Soil Conservation Plan

Oceano Dunes District

DRAFT

California State Parks

Off-Highway Motor Vehicle Recreation Division

By

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November 2025

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Executive Summary

The Soil Conservation Plan (SCP) for the Oceano Dunes District describes the Best Management Practices (BMPs), measures, and strategies used to ensure compliance with the 2020 Soil Conservation Standard. The Oceano Dunes State Vehicular Recreation Area (Oceano Dunes SVRA/the park) and Pismo State Beach (PSB) is managed by the California Department of Parks and Recreation (CDPR) as part of the Oceano Dunes District (District). The District lies along the coast in south San Luis Obispo County.

Because of its coastal dune setting, and particularly because of the abundant, ocean-generated sediment source that continually replenishes the dunes, the Oceano Dunes SVRA is unique among the other SVRAs. There are no specific trails in the OHV riding area of the dunes, and there is no net loss of sand and sediment.

There are processes related to this dune setting, namely the wind-blown transport of sand and finer sediment, which can affect adjacent landscapes and communities. The staff at the SVRA employ BMPs to minimize potential off-site impact from these processes. This Soil Conservation Plan and the SVRA's Wildlife Habitat Protection Plan (WHPP) were prepared to detail these practices.

The SCP describes maintenance and monitoring efforts implemented at the Oceano Dunes SVRA to ensure that the SVRA is managed for sustainable, long-term prescribed use. The SCP discusses management actions implemented to reduce impacts associated with aeolian processes within the SVRA and to reduce sedimentation beyond the boundary of the park beyond natural occurring conditions, while providing high-quality recreational opportunities for multiple OHV user groups and non-motorized user groups. While this SCP is intended for Oceano Dunes SVRA, some portions of Pismo State Beach (PSB) will also be included for areas where vehicle activity occurs and where soil retention efforts are being implemented using OHV funds.

Oceano Dunes SVRA has an extensive program dedicated to control and minimize indirect emissions of dust which has the required components of an SCP as described within the 2020 Soil Conservation Standard and Guidelines. The dust control program captures the intent of an SCP by implementing an adaptive management framework which consists of performing assessments, implementing management actions, monitoring the effectiveness of those actions, annual reporting, and future actions to be taken. This SCP describes all other soil management and retention activities implemented at Oceano Dunes SVRA and PSB that are not well described in other management plans. While this plan describes all maintenance and monitoring activities aimed at retaining soil within both parks, there will not be a compliance report or action plan associated with this SCP.

Existing Conditions

Oceano Dunes District (District) comprises 5,005-acres and includes Pismo State Beach and the Oceano Dunes SVRA (located in San Luis Obispo (SLO) County, California (Figure 1). The District, which is managed by the California Department of Parks and Recreation, 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. The Oceano Dunes SVRA is a significant portion of

the 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 SLO 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.

Pismo State Beach, established in 1934, comprises approximately 1,515 acres which includes the beach, two campgrounds (North Beach and Oceano), Pismo Dunes Natural Preserve (Dunes Preserve), and the freshwater Oceano Lagoon and Pismo Lake. Pismo State Beach also contains a concessionaire-operated golf course and restaurant, the Pismo State Beach Monarch Butterfly Grove Day Use Area, 4.6 miles of non-motorized trails, and approximately 2 miles of beach accessible to street-legal vehicles south of Grand and Pier Avenues, which also provides access and a direct nexus to the adjacent Oceano Dunes SVRA.

Pismo State Beach shares two permanent entrances with Oceano Dunes SVRA, one at Grand Avenue in the City of Grover Beach and one at Pier Avenue, in the unincorporated community of Oceano. Street-legal vehicles, including motorhomes and other camping vehicles and vehicles towing trailers, can access both PSB and Oceano Dunes SVRA via the sand ramp entrances at the end of Grand Avenue and Pier Avenue. Only street-legal vehicles are allowed between Grand Avenue and marker Post 2 (Vehicle Area), an area approximately 59 acres and roughly 2 miles of beach. Off-highway vehicles (OHV) must be transported by street-legal vehicles to the SVRA, which begins at marker Post 2 (Figure 1). Per the PRC 5090.35(b)(2), the Soil Conservation Standard only applies to SVRA lands (i.e. Oceano Dunes SVRA). But because Pismo State Beach is facilitating access for the OHV recreation that occurs at the SVRA, OHV funds are being used to retain soil within PSB. These soil retention activities (namely street sweeping, sand fencing, creek crossing, and track out) will be discussed below as part of this Soil Conservation Plan.

