dust emissivity associated with increased vehicle recreation in the East Boneyard Exclosure and 6 Exclosure (CA-50) or Mechanical Trash Removal (CA-21) proposed by the project as described in EIR section 5.3 would not occur. There would be no potential increase in contribution to exceedance of PM_{10} ambient air quality standards downwind of Oceano Dunes SVRA. Project Mitigation Measures AIR-1A-D would not be required or implemented.

Biological Resources. Under the No Project Alternative, SNPL chicks and eggs observed threatened by covered activities not related to covered species management would not be captured for captive rearing (CA-12b; AMM 22). These chicks and eggs would be protected with single-nest exclosures and monitored but would otherwise remain vulnerable to take if chicks or eggs have been abandoned or are located in an area where travel to the shoreline for foraging exposes them to vehicle strike. Mechanical trash removal (CA-21) and its potential impacts upon the invertebrate population prey source for foraging shorebirds would not occur. No change to the seasonal exclosure (CA-50) would be implemented. Potential project decreases in nesting productivity associated with the incremental loss of protected prime CLTE and SNPL nesting habitat in the 6 Exclosure would be avoided. Conservation program activities that disturb federal species either directly (e.g., surveys, dip-netting surveys, etc.) or indirectly (predation of nests/chicks in exclosures, fence strikes, etc.) would continue and could result in authorized take similar to the proposed HCP, assuming CDPR retains 10(a)(1)(A) recovery permit authorization. Chick banding of SNPL occurs under an existing recovery permit and would presumably continue under the No Project Alternative as an authorized activity. Similarly, any ongoing impacts to covered or special-status species as described in this EIR caused by existing park visitor activities, natural resources management, park maintenance, visitor services, and other previously approved covered activities would continue. To the extent ongoing activities require periodic permit approval, such as tidewater goby and salmonid surveys, those activities and any resulting effects would only occur so long as the activity has permit authorization. The No Project Alternative would not cause new adverse impacts to either the covered or special-status species.

Under a No Project Alternative, CDPR might expand its protection of covered species (e.g., increasing monitoring) as funding and resources allowed. Without the CDPR funding commitments mandated by the ITP, however, some of the funding currently used to implement the rigorous monitoring and predator control programs could be redirected to other operations and needs within the Oceano Dunes District. This could interfere with CDPR's ability to successfully implement AMMs and could reduce overall breeding success and/or leave covered species vulnerable to injury or mortality in the HCP area.

Cultural Resources. The proposed new HCP covered activities (CA-21 and CA-50) would not impact cultural resources. Likewise, the No Project Alternative would not impact cultural resources.

Recreation and Public Access. Under the No Project Alternative, CDPR would continue to operate the park using existing visitor use boundaries and restrictions. No changes would occur to the present boundaries of the East Boneyard Exclosure (approximately 49 acres) and 6 Exclosure (60 acres), including restrictions on camping and parking within 100 feet of the exclosure fence. Recreation on 109 acres within these two exclosures would continue to be restricted for 7 months during the CLTE and SNPL nesting season. While the effect would be no change from existing conditions, this alternative prolongs the restricted access along roughly 0.5 miles of shoreline that has been seasonally closed in response to the Consent Decree. The loss at the time was considered temporal until an HCP could be prepared and the acreage or some portion of it could be regained for year-round recreational purposes. The proposed HCP represents an effort to reclaim recreational acreage while providing a robust natural resource conservation program in order to provide public use, motorized and non-motorized recreational opportunities while conserving park resources and minimizing take.

9.2.1.3 CDPR Consideration of Alternative

The No Project Alternative conflicts with CDPR's responsibility of managing state parkland in a manner consistent with governing laws while promoting accessible recreation. The No Project Alternative does not resolve the unavoidable, unauthorized take of federally-listed species by visitor use and park operations, and thus does not bring park operations into compliance with FESA. Eliminating AMM 22 as a management option would complicate implementation of dust control measures such as the new foredune closure. The No Project Alternative represents an unacceptable risk to CDPR for FESA violation and does not address conservation of species through formalized adoption and funding commitment of the conservation program. This alternative also would not avoid, minimize, and mitigate take or provide for public use and enjoyment while conserving park resources as effectively as the proposed HCP, and it would neither expand motorized and non-motorized recreational opportunities nor facilitate other conditions and obligations (e.g., the 2005 Consent Decree).

CDPR evaluated the possibility of obtaining take permits for individual maintenance and/or recreation activities, but rejected this alternative because of cost, staffing, and effectiveness considerations. Project-by-project permitting would require multiple permit applications, including possibly multiple HCPs resulting in a significant amount of USFWS and CDPR administrative effort. This alternative would also likely be less effective at protecting covered species than a single, comprehensive conservation program.

Given the failure of the alternative to meet project objectives, the No Project Alternative is not a viable option and is rejected by CDPR in favor of the proposed HCP project.

9.2.2 Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas

9.2.2.1 Description

Under the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative, the proposed change to the northern boundary of the seasonal exclosure (CA-50) would be eliminated from the HCP, and mechanical trash removal (CA-21) would be prohibited south of Post 4. The northern limit of the seasonal exclosure would remain in its current location at Post 6 rather than being incrementally shifted to Post 7. SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-

12b) and CDPR's use of UAS (CA-52) would remain as proposed. The purpose of this alternative would be to avoid activities with the potential to increase particulate emissions from the HCP area. CDPR would still propose eliminating the approximately 49-acre East Boneyard Exclosure. The Southern Exclosure would thus be approximately 251 acres. Section 5.2.3 of the HCP would be removed; however, all objectives and success criteria of HCP Table 5-7 (SNPL) and Table 5-8 (CLTE) would remain. All other features of the HCP would be implemented as described in Alternative 1.

9.2.2.2 Environmental Analysis

Land Use. The Reduced Disturbance in High PM_{10} Emissivity Areas Alternative would keep the northern boundary of the Southern Exclosure unchanged from its current location but would eliminate the East Boneyard Exclosure. The alternative would not conflict with land use policy, and other than allowing year-round recreation in the East Boneyard area, would not cause a change in land use of the park property. Mechanical trash removal does not affect land use policy or change land use of the park property.

Air Quality. Under the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative, the 60 acres of the 6 Exclosure proposed in CA-50 would not be opened to year-round riding but would remain seasonally closed 7 months out of the year. Furthermore, surface disturbance and reduction of surface organic matter caused by mechanical trash removal (CA-21) would not occur south of Post 4 in the areas identified as highest emissions potential by recent air quality monitoring (CDPR, 2019).

The 6 Exclosure area has the greatest potential for increasing the park's contribution to exceedance of PM_{10} ambient air quality standards downwind of Oceano Dunes SVRA due to its direct upwind location, sand composition, and emissivity characteristics. Under this alternative, the potential dust emissivity levels associated with vehicle recreation in this area would remain unchanged from current baseline conditions. The potentially significant impacts of increased vehicle recreation in the 6 Exclosure described in EIR section 5.3 would not occur. The potential increase in emissivity from removing material from the top layer of sand would also not occur south of Post 4. The air quality impacts associated with the elimination of East Boneyard and allowing year-round riding in this area would be the same as the proposed HCP.

Biological Resources. Under the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative, impacts associated with SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and CDPR's use of UAS (CA-52) would occur as proposed under the HCP. No change to the northern boundary of the seasonal exclosure at Post 6 would be implemented. This alternative avoids the uncertainty of the SNPL and CLTE response to the incremental reduction of the 6 Exclosure (CA-50). Maintaining the 6 Exclosure does not guarantee a continuation of current breeding successes and population growth trends into the future. Potential decreases in nesting productivity and potential increases in take due to nest establishment in formerly closed areas and territorial aggression causing increased chick movement into the open riding area associated with the incremental loss of primary SNPL and CLTE nesting habitat in the 6 Exclosure would be avoided. This alternative would also avoid some of the potential adverse effects of mechanical trash removal (CA-21) on SNPL nesting and wintering habitat by remaining north of Post 4. All other biological impacts of this alternative, including from elimination of East Boneyard, would be the same as the proposed HCP.

The 6 Exclosure provides 60 acres of primary habitat for both SNPL and CLTE nesting (HCP Maps 11 and 13) and is consistently the most productive nesting area of all the seasonal exclosure locations in the park. In recognition of the biological value of the 6 Exclosure for SNPL and CLTE breeding, the proposed HCP includes specific criteria that must be met for both SNPL and CLTE prior to and during implementation of a reduced 6 Exclosure (HCP section 5.2.3). These criteria have been established to ensure the HCP area continues to contribute to species recovery while cautiously reopening some or all of the 6 Exclosure shoreline to year-round recreation. Regardless, retaining the 6 Exclosure in its current configuration would avoid the potential impacts to breeding SNPL and CLTE described in sections 6.3.2.1 and 6.3.2.2, including possible increased territorial aggression and increased movement of breeding and rearing activity in the open riding area.

Cultural Resources. The Reduced Disturbance in High PM_{10} Emissivity Areas Alternative would not impact cultural resources. Neither the HCP proposed reduction of the 6 Exclosure nor mechanical trash removal would impact cultural resources (EIR section 7.3), so this alternative would have the same no impact on cultural resources as the proposed HCP.

Recreation and Public Access. Recreation opportunity has declined over the years in response to various factors (e.g., Consent Decree, Dust Control Program, natural and cultural resource management). Key changes in riding area restrictions are listed below in Table 9-1. Keeping the northern boundary of the seasonal exclosure at Post 6 would continue the existing access restriction on 60 acres of beach shoreline during the nesting season from March 1 through September 30. This closure coincides with the busy summer season when the demand for recreation space peaks and visitor use in the HCP area routinely reaches vehicle daily limits and camping limits. The 6 Exclosure covers one-half mile of shoreline and 60 acres in a prime camping area location. The camping area north of 6 Exclosure is densely packed during summer months. Under the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative, this existing condition would continue unchanged.

Under the proposed HCP, recreational access would be increased by 109 acres through exclosure reductions (6 Exclosure and East Boneyard). Under the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative, recreational access would be increased by approximately 49 acres – 60 acres less than the proposed HCP. This alternative reduces the Southern Exclosure from approximately 300 acres to approximately 251 acres rather than to 191 acres. This alternative reduces the recreational benefit of the proposed HCP. The alternative also eliminates the health and safety benefits mechanical trash removal would provide recreationists by removing broken glass, nails, and other debris from camping and other recreation sites south of Post 4.

9.2.2.3 CDPR Consideration of Alternative

The Consent Decree signed by Sierra Club and CDPR (discussed in EIR section 2.4.2.2 and HCP section 2.2.5.11) stipulates that the CDPR HCP application to the USFWS would support a northern boundary of the seasonal exclosure at Post 7. This alternative conflicts with the Consent Decree by maintaining the northern boundary of the seasonal exclosure at Post 6 and thus does not achieve the project objective of facilitating implementation of legal settlement conditions and obligations. CDPR rejected this alternative when preparing the HCP (HCP section 8.3). CDPR determined the conservation program proposed under the HCP provides adequate AMMs, and the biological criteria and other factors that are required to reduce the 6 Exclosure (HCP section 5.2.3) ensure that take of SNPL and CLTE as a result of reducing the exclosure size would be

minimized. Further, this alternative eliminates the incremental restoration of recreation opportunity on 60 acres at this location from 5 months per year to year-round and eliminates the benefits of debris removal in some recreation areas. This alternative conflicts with project objectives to preserve, manage, and expand motorized and non-motorized recreation opportunities and to manage, maintain, and maximize access to the unique coastal camping and recreational amenities as appropriate. The alternative preserves existing but not historic recreation opportunity. Likewise, the alternative maintains but does not maximize a unique coastal camping opportunity. The proposed HCP thus fully achieves project objectives of promoting species and habitat conservation, ensuring FESA compliance, and avoiding, minimizing, and mitigating take effects. The proposed HCP better meets project objectives of operating the covered park units in a manner that provides for public use and enjoyment while conserving park resources and preserving, managing, and expanding motorized and non-motorized recreational access. Given these considerations, the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative is rejected in favor of the proposed HCP.

9.2.3 Alternative 3: Permanent Year-Round Exclosures

9.2.3.1 Description

Under the Permanent Year-Round Exclosures Alternative, the open riding area boundary would be permanently modified to exclude the seasonal exclosure from recreational access. Proposed reduction of the East Boneyard Exclosure and 6 Exclosure (CA-50) would not occur. Other proposed new covered activities (i.e., SNPL chick and egg capture for captive rearing [CA-12]; mechanical trash removal [CA-21]; and CDPR's use of UAS [CA-52]) would remain as proposed. The permanent exclosure would not be actively managed by CDPR. The purpose of the alternative would be to provide wintering shorebird protection (including SNPL) and to improve SNPL and CLTE nesting habitat quality by limiting recreation disturbance. The Scientific Subcommittee formed in compliance with CDP 4-82-300, as amended, has long recommended that CDPR evaluate benefits of year-round exclosures. Such areas may become less productive over time as vegetation becomes established and reduces the open habitat favored by nesting SNPL and CLTE, but this possibility has not been analyzed in the HCP area. The perfect combination of open sand, microtopography, and scattered vegetation and debris is not fully known.

9.2.3.2 Environmental Analysis

Land Use. The Permanent Year-Round Exclosures Alternative would redefine the boundaries of the open riding area to permanently exclude all or part of the seasonally protected CLTE and SNPL nesting habitat. This alternative would not cause an overall change in land use of the park property or conflict with land use policy, but it would permanently decrease acreage open to recreation and access to the ocean and thus may be subject to Coastal Act permitting.

Air Quality. The seasonal exclosure is an area of relatively lower emissivity. Eliminating riding in this area would not increase PM emissions and may decrease emissions as vegetation becomes established. In general, the air quality impacts of this alternative would be similar to existing baseline conditions of park operations if the open riding area size remains the same. The air quality impact of this alternative would depend upon the location of the shifted riding area boundary. If the riding area is shifted from the north toward the south, there may be potential to reduce or avoid riding in areas of the park that have higher emissivity levels. This could

potentially reduce park contributions to exceedances of ambient air quality standards described in existing conditions (EIR section 4.2).