The outer boundary of Oceano Dunes SVRA comprises 3,490 acres, with 2,711 of those acres open to visitor use in some form of public access. Oceano Dunes SVRA offers a variety of recreational activities, including dispersed beach camping, beach play, nature exploration, fishing, horseback riding, ocean sports, and a wide range of educational and safety programs. OHV recreation occurs south of Post 2 within the open riding area (ORA) (Figure 1). Both OHVs and street-legal vehicles are allowed in the ORA which consists of roughly 2 miles of beach and approximately 835 acres of dunes. When combining this with the rest of the street-legal vehicle area from Grand Avenue to Post 2, approximately 4 miles of beach and 894 acres are available for vehicles[1]. Nearly 2,596 acres, or almost three-quarters of the SVRA outside the ORA, are restricted from OHV use for resource protection (Figure 1).

[1] Prior to 2019, approximately 1500 acres were open to vehicles with seasonal closures reducing the riding area to 1200 acres. Since implementation of dust control measures, the current vehicle riding area as of February 2024 is 894 acres. A proportion of the 412 acres of dust control projects emplaced to date is outside of the riding area on open sand sheets.

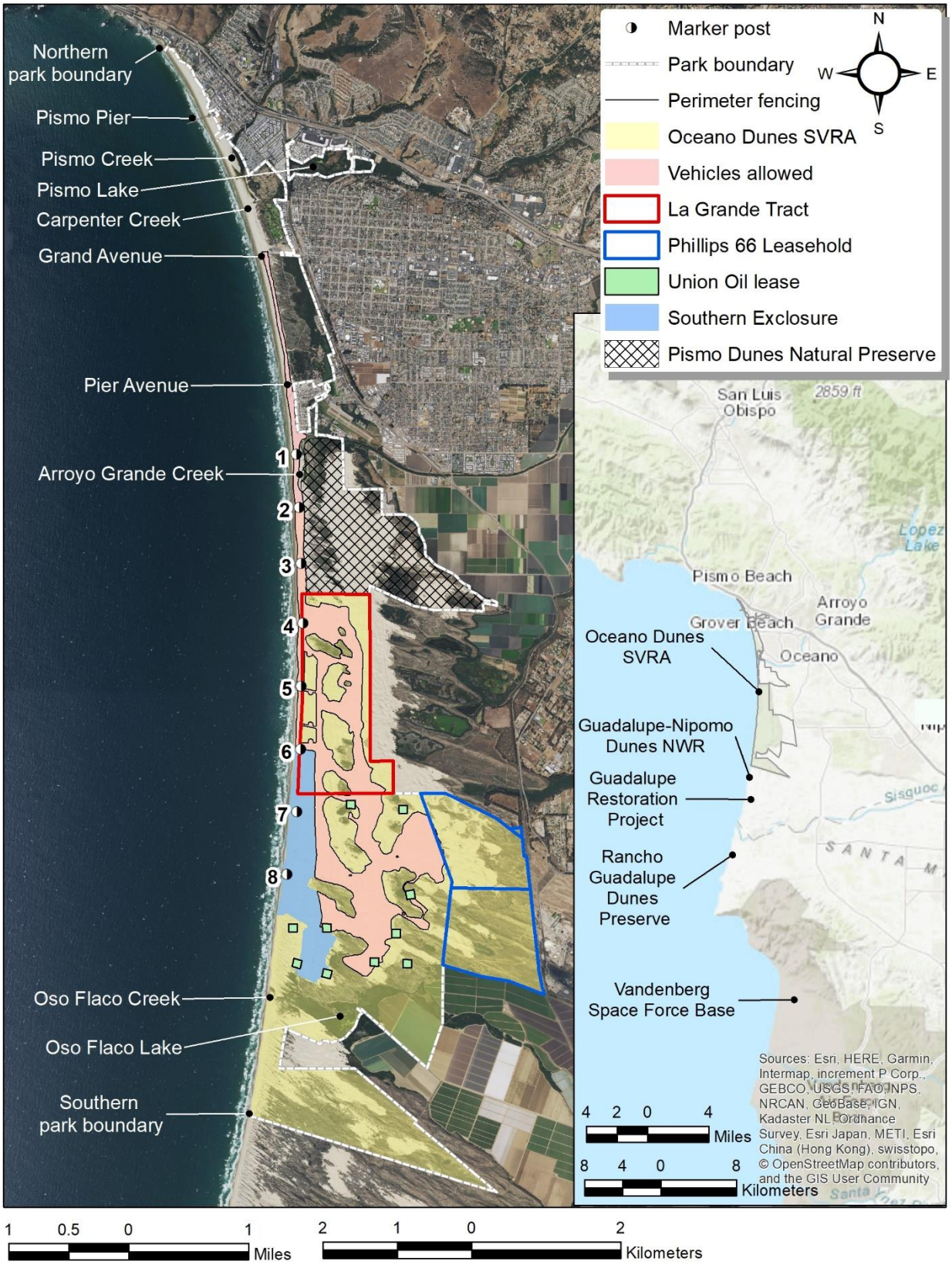

Figure 1. Oceano Dunes District Boundaries

Together, Pismo State Beach and Oceano Dunes SVRA are visited by more than 1.6 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 volume and diversity of visitation, the Oceano Dunes District manages an extensive operational program that provides visitor services, including restrooms, camping areas, trails, and interpretive and educational activities; public safety, including law enforcement, first aid, and search and rescue; facilities maintenance and repair; and resource management to protect and enhance native ecosystems and cultural resources.

Relevant History

The Northern Chumash have inhabited the region for well over 10,000 years. Their traditional territory around European contact likely ranged from the Santa Maria River through the Coast Ranges and along the Pacific Ocean to approximately Point Estero. The Northern Chumash were complex hunter-gatherer-fishers that utilized various resources varying across season and region. The largest villages were permanently inhabited adjacent to the coast while smaller settlements spanned the more interior locations. The Chumash had a complex sociopolitical system with a hereditary chief, religious specialists, and other high-ranking individuals. Wealth accumulation and economic redistribution through trade and feasting were important economic structures. Craft specialization is seen in the production of intricate and diverse basketry, shell beads, and other tools. The environment was actively managed with techniques such as periodic fire to facilitate growth and gathering of important plant resources and encourage the presence of animals for hunting. Early accounts for the region describe Chief Buchon, who had authority to direct attacks and command tribute. The first Europeans to traverse the area were members of Portola's over land expedition of 1769. Gaspar de Portola was a Spanish military officer known for leading the Portola expedition into California (Carr 2013).