Biological Resources. Observations in the HCP area indicate that once a foredune system creates significant topographic relief and dense vegetation, it is less productive for nesting, although the exact reasons are unknown (HCP section 2.2.2.1.2). CDPR has analyzed nesting density and productivity in areas within the HCP that have a developed foredune system and found it does not support nests at the same density and with the same success as in the seasonal exclosure. Over the years, North Oso Flaco and South Oso Flaco (year-round exclosures) have become less productive than 6 Exclosure and 7 Exclosure (seasonal exclosures). Under the Permanent Year-Round Exclosures Alternative, habitat would not be managed and over time would likely become less productive. Under the proposed HCP, CDPR may consider implementing small rotating closures, which would allow for some development of habitat features that would benefit breeding SNPL and CLTE but avoid the eventual long-term decline of habitat values that would be expected from a year-round closure (see HCP section 2.2.2.1.2).

Establishing a year-round exclosure may benefit SNPL and CLTE, at least temporarily, by providing protected wintering habitat and allowing development of microtopography and retain wrack and other debris that can enhance breeding success, including by increasing invertebrate food resources. The majority of SNPL take at Oceano Dunes SVRA has occurred after seasonal exclosure fencing is removed. Retention of exclosure fencing year-round does not guarantee that SNPL and CLTE would stay within the protective fencing during the breeding season, and SNPL disperse more widely throughout the SVRA during the wintering season. This alternative may reduce but not eliminate the potential risk for take. Additionally, at some point vegetation may become too dense, topography may become too steep due to foredune development, or predation may increase, but the exact point at which this outcome might occur is not known. It is assumed, however, that there would be an eventual incremental loss of productivity in the 6, 7, and 8 exclosures because of development of features that do not support density of nests compared to current conditions. The reduced productivity within the Oso Flaco area and movement of the majority of CLTE nesting toward the 6 Exclosure is indicative of this potential productivity decline. Native plants would benefit from the elimination of vehicles, which prevent pioneering vegetation from establishment.

Cultural Resources. Retaining the seasonal exclosure as a year-round exclosure would have no impact on cultural resources. Shifting the open riding area to the south toward Oso Flaco could expose new shoreline areas to motorized recreation. This area has medium to high cultural sensitivity (Figure 7-1). Shifting recreation to this area could introduce new impacts to cultural resources.

Recreation and Public Access. The Permanent Year-Round Exclosures Alternative would eliminate recreation access to 300 acres (seasonal exclosure) that are seasonally available 5 months per year during fall and winter months. Replacing lost access for coastal recreation and camping would likely require a shift of the open riding area away from the shoreline between Post 6 and Post 8 toward Oso Flaco, which is currently outside of the riding area. Assuming replacement acreage could be located, it is possible there would be no net loss in riding and camping area size, but providing this additional acreage would be subject to additional permitting processes that are beyond the scope of the HCP and may not be feasible. Dependent upon the location of replacement acreage, there could be a loss in shoreline access. Finding replacement acreage would also be more difficult in light of the PMRP, which includes closing

off additional recreation acreage for vegetation planting and other dust control measures. This alternative would increase the loss of recreation opportunity by 5 months each year (from 7 months to year-round).

The area available (open) to OHV riders has decreased by one-third since 1975 when the Pismo Dunes General Plan was first published. The 1975 General Plan identifies 2,000 acres of sand dunes available for OHV recreation. Since 1975, the acreage available for year-round motorized recreation in Oceano Dunes SVRA has been gradually reduced to protect sensitive natural and cultural resources Table 9-1.. Seasonal restrictions have also been implemented to protect CLTE and SNPL nesting habitat and to reduce dust emissions. Currently, the open riding area open to OHV use is 1,305 acres, which includes approximately 300 acres that are seasonally closed for nesting habitat (Table 8-4.).

Table 9-1. History of Riding Area Restrictions

Year	Change in Recreation Area
1975	State Beach and SVRA General Development Plan approved with goal of providing 2,000 acres for motorized recreation. The open riding area was unfenced and included much of Pismo State Beach.
1982	CCC issues CDP #4-82-300 authorizing 35,000 linear feet of fencing to establish riding area boundaries that exclude sensitive dune vegetation and wetland areas.
1997–1999	Exclosures located along the small foredune hummocks at the south end of the OHV open riding area (Post 8) and behind the foredunes at the south-western edge of the OHV open riding area (Boneyard Flats). Exclosures expand from 26 acres in 1997 to 37 acres in 1998–1999.
2001	Exclosure was extended from the 7.5 revegetation area north to Post 7. The 7-8 Exclosure is 80 acres. Boneyard Exclosure is connected to the 7–8 Exclosure and is 75 acres.
2003–2005	Consent Decree between CDPR and Sierra Club extends seasonal exclosure north to Post Marker 6 and south to Oso Flaco [Boneyard extension]. Roughly 1.5 miles of shoreline is closed to visitor use annually from March through September. Southern Exclosure is 261 acres (6–8 Exclosures: 185 acres; Boneyard Exclosure: 76 acres).
2016–2018	CDPR expands width of seasonal exclosures using bumpout fencing as needed in response to CLTE and SNPL annual monitoring (HCP Maps 11c and 13c). Bumpouts range in size annually from 11 to 14 acres.
2017	CDPR approves Dust Control Program removing 100 acres of riding area in SVRA for permanent revegetation and 40 acres for seasonal measures such as wind fencing.
2018	Total riding area identified in Oceano Dunes District HCP is 1,353 acres with 300 acres closed seasonally by exclosures.
2019	Draft PMRP with amended SOA expand proposed dust control activity on up to 371 acres of riding and camping area, plus approximately 3 acres closed for monitoring equipment and 3 additional acres closed to camping in foredune alleys. CCC issues Emergency Permit (CDP# G-3-19-0053) authorizing fencing of a 48-acre area north of Post 6 to prohibit vehicle access (starting in December) reducing riding area to 1,305 acres.

Cumulative projects listed in Table 3-1. have potential to affect recreation opportunity. With the exception of the new PMRP (CA-44), CDPR's potential future HCP projects and PWP projects would support or expand recreational opportunity by either improving existing park facilities or developing new park facilities. The draft PMRP prepared by CDPR, as described in HCP section 2.2.5.5 as amended by the November 2019 SOA, would potentially eliminate up to 374 acres of open riding area in the SVRA (52 acres of foredune planting, 319 acres of back dune area converted to vegetation, and 3 acres of monitoring equipment) plus 3 acres of foredune alleys (travel corridors) closed to camping.

The 48-acre foredune area has been fenced but not planted along 1.5 miles of beach shoreline from south of Post 4 to north of Post 6 (Figure 3-1) in a location heavily used for shoreline camping. The 48-acre foredune plus the associated 3 acres of alleys, which are closed to camping to ensure the areas stay open for vehicular movement, remove approximately 51 acres from use as camping space. CDPR would also plant 4 acres of additional foredune vegetation. The location of this 4-acre foredune planting site is not yet determined, but it would be closed to camping. Based on observed camping patterns and vehicle distribution, the loss of 55 acres in this shoreline area could eliminate space for up to 500 overnight camping vehicles. A small portion of these lost camping spaces could be recovered through visitor education on higher density space allocation. Given the reduction in camping area, CDPR has administratively reduced the number of allowable camping vehicle by 500, a 50-percent reduction in the park's daily camping vehicle use limit of 1,000 street-legal vehicles. During the peak camping season (May through September) and holidays when daily vehicle use is at capacity limits, the loss of 55 acres of shoreline camping space and lower camping limits would result in unmet demand for camping access. Some of the displaced campers could be satisfied by rescheduling their visits to non-peak periods, but for other campers, the demand for summer month and holiday camping access would go unmet.

The southern edge of the new foredune extends to roughly 330 feet north of the 6 Exclosure northern fenceline. Vehicles traveling between the backdune riding areas and the shoreline camping area may use this Post 6 location or two narrow (approximately 100-foot wide) alleys through the foredune as an east-west travel route. SNPL and CLTE nest in the 6 Exclosure and have the potential to nest near the 6 Exclosure northern fencing, within the foredune, or within the vehicle travel corridor between the 6 Exclosure and new foredune. This is less likely to occur for CLTE than for SNPL. If it occurs, bumpout fencing or a single nest exclosure would be established around the nesting SNPL or CLTE to create a buffer from vehicle disturbance per SNPL and CLTE AMMs (see SNPL AMM11 and AMM13 and CLTE AMM10, AMM12, and CLTE14). The required buffer distances (up to 500 feet) could result in closure of the vehicle travel corridor at Post 6 for extended periods during the nesting season. This would result in interrupted travel patterns, creating access, traffic circulation, and especially safety impacts by restricting emergency responder (e.g., ambulance, EMT) access potential.

While the closure of recreational acreage associated with the PMRP is reflected in the HCP, the PMRP is an independent, separately proposed planning project subject to separate CEQA review and CDPR approval. The loss of recreation acreage and corresponding loss of camping vehicles allowed at the SVRA could be considered a significant reduction in coastal recreation opportunity and public access. This loss of recreation opportunity under the Permanent Year-Round Exclosure Alternative would combine with the PMRP camping reduction to potentially create a significant and unavoidable cumulative loss of recreation opportunity.

9.2.3.3 CDPR Consideration of Alternative

The Permanent Year-Round Exclosures Alternative would retain seasonal exclosure fencing year-round to provide protection of wintering SNPL and improved SNPL and CLTE nesting habitat. Given the success of the current conservation program using the existing seasonal exclosure size, establishing permanent year-round exclosures is unnecessary to achieve project objectives. The alternative could possibly be designed to avoid a net loss of recreation area; however, even if finding additional acreage for recreation proves feasible, doing so would likely shift the open riding area away from the shoreline, which is primary nesting habitat, and reduce beach access for OHV recreation and camping. This loss of shoreline access conflicts with project objectives to balance conservation and recreation demands, particularly to preserve, manage, and expand recreational opportunities and to manage, maintain, and maximize unique coastal camping and recreational amenities.

The Consent Decree signed by Sierra Club and CDPR (discussed in EIR section 2.4.2.2 and HCP section 2.2.5.11) stipulates that the CDPR HCP application to the USFWS would support a northern boundary of the seasonal exclosure at Post 7. This alternative conflicts with the Consent Decree by maintaining the northern boundary of the seasonal exclosure at Post 6 and thus does not achieve the project objective of facilitating implementation of legal settlement conditions and obligations. The conservation program proposed under the HCP provides adequate AMMs, and the criteria that are required to reduce the 6 Exclosure (HCP section 5.2.3) ensure that take of SNPL and CLTE as a result of reducing the exclosure size would be minimized. Further, the proposed incremental reduction of 60 acres of 6 Exclosure would restore recreation opportunity at that location from 5 months per year to year-round, which would provide additional recreation opportunity. In contrast, the Permanent Year-Round Exclosures Alternative would, in a best-case scenario, create no net loss of recreation, but if CDPR could not identify replacement riding and camping acreage, could combine with the PMRP recreation reduction to create a significant and unavoidable cumulative loss of recreation opportunity.

The proposed HCP thus fully achieves project objectives of promoting species and habitat conservation, ensuring FESA compliance, and avoiding, minimizing, and mitigating take effects. The proposed HCP better meets project objectives of operating the covered park units in a manner that provides for public use and enjoyment while conserving park resources and preserving, managing, and expanding, as appropriate, motorized and non-motorized recreational access. The Permanent Year-Round Exclosures Alternative is rejected in favor of the proposed HCP.

9.2.4 Alternative 4: Reduced Vehicle Use Limits

9.2.4.1 Description

Under the Reduced Vehicle Use Limits Alternative, CDPR would consider reducing day use vehicle and OHV use numbers for the purpose of reducing environmental impacts associated with motorized recreation. The reduction of vehicle numbers would not be limited to camping vehicles as proposed under the PMRP, and already implemented administratively, but would include street-legal and OHV day use vehicles. All new proposed covered activities (i.e., SNPL chick and egg capture for captive rearing [CA-12]; mechanical trash removal [CA-21]; reduction of the seasonal exclosure [CA-50]; and CDPR’s use of UAS [CA-52]) would remain as proposed under the HCP.

9.2.4.2 Environmental Analysis

Land Use. The Reduced Vehicle Use Limits Alternative would reduce day use and camping vehicle access to the HCP area. This alternative would not cause an overall change in the type of land use of the park property or conflict with land use policy. It would reduce motorized recreation in the HCP area, which is generally considered ESHA, but it would also reduce access to coastal recreation opportunity and thus may be subject to Coastal Act permitting.

Air Quality. The Reduced Vehicle Use Limits Alternative would not change the open riding area boundary, so the acreage of sand surface disturbed under this alternative would not change. The relationship between number of vehicles and emission levels is not well understood. It is unknown whether a decrease in vehicle activity could help reduce PM_{10} emissivity levels and help offset the potential increase in PM_{10} emissions caused by the proposed reduction in Boneyard Exclosure and 6 Exclosure. It is assumed in the EIR that the project's potential air quality impacts would not be avoided, and mitigation measures AIR-1A through AIR-1D would still be required.

Biological Resources. It is possible that reducing the number of vehicles in the HCP area could lower the risk of take of SNPL and CLTE caused by proposed new covered activities (i.e., reduction of Boneyard Exclosure and 6 Exclosure; CA-50) and potential future covered activities (dust control activities – new PMRP; CA-44); however, the reduction in risk is difficult to assess and may not result in actual reduced take. Risk of take from proposed new and potential future covered activities would not be eliminated since motorized recreation would still occur in areas where SNPL and CLTE exist.

Cultural Resources. The Reduced Vehicle Use Limits Alternative would not introduce new impacts to cultural resources. The alternative would not change the open riding area boundaries or exposure of culturally sensitive areas to motorized recreation. The effects would remain the same as baseline conditions. The new covered activities of the HCP would not impact cultural resources (EIR section 7.3), so the Reduced Vehicle Use Limits Alternative would have the same no impact on cultural resources as the proposed HCP.

Recreation and Public Access. Historically, recreation acreage opportunity in the HCP area has decreased over the years due to various factors (e.g., CDP, Consent Decree, Dust Control Program, natural and cultural resource management) as shown in Table 9-1. The open riding area is currently 1,305 acres of which 300 acres are seasonally closed to motorized recreation. This existing reduction of recreational acreage by seasonal fencing coincides with summer months when recreation demand is at its highest. Under the Reduced Vehicle Use Limits Alternative, the potential reduction of the seasonal exclosure (CA-50) would still occur opening up approximately 49 acres of dunes (East Boneyard) and up to 60 acres of shoreline (6 Exclosure). The reduced number of day use vehicles and OHVs, in addition to the recent camping vehicle reduction, combined with the potential opening of up to 60 acres of shoreline access suitable for shoreline recreation and camping would ease congestion, especially for camping, that occurs during the peak summer visitation months. As a result, the Reduced Vehicle Use Limits Alternative would reduce the density of motorized recreation beyond the density reduction achieved by the proposed project CA-50 alone and beyond that anticipated by the PMRP, which solely proposes reducing camping numbers.

Although the acreage of the riding and camping area available to the public would be increased, the Reduced Vehicle Use Limits Alternative would reduce the number of park visitors able to

access the HCP area via motorized vehicles, including visitors such as surfers, anglers, and disabled individuals, and others who currently use vehicles to access the shoreline. The impact of reduced vehicle use numbers on public recreation would be most keenly felt during the summer season when day use and camping vehicles regularly reach permitted limits. Reduced vehicle limits would increase the unmet demand for coastal OHV recreation and camping, which has been exacerbated by past reductions in recreation access. The lost recreation opportunity would combine with the PMRP's reductions in camping numbers and recreation area to potentially create a significant and unavoidable cumulative loss of recreation opportunity.

9.2.4.3 CDPR Consideration of Alternative

Under the Reduced Vehicle Use Limits Alternative, the HCP as proposed would be implemented with the addition of reduced vehicle use limits. The potential for SNPL and CLTE take during the breeding season could be reduced somewhat but not eliminated, and the potential for SNPL take during the non-breeding season would not be eliminated. Reducing vehicle use numbers, whether year-round or solely in the non-breeding season, would not provide a clear and substantial reduction in take and could have substantial adverse impacts to motorized recreation and vehicular access to non-motorized recreation. The combination of reduced vehicle numbers and expanded recreational acreage from the proposed reduction of the Boneyard Exclosure and 6 Exclosure would reduce the density of vehicles and camping on the beach. Less congestion is a recreational benefit; however, reduced vehicle limits represents a loss of public access and an increase in unmet demand for coastal recreation opportunity. The alternative does not substantially reduce environmental impacts of increased risk of take of SNPL and CLTE or increases in emissivity of PM_{10} and could combine with the PMRP recreation reduction to create a significant and unavoidable cumulative loss of recreation opportunity. The proposed HCP better meets project objectives of operating the covered park units in a manner that provides for public use and enjoyment while conserving park resources; preserving, managing, and expanding motorized and non-motorized recreational opportunities; and managing, maintaining, and maximizing access to unique coastal camping and recreational amenities. Given these considerations, the Reduced Vehicle Use Limits Alternative is rejected in favor of the proposed HCP.

9.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The purpose of the alternatives analysis is to identify project alternatives that "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project[.]" (CEQA Guidelines § 15126.6(a)). The discussion above presents alternatives to the proposed HCP based on the identified potentially significant impacts. The environmental impacts of the alternatives are compared in Table 9-2.

Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas Alternative is considered the environmentally superior alternative. This alternative would allow CDPR to obtain most of the project objectives and avoid the potential impacts on air quality (dust emissions) and biology (CLTE and SNPL nesting habitat) associated with opening the 6 Exclosure to year-round riding and initiating mechanical trash removal south of Post 4. The alternative would not achieve the project objective of facilitating implementation of legal settlement conditions and obligations. The proposed HCP better meets the project objectives of operating the covered park units in a manner that provides for public use and enjoyment while conserving park resources and

preserving, managing, and expanding, as appropriate, motorized and non-motorized recreational access. Since project mitigation is available to reduce the proposed HCP's potential impacts on nesting habitat and air quality to a less-than-significant level, and because this alternative would not meet all project objectives, Alternative 2, the Reduced Disturbance in High PM_{10} Emissivity Areas Alternative was not selected.

Table 9-2. Comparison of Proposed HCP Program Impacts Against HCP Program Alternatives

Resource	Proposed HCP	Alternative 1: No Project	Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas	Alternative 3: Year-Round Exclosure	Alternative 4: Reduced Vehicle Use Limits
Land Use Plans and Policies	Does not conflict with existing plans and policies.	Does not conflict with existing plans and policies.	Does not conflict with existing plans and policies.	Does not conflict with existing plans and policies.	Does not conflict with existing plans and policies.
Air Quality	Mechanical trash removal (CA-21) and reduction of the Boneyard Exclosure and 6 Exclosure (CA-50) could increase PM_{10} emissions and contribute to existing or projected exceedances of NAAQS and/or CAAQS. Mitigation Measures AIR-1A through AIR-1D reduce the effect to less than significant. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	PM_{10} emissions from mechanical trash removal (CA-21) and reduction of the Boneyard Exclosure and 6 Exclosure (CA-50) would not occur. PM_{10} emissions from existing OHV recreation would continue to occur. No change from existing condition. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	Mechanical trash removal (CA-21) would not occur in high PM10 emissive areas and is unlikely to contribute to air quality impacts. Mitigation Measure AIR-1D would not be required. Reduction of the 6 Exclosure would not occur and no increase in PM_{10} emissions from year-round OHV recreation would occur. Mitigation Measure AIR-1B would not be required. Reduction of the Boneyard Exclosure CA-50) could increase PM_{10} emissions and contribute to existing or projected exceedances of NAAQS and/or CAAQS. Mitigation Measures AIR-1A and AIR-1C would still be required to reduce the	Mechanical trash removal (CA-21) could increase PM_{10} emissions and contribute to existing or projected exceedances of NAAQS and/or CAAQS. Mitigation Measures AIR-1A and AIR-1D would still be required to reduce the effect to less than significant. Permanent closure of 300 acres of riding area acreage seasonally open to OHV disturbance would reduce PM_{10} emissions generated from that area. Mitigation Measures AIR-1B and AIR-1C would not be required. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	Mechanical trash removal (CA-21) and reduction of the Boneyard Exclosure and 6 Exclosure CA-50) could increase PM_{10} emissions and contribute to existing or projected exceedances of NAAQS and/or CAAQS. Mitigation Measures AIR-1A through AIR-1D reduce the effect to less than significant. Reduced number of vehicles permitted would have unknown impact on PM_{10} emissivity and is unlikely to offset the project's potential air quality impacts. Mitigation measures AIR-1A through AIR-1D would still be required. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-

Table 9-2. Comparison of Proposed HCP Program Impacts Against HCP Program Alternatives

Resource	Proposed HCP	Alternative 1: No Project	Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas	Alternative 3: Year-Round Exclosure	Alternative 4: Reduced Vehicle Use Limits
			effect to less than significant. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.		covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.
Biology Resources	SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-121b) would reduce mortality of individual SNPL at risk for take. Mechanical trash removal (CA-21) could reduce the invertebrate prey population supporting foraging wintering shorebirds. Exclosure reductions (CA-50) would remove seasonally protected	No change to existing conditions.	SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) would reduce mortality of individual SNPL at risk for take. Mechanical trash removal (CA-21) could reduce the invertebrate prey population supporting foraging wintering shorebirds. Exclosure reductions (CA-50) would remove seasonally protected breeding habitat for SNPL and CLTE on approximately 49 acres of mostly non-	SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) would reduce mortality of individual SNPL at risk for take. Mechanical trash removal (CA-21) could reduce the invertebrate prey population supporting foraging wintering shorebirds. Exclosure reductions (CA-50) would not occur as proposed. Permanent closure of 300 acres of seasonal riding area would provide protected wintering habitat. Incremental	SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) would reduce mortality of individual SNPL at risk for take. Mechanical trash removal (CA-21) could reduce the invertebrate prey population supporting foraging wintering shorebirds. Exclosure reductions (CA-50) would remove seasonally protected breeding habitat for SNPL and CLTE on up to 60

Table 9-2. Comparison of Proposed HCP Program Impacts Against HCP Program Alternatives

Resource	Proposed HCP	Alternative 1: No Project	Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas	Alternative 3: Year-Round Exclosure	Alternative 4: Reduced Vehicle Use Limits
	breeding habitat for SNPL and CLTE on up to 60 acres of primary habitat (6 Exclosure) and approximately 49 acres of mostly non-primary habitat (East Boneyard). CDPR's use of UAS (CA-52) could disrupt shorebirds including special-status species. Effects would be reduced by implementation of AMMs incorporated into the HCP.		primary habitat (East Boneyard). CDPR's use of UAS (CA-52) could disrupt shorebirds including special-status species. Effects would be reduced by implementation of AMMs incorporated into the HCP.	loss of productivity in the 6, 7, and 8 exclosures may occur due to development of the foredune and topography that is less likely to support density of nests compared to current conditions. CDPR's use of UAS (CA-52) could disrupt shorebirds including special-status-species. Effects would be reduced by implementation of AMMs incorporated into the HCP.	acres of primary habitat (6 Exclosure) and approximately 49 acres of mostly non-primary habitat (East Boneyard). Effects on SNPL and CLTE would be reduced by implementation of AMMs incorporated into the HCP. Reduced vehicle numbers could generally reduce risk of existing impacts to biological resources from motorized recreation; however, risk for take of SNPL and CLTE would not be eliminated. CDPR's use of UAS (CA-52) could disrupt shorebirds including special-status species. Effects would be reduced by implementation of AMMs incorporated into the HCP.
Cultural Resources	Does not impact existing cultural resources.	No change to existing conditions.	Does not impact existing cultural resources.	Does not impact existing cultural resources.	Does not impact existing cultural resources.

Table 9-2. Comparison of Proposed HCP Program Impacts Against HCP Program Alternatives

Resource	Proposed HCP	Alternative 1: No Project	Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas	Alternative 3: Year-Round Exclosure	Alternative 4: Reduced Vehicle Use Limits
Recreation	Mechanical trash removal (CA-21) would reduce trash and debris in beach areas open to recreation. Exclosure reductions (CA-50) would expand existing recreational opportunities from seasonal access (Oct–Feb) to year-round access in 6 Exclosure (up to 60 acres) and East Boneyard (47 acres). No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	No change to existing conditions.	Mechanical trash removal (CA-21) would reduce trash and debris in beach areas open to recreation north of Post 4. Exclosure reduction (CA-50) would occur in Boneyard Exclosure only. Existing recreational opportunities would be expanded from seasonal access (Oct–Feb) to year-round access in East Boneyard (47 acres). Some areas north of Post 4 would have reduced trash/debris. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	Mechanical trash removal (CA-21) would reduce trash and debris in beach areas open to recreation. Exclosure reductions (CA-50) would not occur. Existing recreational opportunities would be permanently removed from access year-round on 300 acres in riding area. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.	Mechanical trash removal (CA-21) would reduce trash and debris in beach areas open to recreation. Exclosure reductions (CA-50) would expand existing recreational opportunities from seasonal access (Oct–Feb) to year-round access in 6 Exclosure (up to 60 acres) and East Boneyard (47 acres). Reduced vehicle numbers combined with opening the 6 Exclosure (CA-50) could reduce camping congestion and density experienced during summer months. Reduced vehicle numbers would reduce the number of visitors that can access the SVRA and increase the existing unmet demand for coastal OHV recreation and camping. No impacts from SNPL chick and egg capture for captive rearing if observed to be threatened by non-

Table 9-2. Comparison of Proposed HCP Program Impacts Against HCP Program Alternatives					
Resource	**Proposed HCP**	**Alternative 1: No Project**	**Alternative 2: Reduced Disturbance in High PM_{10} Emissivity Areas**	**Alternative 3: Year-Round Exclosure**	**Alternative 4: Reduced Vehicle Use Limits**
					covered species management activities (CA-12b) or CDPR's use of UAS (CA-52) would occur.
Meet Project Objectives?	Yes	No	Partial	Partial	Partial

This page intentionally left blank.

Chapter 10 OTHER CEQA CONSIDERATIONS

10.1 POTENTIALLY UNAVOIDABLE SIGNIFICANT IMPACTS

There are no significant unavoidable impacts associated with the Oceano Dunes HCP. Potentially significant impacts of the HCP are identified in this EIR for Air Quality along with mitigation measures that would reduce or avoid these impacts. All proposed HCP new activity impacts can be reduced to a less-than-significant level with mitigation.

10.2 GROWTH INDUCEMENT

The proposed Oceano Dunes HCP would implement a conservation program for park operations at Pismo State Beach and Oceano Dunes SVRA in support of an application to the USFWS for an ITP as described in EIR section 2.4. The HCP covered activities largely consist of existing operations. New operations proposed by the HCP include SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities (CA-12b), mechanical trash removal (CA-21), changes to the East Boneyard Exclosure and 6 Exclosure (CA-50), and CDPR's use of UAS (CA-52). Future covered activities identified in the HCP include propagation and outplanting of listed plants (CA-15), cable fence replacement (CA-28), Pismo Creek Estuary seasonal (floating) bridge (CA-41), riding in 40 Acres (CA-42), replacement of the safety and education center CA-43), dust control activities – new PMRP (CA-44), Oso Flaco Lake boardwalk replacement (CA-48), and special projects (CA-49).

The HCP approval and subsequent issuance of the federal ITP would satisfy the federal permit requirement for future covered activities and therefore remove the federal biological permit from the regulatory approval process of these future projects. The HCP and ITP do not grant any other entitlements to future projects and do not obviate the need for future permits and approvals.

The HCP does not build capacity for future park improvements and does not involve infrastructure changes that would promote development of urban growth or conversion of land from existing park uses. The HCP would not induce growth of park visitation. Park visitor vehicle limits are set by the CDP, and current limits would remain in effect unchanged by the HCP. As such, the proposed HCP is not growth inducing.

10.3 IMPACTS FOUND TO BE NOT SIGNIFICANT

Using the CEQA Guidelines Appendix G checklist, CDPR has determined the proposed HCP new activities would clearly result in no impact or a less-than-significant impact to the resources described below.

10.3.1 Aesthetics

The HCP area is located within the San Luis Obispo County Coastal Zone. Visibility of the HCP area is restricted to views from within Pismo State Beach and Oceano Dunes SVRA and views from the adjacent stretch of State Route 1. None of the highway segments that are located near the HCP area (State Route 1 and U.S. 101) are officially designated as State Scenic Highways (Caltrans, 2017). State Route 1 becomes a State Scenic Highway north of the city of San Luis Obispo, about 14 miles north of the HCP area. Proposed HCP new activities (i.e., SNPL chick

and egg capture for captive rearing if observed to be threatened by non-covered species management activities [CA-12b]; mechanical trash removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]) do not involve construction or any visual changes in the HCP area.