Father Junipero Serra, the Franciscan friar credited with establishing the Mission System in Alta California, inadvertently brought at least three exotic weed species with him which were wild oats, mustard, and wild radish (Barbour 1993, WPA 1939). Invasive plants were likely introduced through contaminated seed lots, imported forage, and packing materials. By 1824 another dozen invasive weed species were growing up and down California. When the Southern Pacific Railroad was building its line along the California coast, they introduced European beach grass as a dune stabilizer, and in the early 20th century, the California Division of Highways utilized "hottentot fig", also known as iceplant, to landscape its nascent roadways. By 1925, 292 exotic plant species were a part of the state's landscape (Cooper 1967).

Throughout the 19th century, the land had a series of Spanish and American owners. During the 1930s and 1940s, the dunes were inhabited by a group of artists, writers, and recluses who collectively called themselves the "Dunites" (Hammond 1992).

OHV recreation in the Guadalupe-Nipomo Dunes complex precedes California Department of Parks and Recreation acquisition of the SVRA. As early as 1900, people rode horses and buggies on the beach for not only utilitarian purposes but for rest and relaxation. In 1907, a two-story dance pavilion (the La Grande Pavilion) was constructed on the beach south of Pier Avenue, and soon after, a 1,000-foot pier was constructed at the end of Pier Avenue. At about the same time, people started driving cars on the

beach and even explored the dunes on early motorcycles. Early advertisements for lots in Oceano described a strand “18 miles long of clean white sand” boasting “the fastest automobile track in America” (Austin and Hammond 2010). By 1915, photos show long lines of automobiles parked on the beach. The pavilion was torn down in 1920-21, and much of the pier was removed in 1931 to make room for auto racing along the shore (Austin and Hammond 2010).

California was transformed during World War II. Many major industries sprang up in the state, virtually overnight, for the war effort. Henry J. Kaiser built steel mills and shipyards, the federal government acquired hundreds of thousands of acres of land for military bases, and hundreds of thousands of troops passed through California on their way to and from the War in the Pacific (Gregory 2016, Harth et al. 1991). Between 1940 and 1950 the county’s population increased by fifty percent, from 33,246 to 51,417. The state’s population doubled between 1940 and 1950, to 10.5 million, and increased by another five million in the next ten years, to 15.8 million. Today it stands at about 38.9 million. A corresponding increase in public works infrastructure – water projects, building thousands of miles of freeway, and the growth of the State Park System—was required to accommodate the growth. Tremendous environmental, social, economic and recreational impacts also occurred during this time period. After World War II, a huge military surplus of light off-road vehicles like the Jeep and rugged motorcycles were available on the market. Jeeps were popular with buyers who used them as recreational vehicles to explore California’s vast network of secondary roadways, both paved and dirt. This led to the start of off-roading as a weekend hobby. The World War II Jeeps were soon joined by the Jeep company’s civilian models and similar vehicles from Japan (Toyota, Datsun) and Great Britain (Land Rover) (Sheridan 1979).

After World War II, and especially with the growth of dune buggies in the late 1950s and 1960s, motorized vehicles traversed the publicly and privately owned beach and dunes from the north end of Pismo Beach all the way to Point Sal, in Santa Barbara County. Camping along the beach and in the dunes also grew in popularity.

At a California State Park Commission meeting held in Santa Barbara in 1966, Commissioner Margaret Wentworth Owings argued for the southern San Luis Obispo County dunes to be acquired for a state park, and that the park be extended south into Santa Barbara County as far as the existing Point Sal State Beach. The Sierra Club Executive Committee reaffirmed its support of the Nipomo Dunes as a state park and approved of Diablo Canyon as an alternate site for PG&E’s proposed nuclear power plant (Brower 1990, Cohen 1988). The subsequent sale of the land to the State resulted in the first official SVRA. SVRAs were approved by the Legislature in 1971 but it appears that it took a few years to establish Pismo Dunes as an official SVRA. At approximately the same time, in San Luis Obispo County, the opportunities to ride or drive on the beach were becoming increasingly restricted. For example, in April of 1970, the Morro Bay State Park sand spit was closed to OHVs, and in November, the City of Morro Bay banned vehicles from its coastal beaches north of Morro Rock.

In 1971, through enactment of the Chappie-Z’Berg Off-Highway Motor Vehicle Law, the State Legislature addressed the growing use of motorized vehicles off-highway by adopting requirements for the registration and operation of these vehicles. In addition, the law provided funding for administration of

the OHMVR Division, along with providing facilities for off-highway motor vehicle recreation. The law was founded on the principle that "effectively managed areas and adequate facilities for the use of OHVs and conservation and enforcement are essential for ecologically balanced recreation." The law required maintenance and oversight to allow for sustainable OHV use consistent with good environmental stewardship (Engbeck 1980).

In 1974, CDPR purchased the first portion of the official SVRA when it acquired 847 acres (from about Post 7 to Post 8) with the intent of continuing the existing OHV recreation. At the time of acquisition, access to the beach and dunes was largely uncontrolled, and vehicles stretched bumper to bumper for five or six miles along the beach on major holidays (CDPR 1975). In addition, at that time, some vehicles accessed the SVRA from private lands along Oso Flaco Road. Pismo Dunes State Vehicular Recreation Area was classified by the State Park Commission on July 12, 1974, and opened to the public, as an extension of Pismo State Beach. It was the first off-highway motor vehicle recreation park established in the California State Park System. There was no charge for day use, and a $1.50 charge per night for primitive camping on the beach. On Labor Day weekend of 1974 the first "Sand Nationals" were held at PSB (CDPR 1975).

In 1977, CDPR acquired an additional 366 acres of coast and dune, including Oso Flaco Lake, which was closed to vehicle use in 1982. State Park's new park division, the OHMVR Division, took over the active management of the SVRA. Soon thereafter, the SVRA was renamed the Oceano Dunes SVRA. Having assembled most of the operational boundaries of the current state beach and Oceano Dunes SVRA by 1982, CDPR established the current formal entrance stations and fenced boundaries. These boundaries demarcated the motorized and non-motorized recreation areas and reduced motorized access to the Oceano Dunes SVRA and surrounding lands. There was an estimated 15,000 acres open to OHV use prior to 1982 (Figure 2 and Figure 3).

The Off-Highway Motor Vehicle act was signed into law in 1982 and has since been amended several times. It is now referred to as the Off-Highway Motor Vehicle Recreation Act of 2003. Per PRC 5090.02(c)(1), the legislative intent is that OHV areas be expanded, added to, and managed to sustain areas for long-term motor vehicle recreation, and that the OHMVR Program support motorized off-highway access to non-motorized recreation opportunities.

The Oceano Dunes SVRA, situated within the much larger Guadalupe-Nipomo Dunes complex, constitutes an important landscape shaped by both natural and cultural forces. The park plays, and continues to occupy, an important role not only in recreational opportunities and resource protection activities but also in the rich history of the Central Coast of California.