The general area contains scenic resources such as trees; however, none are within view of a state scenic highway. HCP activities would not result in the removal of any trees, rock outcroppings, or historic buildings within view of a state scenic highway. The work proposed would not significantly alter the existing visual character in HCP area. The proposed HCP new activities would not create a new source of substantial light or glare affecting day or nighttime views in the area as no exterior lighting is proposed. The HCP would have ***no impact*** on aesthetics.

10.3.2 Agricultural and Forest Resources

The HCP area is predominantly a beach dune system with few trees that does not generally contain agricultural or forestry land. However, the Oceano Dunes District leases two parcels comprising 136 acres of land east of Oso Flaco Lake to an agricultural operator (Figure 2-3). These lands have been actively farmed for more than 30 years and are listed as Prime Farmland and Farmland of Statewide Importance (Farmland) according to the Farmland Mapping and Monitoring Program (CDC, 2016). These parcels are zoned for agricultural use (County of San Luis Obispo, 2017). The remainder of the 5,005-acre HCP area does not contain Farmland and is not zoned for agriculture or forestry (County of San Luis Obispo, 2017). None of the HCP area parcels are under a Williamson Act Contract.

The proposed HCP new activities involve SNPL chick and egg capture for captive rearing (CA12b), mechanical trash removal (CA-21), changes to the seasonal exclosure boundaries (CA-50), and CDPR's use of UAS (CA-52). These activities would not occur on agricultural land or affect agricultural uses. HCP covered activities involving maintenance of two ditches that flow from the agricultural lands into Oso Flaco Lake (CA-46) and maintenance of a bioreactor on agricultural lands to remove nitrates and improve water quality (CA-47) are existing park operations that would remain unchanged. The HCP would not prevent the continued agricultural use of the two parcels leased to an agricultural operator. The proposed HCP new activities would not take place near these two parcels and would not adversely impact the agricultural uses. The HCP would have ***no impact*** on agricultural or forest resources.

10.3.3 Geology and Soils

The proposed Oceano Dunes District HCP area is situated in the Guadalupe-Nipomo Dune Complex, an 18-mile long coastal dune landscape that occupies approximately 18,000 acres in southwestern SLO County and northwestern Santa Barbara County (USFWS, 2012). Several sources identify the Guadalupe-Nipomo Dune Complex as "one of the largest coastal dune landscapes along the west coast of North America" (USFWS, 2012). A portion of the dune complex is designated the Nipomo Dunes-Point Sal Coastal Area Natural National Landmark, an area that contains "the largest, relatively undisturbed coastal dune tract in California, and is one of the last remaining tracts of pristine rocky coastline in the South Coast Ranges" (NPS, 2012). Though these descriptions vary slightly, they generally identify the Guadalupe-Nipomo Dune Complex as a unique coastal dune landscape with few, if any, parallels in size. According to the Natural Resources Conservation Service, the Beaches soil map unit (Unit 107) includes sands in

the intertidal zone characterized by rapid permeability, low to very low available water capacity, slow surface runoff, and high to very high erosion hazard due to wind and wave action (SCS, 1984). The Dune Land unit (Unit 134) consists primarily of hilly areas along the coast that are composed of sand-sized particles that shift with the wind. These areas are characterized by very rapid permeability, very low available water capacity, slow surface runoff, and very high sand-blowing hazard.

The 2008 Soil Conservation Standards and Guidelines state that OHV recreation facilities should be managed for sustainable long-term prescribed use, including the minimization of negative effects such as soil loss, erosion, and sedimentation. Management of OHV facilities is further governed by PRC sections 5090.2 and 5090.35, which emphasize that OHV use should be managed for sustained long-term use and that the protection of public safety, the appropriate utilization of lands, and the conservation of land resources are of the highest propriety in the management of SVRAs. The California Coastal Act also requires development to reduce potential impacts from geologic and soil conditions.

The HCP area and vicinity are subject to substantial, natural erosion forces that are independent of the proposed HCP new activities. Active dunes are part of a dynamic, wind-blown environment where the predominant earth material is sand. Strong winds continually blow sand from the ocean to create the dunes. The HCP proposed new activities (i.e., SNPL chick and egg capture for captive rearing if observed to be threatened by non-covered species management activities [CA-12b]; mechanical trash removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]) do not involve grading, excavation, or soil hauling that could result in soil loss or erosion. Mechanical trash removal (CA-21) would disturb the surface layer of sand (top 6 to10 inches) in raked areas; however, since mechanical trash removal would only occur in high use areas where people congregate, the mechanical trash removal would not create new areas of sand disturbance. Mechanical trash removal and exclosure reductions would occur in a sand sheet that does not contain an organic soil horizon (e.g., topsoil). These activities would not occur within a vegetated area and therefore would have no impact on soil erosion or loss of topsoil. The proposed HCP new activities would have a ***less-than-significant impact*** on soil erosion or loss of topsoil.

The site is not within an Alquist-Priolo zone,[41] there are no known faults that cross the site, and no signs of a fault surface have been observed at the site. The proposed new activities do not involve construction or earthwork activity; therefore, the proposed HCP new activities would not create or exacerbate fault rupture conditions. The proposed HCP new activities would have ***no impact*** related to surface rupture.

The HCP area is located in a seismically active region and is subject to occasional seismic ground shaking. The closest active faults to the HCP area include the Los Osos Fault, located approximately 5.5 miles to the northeast and the Hosgri Fault located approximately 11.5 miles to the west (County of San Luis Obispo, 2014). However, the proposed HCP new activities would not attract additional people to the area, and the risks related to seismic ground shaking after HCP adoption would be the same as existing conditions. The proposed HCP new activities would have ***no impact*** on seismic shaking risks.

[41] California Geological Survey Alquist-Priolo zoning maps June 15, 2017; http://www.conservation.ca.gov/cgs/rghm/ap/Pages/official_release.aspx

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction include loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts, and gravels with poor drainage or those capped by or containing seams of impermeable sediment. According to the San Luis Obispo County General Plan Safety Element, Map 3, Liquefaction Hazards, the HCP area has a moderate potential for liquefaction (County of San Luis Obispo, 2014). The proposed HCP new activities would not exacerbate liquefaction conditions or increase exposure of park visitors to liquefaction risks. Therefore, the proposed HCP new activities would have ***no impact*** related to seismic-related ground failure.

Other than the dunes themselves, there are no hills or other steep slopes near the HCP area; therefore, the HCP area is not subject to impact from off-site landslides. The proposed HCP new activities would occur in relatively flat areas with no risk from landslides. The proposed HCP new activities would have ***no impact*** on landslide conditions or associated risks of landslides.

The HCP area is located on beach soils, which are unstable and subject to movement. The sands have moderate potential for liquefaction; therefore, the potential for liquefaction-induced lateral spreading is also moderate. The proposed HCP new activities would not alter existing geologic conditions of the site or increase risks associated with unstable geologic units. Therefore, the proposed HCP new activities would have ***no impact*** on geologic unit stability.

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. However, expansive soils typically have high clay content; the sandy soils in the HCP area are not expected to be expansive. Furthermore, proposed HCP new activities do not include any construction or development. The proposed new activities would have ***no impact*** on risks to life or property.

The proposed new activities do not involve the use of septic tanks or other alternative wastewater disposal systems. For these reasons, the proposed HCP new activities would have ***no impact*** on geology and soils from septic or wastewater disposal systems.

No paleontological resources have previously been discovered within the area, and the potential for discovery of paleontological resources within the project area is considered low.

Under CEQA, a definition for a “unique geologic feature” there does not exist, nor is there state-wide codification regarding “unique geologic features.” Various counties have established guidelines for determining significance regarding unique geologic features. Using, for example, the San Diego County’s guidelines for determining significance, it states that: “A geologic feature is unique if it meets one of the following criteria:

a. Is the best example of its kind locally or regionally;

b. Embodies the distinctive characteristics of a geologic principle that is exclusive locally or regionally;

c. Provides a key piece of geologic information important in geology or geologic history;

d. Is a “type locality” of a formation;

e. Is a geologic formation that is exclusive locally or regionally;

f. Contains a mineral that is not known to occur elsewhere in the County; or

g. Is used repeatedly as a teaching tool."

Within the HCP area is a portion of the Guadalupe- Nipomo Dunes Complex, which extends across 18,000 acres along the Pacific Ocean. Much of the dune complex was first created during the Flandrian Transgression, a period of sea level rise approximately 2,000 to 6,000 years ago, although parts may date to pre-Flandrian. The dune complex has the highest dunes in the western coastline of the USA (USFWS, 2016b).

The dune creation process starts with sediment carried from rivers and creeks to the ocean, where waves breaks the sediment down to fine-grained sand. The sand is then redeposited on the shoreline, and the windblown sand starts to accrete around vegetation and detritus. As the wind builds up the sand more on the windward side, the dunes destabilize, and the process of saltation begins. Saltation is the wind moving small grains to the leeward sides of the dunes, followed by larger ones, creating alternating layers of fine- and coarse-grained sands. The ability to form dunes requires both a sediment source and a prevailing wind source, and both conditions occur in the HCP and surrounding areas, thus allowing dunes to form.

The Pismo State Beach and Pismo Dunes SVRA General Development plan states that the dunes are: "recognized by scientists, conservationists, government agencies, and the public as being the finest most extensive coastal dunes remaining in California." Given this recognition, in combination with their distinction as the highest dunes on the Pacific Coast of the US, means that they would fulfil criterion "a" of the San Diego County's guidelines above. Using these criteria as a basis, the dunes can be considered as a "unique geologic feature."

Mechanical trash removal (CA-21) and Boneyard Exclosure and 6 Exclosure reduction (CA-50) could increase emissivity of windblown particulate matter in the affected areas as discussed in Air Quality (EIR section 5.3). The potential increase in particulate emissions is a potential air quality impact but not one that would significantly change the overall dynamics of the dune sheet or dune complex. The proposed HCP new activities would not interfere with the coastal sediment transport process; deposition and sand transport would continue to occur in the HCP area, and dune formation would not be altered. As such, the impact of HCP new activities on paleontological resources and unique geologic features is considered ***less than significant.***

10.3.4 Greenhouse Gas Emissions and Energy

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as "greenhouse" gases (GHG). GHG that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change.

Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880) and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million in the early 1800s to 411 parts per million in March 2019 (NOAA,

2019). The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare. GHGs can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2.

In 2006, the California State Legislature adopted the California Global Warming Solutions Act of 2006, AB 32, which implemented a goal of 1990 GHG emissions levels for 2020 GHG emissions limits using various measures. Since AB 32, California has set forth plan updates and other bills working to achieve this emissions goal.

With the exception of mechanical trash removal (CA-21), proposed new covered activities in the HCP would not change GHG emissions. SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b), seasonal exclosure reductions (CA-50), and CDPR's use of UAS (CA-52) do not involve new vehicle emission sources above baseline park operations. Under CA-21, CDPR proposes to use a tractor-towed rake to collect nails, broken glass, and other debris from open sand areas that may pose a hazard to visitors or wildlife. The tractor would meet the newest CARB emissions requirements and would be maintained and upgraded to meet strict air quality guidelines. The GHG emissions resulting from the piece of equipment's operation would be substantially below the SLOAPCD's annual GHG threshold of significance for land use projects (1,150 metric tons of carbon dioxide equivalents). Other existing park operations associated with the HCP (e.g., nesting bird surveys, fence installation for exclosures, etc.) would not change after adoption of the HCP. Although the East Boneyard Exclosure and 6 Exclosure areas would be available to motorized recreation year-round, the limits on the number of vehicles allowed within the HCP area would not change. Additionally, the changes to the exclosure boundaries would not be enough to change use patterns significantly, such as by attracting additional motorized recreationists or causing motorized recreationists to spend more time operating their vehicles. As a result, the proposed HCP would not generate a substantial increase in GHG from new covered activities, nor would it conflict with a plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions. The impact is ***less than significant***.

Implementation of the HCP proposed new activities would not result in a substantial increase in energy demand or the wasteful use of fuel or energy. The proposed HCP new activities would not change or result in new land use, and no new buildings for human habitation are proposed. SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities (CA-12b) and seasonal exclosure reductions (CA-50) do not involve new energy uses. Mechanical trash removal (CA-21) is anticipated to use a minor, additional amount of diesel and/or gasoline, but this usage would not be considered wasteful or inefficient because this activity supports public safety and environmental protection needs. Similarly, the CDPR's use of UAS (CA-52) would require the use of electricity to power the equipment. The UAS would not be considered or wasteful or inefficient. UAS could reduce the number of gasoline-powered vehicle trips that may be required for biological survey purposes and it would only be in operation when needed. In addition, no

state or local plans targeting renewable energy or energy efficiency are applicable to new covered activities proposed in the HCP. Accordingly, the proposed HCP would not use energy in a wasteful, inefficient, or unnecessary way, nor would it conflict with or obstruct implementation of a state or local plan adopted for the purposes of increasing energy efficiency and renewable energy generation. ***No impact*** on energy resources would occur.

10.3.5 Hazards and Hazardous Materials

The HCP area is managed primarily for recreation and resource protection. Other than the fuel tank in the vehicle towing the mechanical trash removal equipment, proposed HCP new activities would not involve the routine transport, use, or disposal of hazardous materials and are unlikely to release that fuel into the environment. Potential hazardous materials used in park operations such as gasoline, oil, and diesel are stored at the park maintenance facility off of State Route 1. All materials are used and stored in compliance with labeling requirements and disposed of in accordance with applicable local and state hazardous materials regulations. The OHMVR Division also has containment measures and protocols in place in the event of a spill or leak at the maintenance yard.

The HCP area is not within 0.25 mile of an existing or proposed school; the closest school is approximately 0.75 mile to the northeast. The HCP area also is not included on a list of hazardous materials sites pursuant to Government Code section 65962.5. Although the HCP area is within the Oceano County ALUP area and is within 0.5 mile of that airport (SLOALUC, 2007), proposed HCP new activities would have no effect on the airport or create hazards to people within the HCP area. The proposed HCP new activities would not interfere with an adopted emergency response plan or emergency evacuation plan. According to fire hazard safety zone maps for SLO County, the HCP area has moderate fire susceptibility (CDF, 2007), and proposed HCP new activities involve no changes in park operations that would expose people or structures to a risk of loss, injury, or death involving wildland fires. The proposed HCP new activities would have ***no impact*** related to hazards or hazardous materials.