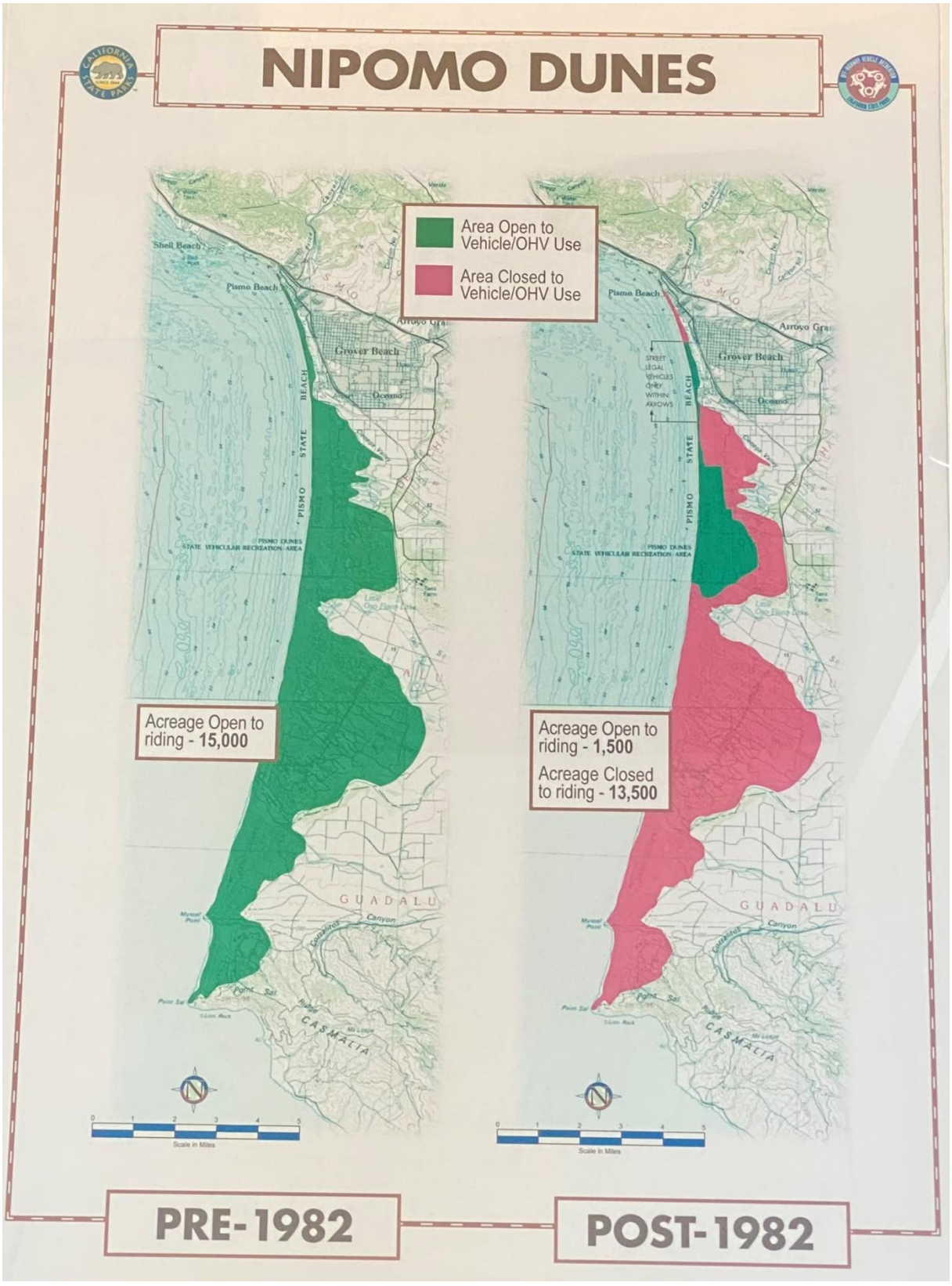

Figure 2. Acreage Opened to Riding Pre- and Post-1982. Figure credit unknown.