10.3.6 Hydrology and Water Quality

The proposed HCP new activities do not involve the discharge of wastewater or use of groundwater and would not interfere with water quality standards, groundwater supplies, or groundwater recharge. Proposed mechanical trash removal and changes to the seasonal exclosure boundary, all implemented on the sandy substrate, would not modify drainage patterns or the course of a stream or river. Project activities would not increase impervious surfaces or surface runoff or otherwise degrade water quality, nor would they increase the risk of flooding or exposure to seiche, tsunami, or mudflow. Mechanical trash removal would have a beneficial effect on water quality by removing litter that could be washed into drainages or the ocean. The proposed HCP new activities would have ***no impact*** on water quality and hydrology.

10.3.7 Mineral Resources

The California Department of Conservation has classified most lands in and around the HCP area as Mineral Resource Zone (MRZ-3), or areas containing mineral deposits of undetermined significance (i.e., the significance cannot be evaluated from available data) (CDC, 1989b). The exception to this is a small area of land (approximately 30 acres) south of the community of Oceano near the northeast corner of Pismo Dunes Natural Preserve that is classified MRZ-2

(CDC, 1989a) (CDC, 1989b). Operated by the Oceano Sand Company, this active mine produces specialty sand (CDC, 2018). Implementation of the proposed HCP would not interfere with this mining operation, would not result in the loss of availability of a known mineral resource or one that would be of value to the region and residents of the state, and would not result in the loss of a locally important mineral resource recovery site as delineated on a local general plan, specific plan, or other land use plan. For these reasons, proposed HCP new activities would have ***no impact*** on mineral resources.

10.3.8 Noise

Noise is defined as unwanted sound. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as "noisy" or annoying. The existing noise environment within the HCP area is characterized by natural and human-made sources, including waves, wildlife (e.g., birds), wind, vehicular operation (e.g., trucks, OHV, etc.), and aircraft overhead.

Under CA-21, General Maintenance CDPR would use a tractor-towed rake to collect nails, broken glass, and other debris from open sand areas that may pose a hazard to visitors or wildlife. While this activity may be a new source of noise in the SVRA, it would be of a nature similar to the existing ambient environment: that is, vehicular operation. In addition, this source of noise would be mobile, and situated well away from permanent receptors. Transient receptors (e.g., campers or OHV riders) would not be exposed to noise generated for a prolonged amount of time, since the equipment is mobile.

Under CA-50, Reduction of the Boneyard Exclosure and 6 Exclosure, CDPR would reduce the size of some seasonal exclosures, reintroducing year-round motorized recreation into the East Boneyard Exclosure and 6 Exclosure. This additional access would result in additional noise generated in these portions of the HCP area year-round. The East Boneyard Exclosure and 6 Exclosure are located along the HCP area's western and southern boundaries, respectively. Any shift in noise from one area of the SVRA to these locations would likely be indistinguishable at permanent receptor locations. Daily vehicle limits specified by CDP 4-82-300-A5 would remain in effect. As a result, overall noise generated by OHV activity at the SVRA would remain substantially unchanged.

Implementation of the proposed HCP would not result in generation of excessive noise, nor would it expose persons to excessive noise. The proposed HCP new activities do not involve the siting of new receptors in an area where they may be exposed to excessive, airport-related noise, and those activities would not have the potential to generate groundborne vibration. For these reasons, the proposed HCP new activities would have ***no impact*** related to noise.

10.3.9 Population and Housing

The HCP area is adjacent to populated areas, including Pismo Beach, Grover Beach, and Oceano. The HCP area is a beach dune system used for recreation and natural resources management. There are four park residences within the HCP area. No other existing housing or permanent businesses (concessions only) occur in the HCP area. The proposed HCP new activities comprise mechanical trash removal (CA-21) and changes to the seasonal exclosure boundaries (CA-50). These activities would not induce population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example,

through extension of roads or other infrastructure). The HCP implementation would not displace existing housing, necessitating construction of replacement housing elsewhere, and would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. The HCP does not include the extension of roads or other infrastructure. Therefore, the HCP would have ***no impact*** on population or housing.

10.3.10 Public Services

Law enforcement and emergency response in the HCP area are performed mostly by CDPR rangers, park aides, and lifeguards, although non-CDPR staff from federal, state, and local agencies also provide law enforcement or emergency services in certain instances. For example, the U.S. Coast Guard performs search-and-rescue operations for lost watercraft in the ocean, and CDFW wardens enforce California Fish and Game Code regulations for fishing and other resources activities in the HCP area. The California Department of Forestry and Fire Protection (Cal Fire) provides fire protection to the HCP area. San Luis Obispo County or municipal law enforcement officers and emergency responders may also occasionally access the HCP area to enforce local laws or respond to incidents.

Most of the HCP covered activities are ongoing and would not change from existing conditions under the proposed HCP. The proposed HCP new activities (i.e., SNPL chick and egg capture for captive rearing if observed to be threatened by recreational activity and other non-covered species management activities [CA-12b]; mechanical trash removal [CA-21]; reduction of the Boneyard Exclosure and 6 Exclosure [CA-50]; and CDPR's use of UAS [CA-52]) would not increase visitor use of the HCP area or increase demand for fire or police protection, emergency services, or other public services. The proposed HCP would have ***no impact*** to public services.

10.3.11 Transportation

Regional access to the HCP area is primarily provided via State Route 1 and U.S. 101. Just north of Arroyo Grande, State Route 1 splits from U.S. 101, running more westerly through Grover Beach and Oceano. Annual average daily traffic volumes on this portion of State Route 1 range from approximately 4,400 to 10,300 vehicles (MIG|TRA, 2016). Pismo State Beach can be accessed from State Route 1 primarily via Grand Avenue in the City of Grover Beach or Pier Avenue in Oceano. These entrances provide sand ramps that lead vehicles down onto the beach and serve as the primary access to the SVRA. Average daily traffic volumes on Grand Avenue and Pier Avenue in the vicinity of park entrances are approximately 1,600 and 5,000, respectively. Farther south, Oso Flaco Lake Road off of State Route 1 provides access to the Oso Flaco parking lot and boardwalk.

The proposed HCP new activities would not increase employee-related trips to and from Oceano Dunes SVRA or Pismo State Beach; however, mechanical trash removal (CA-21) would result in new sporadic vehicle use on the beach. This activity would not result in new employee or visitor trips to the park and would not result in increased congestion on, or reduce the effectiveness of, the local and regional transportation system used to access the HCP area.

The proposed HCP new activities are not expected to attract additional people to the area and thus would not increase vehicle, bicycle, or pedestrian traffic or use of mass transit systems in the region, nor would they impact air traffic patterns. Therefore, the proposed HCP new activities would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, or conflict with an applicable

congestion management program. The proposed HCP new activities do not include any roads, driveways, or intersections and would not increase hazards due to a design feature nor would they affect emergency access. Therefore, the proposed HCP would have ***no impact*** related to transportation.

10.3.12 Utilities and Service Systems

The HCP area has limited utilities and service systems due to the vast acreage of open sand dunes and other open space lands that are not permanently developed for residential, commercial, industrial, or other inhabitable use. There are typical urban utilities (gas, electricity, sewer, water, and telecommunications) along the streets that serve the HCP area, including Grand Avenue and Pier Avenue.

Changes to seasonal exclosure boundaries (CA-50) and mechanical trash removal (CA-21) would not increase park staffing or visitation. HCP new activities would neither involve wastewater treatment nor require construction of new or expanded water or wastewater treatment facilities. The proposed HCP new activities do not involve construction, use of water supplies, or increased park use; thus, they would not require the construction of new stormwater facilities, expansion of existing facilities, or implementation of new or expanded entitlements. Furthermore, the HCP new activities would not conflict with any regulations related to solid waste. The OHMVR Division would continue to comply with all regulations related to solid waste generation and disposal. Therefore, the proposed HCP would have ***no impact*** related to utilities and service systems.

10.3.13 Wildfire

The HCP area is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As a result, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The proposed HCP would not exacerbate wildfire risks, and thereby expose park visitors to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The proposed HCP would not require the installation or maintenance 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.

Chapter 11 **REFERENCES**

11.1 BIBLIOGRAPHY

AirNav. (2018, August 16). *Oceano County Airport*. Retrieved August 24, 2018, from Airnav, Airports [Oceano County Airports]: <http://www.airnav.com/airport/L52>

Atwood, J. L., & Minsky, D. E. (1983). Least Tern Foraging Ecology at Three Major California Breeding Colonies. *Western Birds, 14*, 57-72.

Baker, J. (2018, August 22). Associate State Archaeologist, OHMVR Division.

Bohlman, D. (2014, April 16). Personal Communication. Conservation Director, San Luis Obispo County Land Conservancy.

Brindock, K. M., & Colwell, M. A. (2011). Habitat Selection by Western Snowy Plovers During the Nonbreeding Season. *The Journal of Wildlife Mangement, 75*(4), 786-793.

Burton, R. K., & Kutilek, M. J. (1991). Inventory of Birds, Amphibians, and Reptiles at Oso Flaco Lake, Pismo Dunes State Vehicular Recreation Area, California. *Project 4-550-0063 Final Report*. California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division.

California Department of Fish and Wildlife, N. D. (2018). *Special Animal List.* California Department of Fish and Wildlife.

California Regional Water Quality Control Board, Central Coast. (2016). *Water Quality Control Plan for the Central Coastal Basin* (March 2016 Edition ed.). California Environmental Protection Agency.

Caltrans. (2017, March). List of eligible and officially designated State Scenic Highways. Retrieved August 8, 2018, from http://www.dot.ca.gov/design/lap/livability/scenic-highways/

CARB. (2016, April 4). *San Luis Obispo APCD List of Current Rules.* Retrieved October 5, 2016, from https://www.arb.ca.gov/drdb/slo/cur.htm

CARB. (2020, January). *AQMIS2 PM10 (BAM) Data 2020*. Retrieved January 27, 2020, from https://www.arb.ca.gov/aqmis2/aqdselect.php

CCC. (2001). M9b Staff Report Permit Amendment. Prepared April 21 for May 7 Hearing. Application 4-82-300-A5.

CCC. (2002, May 6). Addendum to Staff Report on Agenda W11, Annual Review of Coastal Development Permit Amendment No. 4-82-300-A5 (Oceano Dunes State Vehicular Recreation Area, San Luis Obispo County).

CCC. (2017). Th23b Staff Report. Prepared September 1, 2017 for September 15, 2017 Hearing.

CCC. (2018). W18a Staff Report. Subject: CDP Number 3-12-050 (ODSVRA Dust Control) Condition Compliance. Prepared January 26, 2018 for February 7, 2018 Hearing.

CDC. (1989a). Mineral Land Classification: Portland Cement Concrete Aggregate and Active Mines of All other Mineral Commodities in the San Luis Obispo-Santa Barbara Production-Consumption Region. Sacramento, CA.

CDC. (1989b). Generalized Mineral Resource Zone Classification Map of the Southwestern Third of San Luis Obispo County, Southern Part [map].

CDC. (2008, April 30). Letter to Rick LeFlore, State Park Superintendent IV, California State Parks, Off-Highway Motor Vehicle Recreation Division. Subject: Phase 2 Particulate Study, Nipoma Mesa Region, San Luis Obispo County, CA. California Geological Survey.

CDC. (2012). *San Luis Obispo County Williamson Act Map Fiscal Year 2009/2010.* Retrieved May 29, 2018, from ftp://ftp.consrv.ca.gov/pub/dlrp/wa/SanLuisObispo_09_10_WA.pdf

CDC. (2016). *San Luis Obispo County Important Farmland Map.* Retrieved May 29, 2018, from ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/slo16.pdf

CDC. (2018, May 29). *Oceano Sand Pit [map]. n.d. Scale undetermined.* Retrieved from http://maps.conservation.ca.gov/mol/

CDF. (2007). *Fire Hazard Severity Zones in SRA – San Luis Obispo County.* California Department of Forestry and Fire Protection, Sacramento.

CDFG. (2005). *The Status of Rare, Threatened, and Endangered Plants and Animals of California 2000-2004.* Retrieved from https://www.dfg.ca.gov/wildlife/nongame/t_e_spp/new_te_rpt.html

CDFG. (2017, August). Oceano and Pismo Beach USGS 7.5 Minute Quadrangles. *California Natural Diversity Database*. California Department of Fish and Game, Biogeographic Data Branch.

CDFW. (2018a). California Natural Diversity Database (CNDDB) - Government version dated June 1, 2018. Biogeographic Data Branch, California Department of Fish and Wildlife. Retrieved 2018, from https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. (2018b). Natural Diversity Database. *Special Animal List.*

CDFW. (2019, March). Natural Diversity Database. Special Vascular Plants, Bryophytes, and Lichens List. 144.

CDGS. (1991, August). *Draft EIR for the CDPR, OHMVD on the Pismo Dunes State Vehicular Recreation Area Access Corridor Project*. Office of Project Development and Management.

CDPR. (n.d.). *California State Parks System Statistical Report 2016/17 Fiscal Year*. California Department of Parks and Recreation, Planning Rercreation and Support Section, Marketing and Business Development Office.

CDPR. (1975). Pismo State Beach and Pismo Dunes State Vehicular Recreation Area General Development Plan and Resource Management Plan.

CDPR. (1982a). *Pismo State Beach and Pismo Dunes State Vehicular Recreation Area Draft Proposed Amendment to General Development Plan.* State of California Department of Parks and Recreation.

CDPR. (1982b). *Resolution 44-82 approving proposed General Plan Amendment for Pismo State Beach.*

CDPR. (1994). Oceano Dunes State Vehicular Recreation Area General Plan Amendment. California State Park and Recreation Commission.

CDPR. (2001). *Annual Report Habitat Monitoring Oceano Dunes State Vehicular Recreation Area*. OHMVR Division.

CDPR. (2004). *Pismo Dunes State Vehicular Recreation Area Access Corridor Project, Final Environmental Impact Report*. OHMVR Division.

CDPR. (2005a). Department of Operations Manual, Chapter 3 Natural Resources .

CDPR. (2005b, February). *Notice of Preparation of a Joint EIS/EIR for the Habitat Conservation Plan (HCP) for operation of certain California Department of Parks and Recreation San Luis Obispo Coast District Units and Oceano Dunes SVRA.* OHMVR Division.

CDPR. (2005c). *California's Recreation Policy*. California Department of Parks and Recreation.

CDPR. (2007, July). *Oceano Dunes SVRA 40-Acres Woods Study*. Northern Service Center.

CDPR. (2007). Native American Consultation Policy & Implementation Procedure. *Departmental Operations Manual*. California Department of Parks and Recreation, Archaeology, History, and Museums Division, Chapter 4.

CDPR. (2008). Rare Plant Surveys for Covered Species Under the proposed Oceano Dunes Habtiat Conservation Plan (data only, no written report).

CDPR. (2009). *California State Parks Off-Highway Motor Vehicle Recreation Division Strategic Plan 2009*. OHMVR Division.

CDPR. (2011, March). *Habitat Monitoring Report Oceano Dunes State Vehicular Recreation Area 2004-2010*. OHMVR Division.

CDPR. (2017, October). Oceano Dunes State Vehicular Recreation Area Wildlife Habitat Protection Plan (working draft). OHMVR Division.

CDPR. (2017b, October). Oceano Dunes State Vehicular Recreation Area Wildlife Habitat Protection Plan (unpublished). California Department of Parks and Recreation, OHMVR Division.

CDPR. (2018). Notice of Preparation of an EIR. Pismo State Beach and Oceano Dunes SVRA Public Works Plan. California Department of Parks and Recreation.

CDPR. (2019, June). Oceano Dunes State Vehicular Recreation Area, Draft Particulate Matter Reduction Plan. OHMVR Division.

CDPR, & County of San Luis Obispo. (1983, June 20). Operating Agreement for La Grande Beach Tract.

CEMAR. (n.d.). Retrieved August 2018, from http://www.cemar.org/ssrp/pdfs/SSRP_SanLuisObispo.pdf

CGS, C. C. (2007, August 30). Review of Vegetation Islands, Executive Summary, Oceano Dunes SVRA. Sacramento, CA: Prepared for the Off-Highway Motor Vehicle Recreation Division.

Chapman, R. (2016). Oceano Dunes SVRA Western Snowy Plover and California Least Tern Database. Notes entered from field notebook.

Chestnut, J. (1998). Reconnaissance Survey for Rare Plants on the Oceano Dunes SVRA. Unpublished report prepared for California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division, Oceano Dunes SVRA.

Chestnut, J. (2013, September 25). Personal communication. Gambel's Watercress Observations.

Chestnut, J. (2019). *Gambel's Watercress and Marsh Sandwort Observations; pers. comm.* email.

Chestnut, J. (2019, August). Personal Communication.

City of Grover Beach. (n.d.). *City of Grover Beach Parks and Recreation Element Update*. Retrieved August 23, 2018, from http://www.grover.org/DocumentCenter/View/4135

City of Grover Beach. (2000). *City of Grover Beach Safety Element*. Adopted October 16, 2000.

City of Grover Beach. (2010). *City of Grover Beach General Plan.* Adopted February 16. 2010. Effective March 18, 2010.

City of Grover Beach. (2012). *City of Grover Beach Land Use Element.* Adopted February 16, 2010. Amended August 6, 2012.

City of Grover Beach. (2014). *City of Grover Beach Local Coastal Program*. Amended August 15. Retrieved June 29, 2018, from https://www.grover.org/DocumentCenter/Home/View/1808

City of Grover Beach. (2014). *City of Grover Beach Development Code. Article IX of the Grover Beach Municipal Code.* Adopted October 15, 2012. Revised July 21, 2014. Effective August 20, 2014.

City of Grover Beach. (2014). *Zoning Map. Adopted October 15, 2012. Revised July 21, 2014.*

City of Grover Beach. (n.d.). City of Grover Beach Land Use Element Map. Amended August 2012. Retrieved June 29, 2018, from http://www.grover.org/DocumentCenter/Home/View/2751

City of Pismo Beach. (1983). *City of Pismo Beach Zoning Map*. Retrieved July 29, 2018, from http://www.pismobeach.org/DocumentCenter/View/99/1983-Zoning-Map-South?bidId

City of Pismo Beach. (1983, December 12). *City of Pismo Beach Open Space Overlay*. Retrieved July 29, 2018, from http://www.pismobeach.org/DocumentCenter/View/8409/Open-Space-Overlay?bidId

City of Pismo Beach. (1983, December 12). *City of Pismo Beach Noise Overlay*. Retrieved July 29, 2018, from http://www.pismobeach.org/DocumentCenter/View/8410/Noise-Overlay?bidId

City of Pismo Beach. (2014, April). *City of Pismo Beach General Plan and Local Coastal Program*. Retrieved June 29, 2018, from http://www.pismobeach.org/DocumentCenter/View/247/01-General-Plan-?bidId=

City of Pismo Beach. (n.d.). *Zoning Code and Overlay Maps*. Retrieved July 29, 2018, from http://www.pismobeach.org/338/Zoning-Code-Overlay-Zone-Maps

Claasen, M. K. (2012). *Geologic Formation of the Nipomo-Guadalupe Dunes and Historic Background of the Preserve*. Retrieved October 10, 2018, from https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1011&context=nrmsp

CNPS. (2017). Online CNPS Inventory of Rare and Endangered Plants. *8*. Sacramento, CA.

CNPS, R. (2019). *Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39)*. Retrieved June 14, 2019, from http://www.rareplants.cnps.org

Colwell, M. A., Millett, C. B., Meyer, J. J., Hall, J. N., Hurley, S. J., McAllister, S. E., . . . LeValley, R. R. (2005). Snowy Plover Reproductive Success in Beach and River Habitats. *Journal of Field Ornithology, 76*, 373-382.

Condor, Environmental Planning Services Inc. (2006, November 15). *Alternative Access Study Oceano Dunes State Vehicular Recreation Area*. Prepared for California Department of Parks and Recreation, Oceano Dunes District.

County of San Luis Obispo. (1972, December). *County of San Luis Obispo General Plan. A Summary Report. Master Water and Sewerage Plan*.

County of San Luis Obispo. (1989). *The Land Use Element and Local Coastal Plan of the San Luis Obispo County General Plan. South County Coastal*. Adopted by the San Luis Obispo County Board of Supervisors March 1, 1988 – Resolution 88-115. Certified by The California Coastal Commission February 25, 1988. Amended March 14, 1989.

County of San Luis Obispo. (1992). *Noise Ordinance*.

County of San Luis Obispo. (1992). *County of San Luis Obispo General Plan. Noise Element, Part I. Policy Document.* Adopted May 5, 1992 – Resolution 92-227.

County of San Luis Obispo. (2006). *County of San Luis Obispo General Plan. Parks and Recreation Element*. Adopted December 19, 2006 – Resolution 2006-478.

County of San Luis Obispo. (2007). *County of San Luis Obispo General Plan. Coastal Plan Policies*. Adopted by the San Luis Obispo County Board of Supervisors March 1, 1988 – Resolution 88-115. Certified by the California Coast Commission February 25, 1988. Revised April 2007.

County of San Luis Obispo. (2008). *The Land Use Element and Local Coastal Plan of the San Luis Obispo County General Plan. San Luis Bay Area Plan Coastal*. Adopted by the San Luis Obispo County Board of Supervisors March 1, 1988 – Resolution 88-115. Certified by The California Coastal Commission February 25, 1988. Revised August 2009.

County of San Luis Obispo. (2008). *Oceano Specific Plan*. Adopted by the San Luis Obispo County Board of Supervisors April 2, 2002. Certified by the California Coast Commission April 14, 2004. Amended 2008.

County of San Luis Obispo. (2008). *The Woodlands Specific Plan*. Adopted by the San Luis Obispo County Board of Supervisors December 15, 1998 – Resolution 98-494.

County of San Luis Obispo. (2009). *The Land Use Element and Local Coastal Plan of the San Luis Obispo County General Plan. Estero Area Plan*. Adopted by the San Luis Obispo County Board of Supervisors March 1, 1988 – Resolution 88-115. Cayucos and Rural Portions Updated January 7, 2009 – Resolution 2008-359. Revised January 2009.

County of San Luis Obispo. (2010). *County of San Luis Obispo General Plan. Agriculture Element*. Adopted by the San Luis Obispo County Board of Supervisors December 15, 1998. Amended by approval of Dalidio Ranch Initiative Measure November 2006. Revised May 2010.

County of San Luis Obispo. (2010). *County of San Luis Obispo General Plan. Conservation and Open Space Element*. Department of Planning and Building. Retrieved August 21, 2018, from https://www.slocounty.ca.gov/getattachment/ba01754b-50ac-4c13-ba16-1a9eb9d56a01/Conservation-and-Open-Space-Element.aspx

County of San Luis Obispo. (2011, November). *County of San Luis Obispo EnergyWise Plan. Designing Energy and Climate Solutions for the Future*. Adopted by the San Luis Obispo County Board of Supervisors November 22, 2011 – Resolution 2011-381.

County of San Luis Obispo. (2011). *County of San Luis Obispo General Plan. Coastal Zone Framework for Planning – Land Use Element*. Adopted by the San Luis Obispo County Board of Supervisors March 1, 1988. Certified by the California Coast Commission February 25, 1988. Revised November 2011.

County of San Luis Obispo. (2012). *County of San Luis Obispo General Plan. Economic Element*. Originally adopted October 19, 1999. Amended by approval of Dalidio Ranch Initiative Measure November 2006. Repealed and replaced October 23, 2012. Resolution No. 2012-266.

County of San Luis Obispo. (2014). *County of San Luis Obispo General Plan. Safety Element*. Adopted by the San Luis Obispo County Board of Supervisors December 14, 1999 – Resolution 99-559. Amended December 3, 2013 – Resolution 2014-296. Effective January 2, 2014.

County of San Luis Obispo. (2014). *County of San Luis Obispo General Plan. Housing Element*. Originally adopted October 12, 1982. Resolution 82-391. Amended June 17, 2014, Resolution 2014-154.

County of San Luis Obispo. (2014). *County of San Luis Obispo Land Use and Circulation Elements (Part II). The Area Plans*. Adopted February 4, 2014 – Ordinance 3256. Amended March 24, 2015 – Resolution 2015-75.

County of San Luis Obispo. (2015). *County of San Luis Obispo General Plan. Framework for Planning (Inland)*. Adopted September 22, 1980 – Resolution 80-350. Revised April 2015.

County of San Luis Obispo. (2017). *San Luis Obispo County Land Use Maps*. Retrieved May 29, 2018, from http://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Maps/Land-Use-Maps.aspx

Dart, L. C. (1978). *Vignettes of History in San Luis Obispo County.* San Luis Obispo.

Dawson, M. N., Stanton, J. L., & Jacobs, D. K. (2001). Phylogeography of the tidewater goby, Eucyclogobius newberryi (Teleostei, Gobiidae), in coastal California. *Evolution, 55*, 1167-1179.

Ditmer, M. A., Vincent, J. B., Werden, L. K., Tanner, J. C., Laske, T. G., Iaizzo, P. A., . . . Fieberg, J. R. (2015, August 31). Bears Show a Physiological but Limited Behavioral Response to Unmanned Aerial Vehicles. *Current Biology, 25*(17), 2278-2283.

DRI. (2017, June 14). 2016 Aerosol Particle Profiler (APP) Monitoring Network: Summary of findings. Las Vegas, Nevada: Desert Research Institute.

DRI, D. (2011, September 15). Oceano Dunes Pilot Projects Final Report. Reno, Nevada.

DRI, D. (2014, September 22). Wind and PM10 Characteristics at the ODSVRA from the 2013 Assessment Monitoring Network. Reno, Nevada.

DRI, D. (2015a, July 20). 2013 Intensive Wind Erodibiliy Measurements at and Near the Oceano Dunes SVRA: Report of Findings. Las Vegas, Nevada.

DRI, D. (2015b, July). Addendum to the PI-SWERL Report of Etymezian et. Al. (2014) – Particle Size Distribution Characteristics and PI-SWERL PM10 Emission Measurements: Oceano Dunes SVRA.

DRI, D. (2015c). Analyses and Summary of Key Findings, 2015 Dust Control, ODSVRA. Las Vegas, Nevada.

DRI, D. (2016, March 30). Updated Wind Erodibility Measurements at and Near the Oceano Dunes State Vehicular Recreation Area: Draft Overview of Findings. Las Vegas, Nevada.

Dugan, J., & David, H. (2010). Loss of Coastal Strand Habitat in Southern California: The Role of Beach Grooming. *Estuaries and Coasts(33),* 67-77. doi:1.1007/s12237-009-9239-8

Dunk, J. R. (1995). White-tailed kite (Elanus leucurus). *The Birds of North America, No. 178.* (A. Poole, & F. Gill, Eds.) The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

eBird. (2017). eBird: An online database of bird distribution and abundance [web application]. Ithaca, NY. Retrieved Feburary 2017, from http://www.ebird.org

Etyemezian, V. (2019, April 15). Personal Communication. Email and phone call between Vic Etyemezian, DRI, and Chris Dugan, MIG. RE: Oceano Dunes Help.

Fisher, R. N., & Shaffer, H. B. (1996). The decline of amphibians in California's Great Central Valley. *Conservation Biology, 10*, 1387-1397.

Fitzgerald, R. T., Farquhar, J. M., & Farrell, N. L. (2003). *Archaeological Data Recovery at CA-SLO-809, Nipomo, San Luis Obispo County, California. .* Cultural Resource Management Services.

Gardner, L. (2001, August). *Oceano Dunes State Vehicular Recreation Area Wildlife Habitat Protection Plan*. Prepared for CDPR, OHMVR Division, Oceano Dunes District.

George, D. (2019, March 8). RE: Oceano Dunes HCP and NEPA Environmental Analysis. Personal Communication.

Gibson, R. O. (2002). *A Preliminary Review of Chumash Ethnohistoric Data for the Oceano Dunes Recreation Area Cultural Resource Assessment San Luis Obispo County, CA.*

Grant, C. (1978). Chumash: Introduction. (R. F. Heizer, Ed.) *California Handbook of North American Indians, 8*, 505-508.

Greenwood, R. S. (1972). 9000 Years of Prehistory at Diablo Canyon, San Luis Obispo County, California. *San Luis Obispo County Archaeological Society Occasional Papers, 2*. San Luis Obispo.

Greenwood, R. S. (1978). Obispeno and Purisimeno Chumash. *California Handbook of North American Indians*, 520-523. (R. F. Heizer, Ed.) Washington, D.C.: Smithsonian Institution.