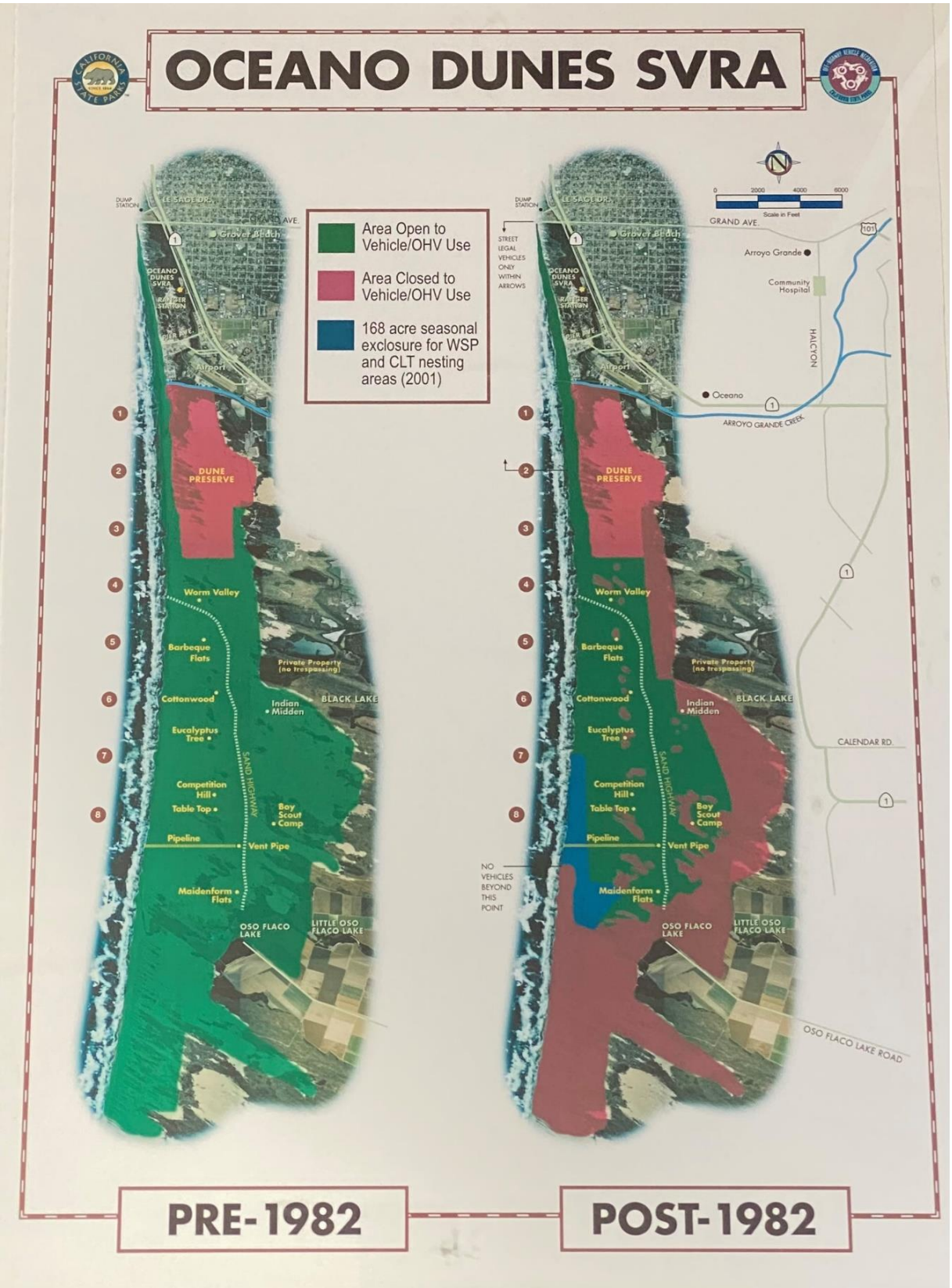

Figure 3. Pre- and Post-1982

Climate

Oceano Dunes SVRA has a Mediterranean climate characterized by year-round mild temperatures of little diurnal fluctuation, mild winters, and warm dry summers. A band of low clouds often occurs along the immediate coast during the summer months. This cloudy zone moves inland during the night and early morning hours and recedes offshore during the day. As a result of the influence of the Pacific Ocean, temperatures along the coast remain moderate year-round. 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. Local precipitation, based on a weather station installed in Oceano by the County of San Luis Obispo Public Works department, has ranged between 2.99-27.81 inches with an average of 13.01 inches per year (beginning July 1) from 2013 to 2022. (https://wr.slocountywater.org/site/?site_id=10&site=cf038436-7544-4028-ba42-ba2f909f8e77).

Along the coast of California, wind predominately blows from the west and northwest. These prevailing wind patterns are most pronounced during the spring (March to June). During this period, hourly average wind speeds typically exceed 20 mph from approximately late morning to late afternoon/early evening, with little variation in wind direction. The winds become light and variable at night and in the early morning hours.