Grinnel, J. (1928). A Distributional Summation of the Ornithology of Lower California. *University of California Publications in Zoology, 32*, 1-300.

Grinnell, J., Dixon, J. S., & Linsdale, J. M. (1937). *Fur-bearing mammals of California, 2*, 777. Berkeley, California: University of California Press.

Hammond, N. (1992). *The Dunites.* Arroyo Grande: South County Historical Society.

Hayes, M. P., & Jennings, M. R. (1988). Habitat Correlates of Distribution of the California Red-legged Frog (Rana aurora draytonii) and the Foothill Yellow-legged Frog (Rana boylii): Implications for Management. *Proceedings of the symposium on the management of amphibians, reptiles, and small mammals in North America*, 144-158. United States Department of Agriculture, Forest Service.

Holland, D. C. (1994). The Western Pond Turtle: Habitat and History. Final Report, DOE/BP-62137-1. Bonneville Power Administration, U.S. Department of Energy and Wildlife Diversity Program. Oregon Department of Fish and Wildlife, Portland.

Hoover, R. L. (1975). Notes on Northern Chumash Ecology and Settlement Patterns. In R. E. Schenk (Ed.), *Archives of California Archaeology* (p. 75). Society for California Archaeology, Anthropology Museum, San Francisco State Colle.

Hoover, R. L. (1977). *The Archaeology of Pismo State Beach: Excavations of SLO-199.* Submitted to the Department of Parks and Recreation. Copies available from the Central Coast Information Center, University of California, Santa Barbara, Santa Barbara, CA.

Hoover, R. L. (1990). Archaeological Resources of the Nipomo Dunes Preserve. Submitted to The Nature Conservancy, Contract No. CAFO-0005. Copies available from the Central Coast Information Center, University of California, Santa Barbara, Santa Barbara, CA.

Jennings, M. R., & Hayes, M. P. (1994). Amphibian and reptile species of special concern in California. California Department of Fish and Game, Rancho Cordova, CA.

Jones, T. L., Stevens, N. E., Jones, D. A., Fitzgerald, R. T., & Hylkema, M. G. (2007). The Central Coast: A Midlatitude Milieu. (T. L. Jones, & K. A. Klar, Eds.) *California Prehistory*, 125-145.

Khan, K. (2018). Comments on Potential Revisions to the Trust Acquisition Reculations at 25 CFR Part 151. Retrieved October 10, 2018, from https://www.indianaffairs.gov/sites/bia.gov/files/assets/as-ia/raca/pdf/110-Santa_Ynez_Band_of_Chumash_Indians.pdf

Krauss, N. C., Militello, A., & Todoroff, G. (2002). Barrier Breaching Process and Barrier Spit Breach, Stone Lagoon, California. *Shore and Beach, 70*, 21-28.

Kroeber, A. (1925). Handbook of the Indians of California. *Bureau of American Ethnology Bulletin 78, 1978*. Washington, D.C.: Dover Press.

Kutilek, M., Shellhammer, H., & Bros, W. (1991, January). *Inventory, Wildlife Habitat Protection Program and Monitoring Program for Pismo Dunes State Vehicular Recreation Area California.* San Jose State University, Department of Biological Sciences, San Jose.

Lafferty, K. D., Swift, C. C., & Ambrose, R. F. (1999). Extirpation and Recolonization in a Metapopulation of an Endangered Fish, the Tidewater Goby. *Conservation Biology, 13*, 1447-1453.

Lafferty, K., Goodman, D., & Sandoval, C. P. (2006). Restoration of Breeding by Snowy Plovers Following Protection from Disturbance. *Biodiversity and Conservation, 15*, 2217-2230.

LCSLO. (2015). Endangered Nipomo Lupine on the Rise: 2015 Monitoring Update. *Landlines, 29, 3*, 7.

Long, C. A. (1983). Taxidea taxus. *Mammalian Species, 26*, 1-4.

Lowther, P. E., Celada, C., Klein, N. K., Rimmer, C. C., & Spector, D. A. (1999). Yellow Warbler (Dendroica petechia). *The Birds of North America, 454*. (A. Poole, & F. Gill, Eds.) Philadelphia: Birds of North America.

MacDonald, B., Longcore, T., & Dark, S. (2010). *Habitat Suitability Modeling for Western Snowy Plover in Central California*, 129. Los Angeles, California: The Urban Wildlands Group.

Mad River Biologists. (2005, September 19). *Oceano Dunse State Vehicular Recreation Area, Nighttime Riding Study Final Report*. Prepared for California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division.

Massey, B. W. (1988). California Least Tern Field Study 1988 Breeding Season. CDFW.

McCraney, W., Goldsmith, G., Jacobs, D. K., & Kinziger, A. P. (2010). Rampant Drift in Artificially Fragmented Populations of the Endangered Tidewater Goby (Eucyclogobius newberryi). *Molecular Ecology, 19*, 3315-3327.

McLeod, M. (2001). *Dune Mother's Wildflower Guide: Dunes of Coastal San Luis Obispo and Santa Barbara Counties, California.*

McWhirter, R. B., & Bildstein, K. L. (1996). Northern Harrier (Circus cyaneus). *The Birds of North America, 210*. (A. Poole, & F. Gill, Eds.) Philadelphia: Academy of Natural Sciences.

MIG|TRA. (2015, February 3). *Pismo State Beach and Oceano Dunes State Vehicular Recreation Area Vegetation Mapping Report*. Prepared for CDPR, OHMVR, Oceano Dunes District.

MIG|TRA. (2016, October). *Oceano Dunes SVRA Dust Control Program, Draft Program Environmental Impact Report*. Prepared for CDPR, OHMVR Division.

MIG|TRA. (2017, March). *Oceano Dunes SVRA Dust Control Program Final Program Environmental Impact Report*. Prepared for CDPR, OHMVR Division.

Moratto, M. J. (1984). *California Archaeology.* Orlando: Academic Press.

Moyle, P., Yoshiyama, R. M., Williams, J. E., & Wikramanayake, E. D. (1995). *Fish Species of Special Concern in California.* . Rancho Cordova, California: Department of Fish adn Game, Inland Fisheries Division.

Muir, J. J., & Colwell, M. A. (2010). Snowy Plover Select Open Habitats for Courtship Scrapes and Nests. *The Condor, 112*, 507-510.

Nature Conservancy. (2013). Where We Work, North America, United States, California, Places We Protect: California Guadalupe Nipomo Dunes. Retrieved November 11, 2013, from http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/placesweprotect/guadalupe-nipomo-dunes.xml

Neuman, K., Page, G. W., & George, D. (2005). *Effects of Recreational Disturbance to Waterbirds on Sandy Beaches at Oceano Dunes State Vehicular Recreation Area and Adjacent Areas. Prepared for the California Department of Parks and Recreation*. PRBO Conservation Science.

Neuman, K., Stenzel, L., Warriner, J., Page, G., Erbes, J., Eyster, C., . . . Henkel, L. (2013). Success of captive-rearing for a threatened shorebird. *22*, 85-94. Endangered Species Research.

NOAA. (2019, April 12). *Global Greenhouse Gas Reference Network*. (E. S. Division, Producer) Retrieved April 16, 2019, from Trends in Atmospheric Carbon Dioxide - Mauna Loa, Hawaii CO2 Monthly Mean Data: http://www.esrl.noaa.gov/gmd/ccgg/trends/

NOAA Fisheries. (2008, December 23). Letter to Andrew Zilke, California Department of Parks and Recreation regarding steelhead take avoidance.

NPS. (2012, June 28). Nipomo Dunes-Point Sal Coastal Area. *National Natural Landmarks Directory*. Retrieved November 11, 2013, from http://www.nature.nps.gov/nnl/site.cfm?Site=NIDU-CA

OHMVR Commission. (2014, January). *Off-Highway Motor Vehicle Recreation Commission Program Report*. CDPR, OHMVR Division.

OHMVRD, O.-H. M. (2019, March 28). Oceano Dunes State Vehicular Recreation Area Draft Particulate Matter Reduction Plan.

Page, G. W., Stenzel, L. E., & Ribic, C. A. (1985). Nest Site Selection and Clutch Predation in the Snowy Plover. *The Auk, 102*, 347-353.

Page, G. W., Warriner, J. S., Warriner, J. C., & Paton, P. C. (1995). Snowy Plover (Charadrius alexandrinus). *The Birds of North America, 154*, 1-24. (A. Poole, & F. Gill, Eds.) The Academy of Natural Sciences, Philadelphia, Pennsylvania and The American Ornithologists' Union, Washington, D. C.

Patrick, A. M., & Colwell, M. A. (2014). Snowy Plovers Select Wide Beaches for Nesting. *Wader Study Group Bulletin, 121(2)*, 17-20.

Perez, A. C. (2011). A Cultural Resource Inventory of Oceano Dunes SVRA, San Luis Obispo County, California. CDPR, OHMVR Division.

Perez, A. C. (2013). Dust Control Temporary Monitoring Program, Archaeological Survey Report. CDPR, OHMVR Division.

Peterson, R. T. (1990). *Peterson Field Guide to Western Birds, Third Edition*. New York: Houghton Mifflin Company.

Powell, A. N. (2001). Habitat Characteristics and Nest Success of Snowy Plovers Associated with California Least Tern Colonies. *Condor, 103*, 785-792.

Powell, A. N., & Collier, C. L. (2000). Habitat Use and Reproductive Success of Western Snowy Plovers at New Nesting Areas Created for California Least Terns. *Journal of Wildlife Management, 64*, 24-33.

Powell, A. N., & Cuthbert, F. J. (1993). Augmenting Small Populations of Plovers: An Assessment of Cross-Fostering and Captive-Rearing. *Conservation Biology, 7*, 160-168.

Powell, A. N., Cuthbert, F. J., Wemmer, L. C., Doolittle, A. W., & Feirer, S. T. (1997). Captive-rearing Piping Plovers: Developing Techniques to Augment Wild Populations. *Zoo Biology, 16*, 461-477.

Reese, D. (1996). *Comparative Demography and Habitat Use of Western Pond Turtles in Northern California: The Effects of Damming and Related Alterations.* Unpublished Ph.D. Dissertation, University of California, Berkeley.

Rischbieter, D. (2004, December). *Lower Arroyo Grande Creek and Lagoon Fishery and Aquatic Resources, Summary Monitoring Report*. Oceano Dunes State Vehicular Recreation Area. Pismo Dunes Natural Preserve.

Rischbieter, D. (2006, January). *Lower Arroyo Grande Creek and Lagoon Fishery and Aquatic Resources, Summary 2005 Monitoring Report*. Oceano Dunes State Vehicular Recreation Area. Pismo Dunes Natural Preserve.

Rischbieter, D. (2017, March 10). Email with Doug Rischbeiter, Environmental Scientist, California State Parks. Personal Communication.

Robinson, W. W. (1957). *The Story of San Luis Obispo County.* San Luis Obispo: Title Insurance and Trust Company.

Roche, E., Cuthbert, F., & Arnold, T. (2008). Relative Fitness of Wild and Captive-reared Piping Plovers: Does Egg Salvage Contribute to Recovery of the Endangered Great Lakes Population? *141*, 3079-3088. Biological Conservation.

Ruibal, R., Tevis, Jr., L., & Roig, V. (1969). The Terrestrial Ecology of the Spadefoot Toad Scaphiopus hammondii. *Copeia*, 571-584.

RWQCB. (2013). *Regular Meeting of May 30-31.* Central Coast Region.

RWQCB, Central Coast Region. (2001). Central Coast Ambient Monitoring Program. San Luis Obispo, CA: Unpublished Data.

San Luis Obispo County. (n.d.). *San Luis Bay Coastal Planning Area and South County Coastal Planning Area maps*. Retrieved June 29, 2018, from

https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Maps/Land-Use-Maps/Coastal-Zone-Maps.aspx

Sawyer, J. O., Keeler-Wolf, T., & Evens, J. (2009). *A Manual of California Vegetation, Second Edition.* Sacramento: California Native Plant Society in collaboration with California Department of Fish and Game.

Schaefer, A. (2019, April 26). Badger at Oceano Dunes. Personal Communication.

Schneider, J. (2000). Oso Flaco Lake Boardwalk Project: California Red-Legged Frog Survey Report.

Scientific Subcommittee Oceano Dunes SVRA. (2002, February 4). Meeting Summary and Discussion Follow-up. Friday, January 18, 2002.

SCS, S. C. (1984, September). *Soil Survey of San Luis Obispo County, California, Coastal Part*.

Skinner, M. (2017). Personal communication. Rare Plant Surveys at Oceano Dunes SVRA.

SLOALUC. (2007). *Airport Land Use Plan for the Oceano County Airport; Adopted 1976; Amended 2007.* County of San Luis Obispo, Airport Land Use Commission.

SLOAPCD. (2001, December). *2001 Clean Air Plan San Luis Obispo County*.

SLOAPCD. (2001, December). 2001 Clean Air Plan San Luis Obispo County. SLOAPCD.

SLOAPCD. (2007, March). Nipomo Mesa Particulate Study 2007. San Luis Obispo, CA.

SLOAPCD. (2010, February). South County Phase 2 Particulate Study. San Luis Obispo, CA.

SLOAPCD. (2010, February). South County Phase 2 Particulate Study. San Luis Obispo, CA.

SLOAPCD. (2011, November 16). Rule 1001. Adopted by Resolution 2011-12.

SLOAPCD. (2012, April). *CEQA Air Quality Handbook*. Updated September 2015.

SLOAPCD. (2013, January). *South County Community Monitoring Project*. San Luis Obispo, CA.

SLOAPCD. (2014, September). *2013 Annual Air Quality Report*. San Luis Obispo, CA.

SLOAPCD. (2016a, January). 2014 Annual Air Quality Report. San Luis Obispo, CA.

SLOAPCD. (2016b, September). 2015 Annual Air Quality Report. San Luis Obispo, CA.

SLOAPCD. (2017a, Revised February 22). San Luis Obispo County Attainment Status. San Luis Obispo, CA.

SLOAPCD. (2017b, November). 2016 Annual Air Quality Report. San Luis Obispo, CA.

SLOAPCD. (2018, May 4). *Stipulated Order of Abatement Case No. 17-01*. San Luis Obispo: San Luis Obispo County.

SLOAPCD. (2018a, November). 2017 Annual Air Quality Report. San Luis Obispo, CA.

SLOAPCD. (2018b, May 4). *Stipulated Order of Abatement, Case No. 17-01. Hearing Board San Luis Obispo County Air Pollution Control District*. San Luis Obispo County, CA.

SLOAPCD. (2019). *2018 Annual Air Quality Report.* San Luis Obispo, CA.

SLOCOG. (2015, April). *SLOCOG 2014 Regional Transportation Plan*. San Luis Obispo Council of Governments .

Small, A. (1994). *California Birds: Their Status and Distribution.* Vista, CA: Ibis Publishing Company.

SMG. (2011). *Oceano Dunes SVRA Economic Impact Analysis Report 2010-2011, Final Report.*

SMG. (2018, March 5). *Oceano Dunes District-California State Parks Economics Impact Analysis Report 2016/2017.*

Smith, K. G. (2011, September 30). *Hen/Northern Harrier (Circus cyaneus/hudsoniuis)*, 2.0. (A. F. Poole, Editor) Retrieved from Birds of North America: https//doi.org/10.2173/bna.210

State of California Court of Appeal. (2014, March 26). Consent Decree, Dismissal of Appeals, and Remand to the Trial Court to enforce the Consent Decree through Continuing Jurisdiction pursuant to CCP §664.6. *Friends of Oceano Dunes, Inc. v. San Luis Obispo Air Pollution Control District, et. al.* . Second Appellate District. Division Six. Case Number B248814.

State Water Resource Control Board. (2014). Approving an Amendment to the Water Quality Control Plan for the Central Coastal Basin to Adopt Total Maximum Daily Loads for Nitrogen Compounds and Orthophosphate in the Lower Santa Maria River Watershed and Tributaries to Oso Flaco Lake. *Amendment Approval*.

Stebbins, R. (1954). *Amphibians and Reptiles of Western North America*. New York, U.S.A.: McGraw-Hill Book Company, Inc.

Stebbins, R. (2003). *A Field Guide to Western Reptiles and Amphibians* (Third Edition, Revised ed.). Boston, MA: Houghton Mifflin Co.

Stenzel, L., Peaslee, S., & Page, G. (1981). The Breeding Status of the Snowy Plover in California. *II(12)*, 6-16. Mainland Coast.

SWCA Environmental Consultants. (2010). *Arroyo Grande Creek Channel Waterway Management Program Final Environmental Impact Report.* County of San Luis Obispo, Department of Public Works.

SWCA Environmental Consultants. (2012). *Final Revised Grover Beach Lodge and Conference Center Environmental Impact Report. SCH2010051002.* Prepared for the City of Grover Beach.

Swift, C., Nelson, J., Maslow, C., & Stein, T. (1989). Biology and Distribution of the Tidewater Goby, Eucyclogobius newberryi (Pisces: Gobiidae) of California. *Contibutions in Science, Natural History Museum of Los Angeles County*, pp. 1-19.

Thompson, B., Jackson, J., Burger, J., Hill, L., Kirsch, E., & Atwood, J. (1997). Least Tern (Sternula antillarum), version 2.0. https://doi.org/10.2173/bna.290. (A. Poole, & F. Gill, Eds.) Ithaca, NY, USA: Cornell Lab of Ornithology. Retrieved from The Birds of North America.

TRA Environmental Sciences, Inc. (2012, October).

TRA Environmental Sciences, Inc. (2013). *Oceano Dunes District Pismo Creek Estuary Seasonal Bridge Project Initial Study/Mitigated Negative Declaration.*

TRT, O. D. (2002, January). Adopted Charter.

U.S. District Court. (2005, April 13). *Sierra Club v. Rusty Areias etc. et al. Consent Decree*. Central District of California. Case No. CV 01-10598-GHK.

US EPA, U. S. (2016a, September 8). Basic Information About NO2. *U.S. EPA, Environmental Topics [Air], Nitrogen Dioxide (NO2), What is NO2, and how does it get into the air?* Retrieved June 22, 2018, from https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2

US EPA, U. S. (2016b, September 12). Particulate Matter (PM) Basics. *U.S. EPA, Environmental Topics [Air], Particulate Matter (PM), What is PM, and how does it get into the air?* Retrieved June 22, 2018, from https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM

US EPA, U. S. (2018, June 15). Ozone Basics. *U.S. EPA, Environmental Topics [Air], Ground Level Ozone, What is "good"" versus "bad" ozone*. Retrieved June 22, 2018, from https://www.epa.gov/ozone-pollution/ozone-basics#what%20where%20how

USDA, U. (n.d.). Wind Erosion Simulation Models. Retrieved Aptil 16, 2019, from https://infosys.ars.usda.gov/WindErosion/simmodels/simmodels.shtml

USFWS. (1993). Endangered and Threatened Wildlife and Plants; Determination for Two Plants, Arenaria Paludicola (Marsh Sandwort) and Rorippa Gambellii (Gambel's Watercress). *50 Federal Register 147, 58(149),* 41378-41384.

USFWS. (1993). Endangered and Threatened Wildlife and Plants; Determination for Two Plants, Arenaria Paludicola (Marsh Sandwort) and Rorippa Gambellii (Gambel's Watercress). *58 Federal Register 147*, 41378-41384.

USFWS. (1993, March 5). Endangered and Threatened wildlife and Plants; Determination of Threatened Status for the Pacific Coast Population of the Western Snowy Plover. *58 Federal Register 12864*.

USFWS. (1994, February 4). Endangered and Threatened Wildlife and Plants; Determination of endangered status for the tidewater goby. *59 Federal Register 7958, 49(24)*. Federal Register 59.

USFWS. (1996). Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-Legged Frog. *61 Federal Register 101, 61(101),* 25813-25833.

USFWS. (1997). Guidance on Site Assessment and Field Surveys for California Red-legged Frogs.

USFWS. (1998). Recovery Plan for Marsh Sandwort (Arenaria paludicola) and Gambel's Watercress (Rorippa gambelii). 50 pp + Appendices. Portland, Oregon.

USFWS. (2000). Endangered and Threatened Wildlife and Plants; Final Rule for Endangered Status for Four Plants from South Central Coastal California; Final Rule. *65 Federal Register 14888*.

USFWS. (2001, February 16). Notice of Intent for Preparation of an Environmental Impact Statement for Issuance of an Incidental Take Permit Associated With a Habitat

Conservation Plan for the CDPR's Operation of Certain San Luis Obispo Coast District Parks and the Oceano Dunes SVRA. *70 Federal Register 7958*.

USFWS. (2001a). Endangered and Threatened Wildlife and Plants; Final Determinations of Critical Habitat for the California Red-legged Frog; Final Rule. *65 Federal Register 14626*.

USFWS. (2001b). Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Cirsium loncholepis (La Graciosa Thistle), Eriodictyon capitatum (Lompoc Yerba Santa), and Deinandra increscens ssp. villosa (Gaviota Tarplant). *66 Federal Register 221*, 57560-57600.

USFWS. (2002). Recovery Plan for the California Red-legged Frog (Rana aurora draytonii). viii+173 pp. Portland, OR.

USFWS. (2004a, December 17). Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Pacific Coast Population of the Western snowy plover. *69 Federal Register*, 75608-75771.

USFWS. (2005). Notice of Intent Preparation of an EIS for Issuance of an Incidential Take Permit Associated with a Habitat Conservation Plan for the California Department of Parks and Recreation's Operation of Certain San Luis Obispo Coast District Parks and the Ocean. *70 Federal Register 7958*.

USFWS. (2005a). Recovery Plan for the Tidewater Goby (Eucyclogobius newberryi). vi + 199 pp. Portland, OR.

USFWS. (2006a, September). California least tern (Sternula antillarum browni) 5-Year Review Summary and Evaluation. *USFWS Carlsbad Fish and Wildlife Office*. Carlsbad, CA.

USFWS. (2006b). 2006 Pacific Coast Breeding Window Survey for Snowy Plover.

USFWS. (2007b). Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (Charadrius nivosus nivosus). *I & II*, xiv + 751 pp. Sacramento, CA.

USFWS. (2008). Arenaria paludicola (Marsh Sandwort) 5-Year Review: Summary and Evaluation. *USFWS Ventura Fish and Wildlife Office*. Ventura, California.

USFWS. (2008). Birds of Conservation Concern. USFWS, Division of MIgratory Bird Management.

USFWS. (2009a). Revised Designation of Critical Habitat for Cirsium loncholepis (La Crociosa Thistle). *Endangered and Threatened Wildlife and Plants(74 Fed. Reg. 56978)*.

USFWS. (2009a). U.S. Fish and Wildlife Service - Spotlight Species Action Plan 2010-2014. California Least Tern. *USFWS Carlsbad Fish and Wildlife Office*. Carlsbad, CA.

USFWS. (2009b). Lupinus nipomensis (Nipomo Lupine) 5-Year Review: Summary and Evaluation. Ventura Fish and Wildlife Office, Ventura CA.

USFWS. (2009c). Spotlight Species Action Plan 2010-2014. Gambel's Watercress.

USFWS. (2011a). Cirsium loncholepis [Cirsium scariosum var. loncholepis] (La Graciosa thistle) 5-Year Review: Summary and Evaluation. Ventura, California: Ventura Fish and wildlife Office.

USFWS. (2011b). Rorippa gambellii [Nasturtium gambelii] (Gambel's watercress) 5-Year Review: Summary and Evaluation.

USFWS. (2012). *Draft Environmental Assessment for the Wildlife Ponds Project Guadalupe-Nipomo Dunes National Wildlife Refuge San Luis Obispo County, California.* Ventura, CA.

USFWS. (2016, August). *Guadalupe-Nipomo Dunes National Wildlife Refuge Final comprehensive Conservation Plan and Environmental Assessment.* Retrieved September 5, 2018, from https://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_1/Hopper_Mountain_Complex/Guadalupe-Nipomo_Dunes/Sections/What_We_Do/Conservation/GNDNWR_FINAL_CCP.pdf

USFWS. (2016). *Final Comprehensive Conservation Plan and Environmental Assessment for the Guadalupe Dunes National Wildlife Refuge. .*

USFWS. (2016a, March 29). Letter to Brent Marshall, District Superintendent, California Department of Parks and Recreation, Oceano Dunes State Vehicular Recreation Area. Subject: Oceano Dunes State Vehicular Recreation Area Endangered Species Act. Ventura Fish and Wildlife Office.

USFWS. (2016b, August). *U.S. Fish and Wildlife Service, Guadalupe-Nipomo Dunes National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment*. Retrieved October 10, 2018, from https://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_1/Hopper_Mountain_Complex/Guadalupe-Nipomo_Dunes/Sections/What_We_Do/Conservation/PDFs/GND_CCP%20with%20Appendix%20A.pdf

USFWS. (2016c, December 22). Letter to Brent Marshall, District Superintendent, CDPR, Oceano Dunes State Vehicular Recreation Area. Subject: Oceano Dunes State Vehicular Recreation Area, Second Notice of Additional Endangered Species Act Violations.

USFWS. (2017). IPaC Official Species List. List generated August 29, 2017. Retrieved from https://ecos.fws.gov/ipac/publicDocument/VU27V52SPNBXJKHBCT2J7TYWX4

USFWS and NOAA Fisheries. (2016). Habitat Conservation Planning and Incidental Take Permit Processing Handbook.

Vas, E., Lescroel, A., Duriez, O., Boguszewski, G., & Gremillet, D. (2015). Approaching Birds with Drones: First Experiments and Ethical Guidelines. *Biological Letters 11*.

Wallace, P. (1971). *A Short History of the Chumash from 1834-1900*.

Wallace, W. J., & Taylor, E. S. (1958). *Archaeological Investigations in the Arroyo Grande Creek Watershed, San Luis Obispo County, California.* Los Angeles, California: Department of Anthropology of the University of Southern California,.

Walters, D., & Walters, B. (1988). Taxonomy, Demography, and Ecology of Lupinus nipomensis. *Eastwood*.

Warriner, J., Warriner, J., Page, G., & Stenzel, L. (1986). Mating System and Reproductive Success of a Small Population of Polygamous Snowy Plovers. *Wilson Bulletin*(98), 15-37.

Webber, A., Heath, J., & Fischer, R. (2013). Human Disturbance and Stage-specific Habitat Requirements Influence Snowy Plover Site Occupancy During the Breeding Season. *Ecology and Evolution*(3), 853-863.

Yosef, R. (1996). Loggerhead Shrike (Lanius ludovicianus). *(231)*. (A. Poole, & F. Gill, Eds.) Philadelphia: Academy of Natural Sciences.

Zeiner, D., Laudenslayer, Jr., W., Mayer, K., & White, M. (1990). *California's Wildlife* (1988-1990 ed., Vols. I-III). Sacramento, CA: California Department of Fish and Game.

11.2 REPORT PREPARERS

This report was prepared under the direct supervision of the CDPR Oceano Dunes District. The following individuals were involved in preparing the report.

California Department of Parks and Recreation

Kevin Pearce, Superintendent
Ronnie Glick, Senior Environmental Scientist
Stephanie Little, Environmental Scientist
Joanna Iwanicha, Environmental Scientist
Amber Clark, Environmental Scientist
Tamar Carmona, Research Data Analyst

340 James Way, Suite 270
Pismo Beach, CA 93449

MIG, Inc.

Paula Hartman, Principal
Taylor Peterson, Director of Biological Analysis
Kate Werner, Senior Project Manager
Chris Dugan, Senior Analyst
Christina Lau, Senior Analyst
David Gallagher, Senior Biologist
Lauren Huff, Senior Biologist*
Phil Gleason, Analyst
Robert Templar, Senior Archaeologist
Becca Dannels, GIS Analyst

2635 North First Street, Suite 149
San Jose, CA 95134

* Now a Senior Biologist/Project Manager at Tetra Tech as of May 2019

Lustre & Wick, LLC
Jeannie Mangone, Technical Editor

11.3 PERSONS CONSULTED

U.S. Fish and Wildlife Service

Lena Chang, Senior Fish and Wildlife Biologist, Ventura Fish and Wildlife Office
John Robles, Fish and Wildlife Biologist, Pacific Southwest Region

California Department of Parks and Recreation

Dan Canfield, Manager, OHMVR Division
Jon O'Brien, Environmental Program Manager, OHMVR Division
Kathryn Tobias, Legal Counsel
Terri Gaines, Environmental Program Manager, Natural Resources Division
Heather White, Senior Environmental Scientist, Natural Resources Division
Jay Baker, Associate State Archaeologist

California Department of Fish and Wildlife

Annee Ferranti, Environmental Program Manager