Hydrology/Watersheds

Four watersheds exist in Oceano Dunes District, defined from Hydrological Unit boundaries from USGS' Watershed Boundary Dataset Hydrologic Unit Code 12 (HUC12): Lower Arroyo Grande Creek, Pismo Creek, Meadow Creek-Frontal Pacific Ocean, and Oso Flaco Creek (Figure 4). Watershed boundaries can be found on the publicly accessible California Water Resources Control Boards Geographic Information System server.

Lower Arroyo Grande Creek (19,394 acres, HUC: 180600060605)

The Lower Arroyo Grande Creek watershed is in the southern portion of San Luis Obispo County. The water quality and quantity of Arroyo Grande Creek and estuary are influenced by water uses upstream. Lopez Dam is a primary water supply for some local municipalities and agricultural interests. Small domestic and agricultural water uses downstream of Lopez Dam also reduce the amount of surface water available for the lower reaches of Arroyo Grande Creek. In drought years, groundwater pumping and surface diversions have caused portions of lower Arroyo Grande Creek to completely dry up, resulting in dry creek beds and a much smaller lagoon (Rischbieter 2008, 2009a, 2013). During summer months or during extremely dry winters when stormwater runoff and baseflow are the lowest, Arroyo Grande Creek becomes impounded by a sandbar and forms a lagoon instead of flowing into the ocean.

Pismo Creek (24,135 acres, HUC: 180600060703)

The Arroyo Grande Creek watershed historically also included the lower portion of Pismo Creek, located to the north of Arroyo Grande Creek. Prior to 1911 when an extreme flood event occurred, Pismo Creek's lower drainage included Pismo Lake and what today is called Meadow Creek. Lower Pismo Creek joined with Arroyo Grande Creek in its lowest reaches and flowed into the ocean. Grading in the 1950s rerouted Pismo Creek to its current configuration. The Pismo Creek channel/lagoon system trends

southerly with a break in the barrier beach generally occurring one to several hundred yards south of Addie Street. The lagoon forms seasonally at the mouth of Pismo Creek, varying annually in size depending on rainfall and on sand drift and accumulation.

Meadow Creek-Frontal Pacific Ocean (62,019 acres, HUC: 180600060705)

Pismo Lake lies 0.5 miles east of the Pacific Ocean and is fed by Meadow Creek. The upper reaches of Meadow Creek feed into Pismo Lake at Fourth Street in the City of Pismo Beach. Pismo Lake then drains into the lower reaches of Meadow Creek at the Union Pacific Railroad crossing and State Route 1. The construction of the Union Pacific Railroad was likely one of the first major alterations to the hydrology of this watershed. Meadow Creek is a remnant marsh drainage system that drains Pismo Lake, flows south to the North Beach Campground through the Pismo Beach Golf Course, and empties into the Oceano (Meadow Creek) Lagoon. Meadow Creek then enters Arroyo Grande Creek just upstream of its confluence with the ocean. Flood control gates were installed at the point where Meadow Creek meets the Arroyo Grande Creek Flood Control Channel levee to prevent Arroyo Grande Creek storm surge backwater from infiltrating the lowland marsh area and damaging nearby homes. Carpenter Creek is a small braid channel of Meadow Creek that, with sufficient flow, can connect to the Pismo Creek Lagoon south of the North Beach Campground.

This watershed is a frontal drainage with multiple outlets, which typically gets included with offshore hydrologic units, making the extent of the western boundary approximately 3 miles offshore at the NOAA Three Nautical Mile Line (USGS 2013).

Oso Flaco Creek (12,497 acres, HUC: 180600060704)

The Oso Flaco Creek watershed consists mainly of agricultural land. Oso Flaco Creek flows into Oso Flaco Lake and ultimately to the Pacific Ocean. At approximately 39 acres, Oso Flaco Lake is the largest of the freshwater lakes associated with the Guadalupe-Nipomo Dunes complex. Water quality in the Oso Flaco watershed has been found by the Regional Water Quality Control Board to be impaired by several pollutants related to agricultural practices, including pesticides, nitrate, and excessive sediment (CSLRCD 2013).

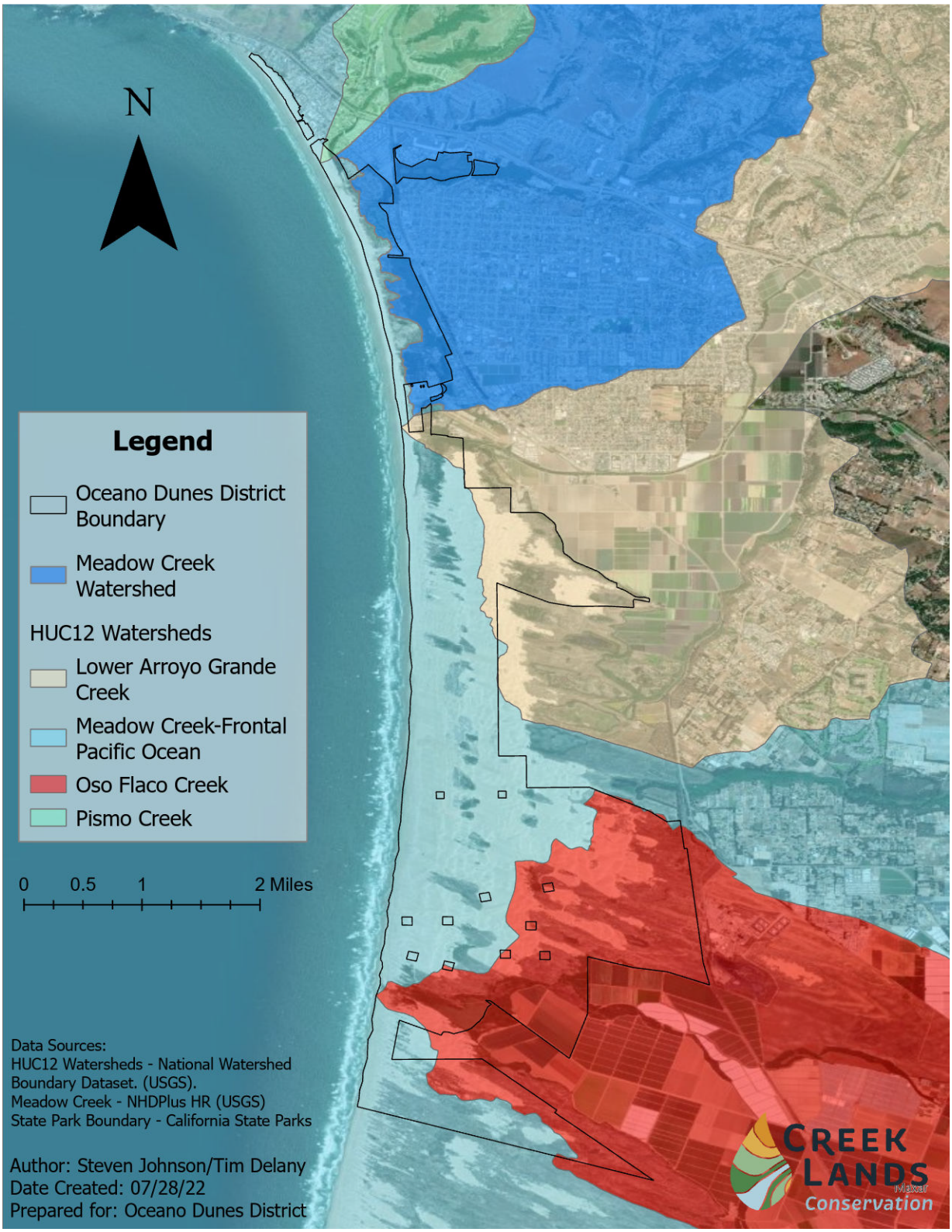

Figure 4. Watersheds within Oceano Dunes District (Note: The light blue color represents the Meadow Creek-Frontal Pacific Ocean, which has multiple outlets and therefore extends 3 NOAA nautical miles westward.)

Geology and Soils

The Oceano Dunes SVRA and adjacent lands managed by the District are located at the northwestern end of the Santa Maria River valley in what is known as the Callender dune sheet (CGS, 2011). Several phases of dune formation are present in the area, the oldest (25,000 to 80,000 years old) occurring inland on elevated terraces within the Nipomo Mesa, approximately two miles east of the SVRA. The majority of the Oceano Dunes SVRA lies within the youngest (2,000 years to present), most active sequence of beach and dune sands, directly inland from the present shoreline. Aeolian (wind-driven) transport of the sand is ongoing, and the dunes are actively migrating inland. Studies by Griggs and others (2005) estimate 115,000 cubic yards of sand and finer material are blown inland each year along the 55-mile stretch of coastline from Pismo Beach to Point Arguello (CGS, 2011).

The dominant soil type at Oceano Dunes SVRA is the aeolian sand that originates with finer sediments in rivers and creeks that drain into the ocean bay that is defined by Point San Luis to the north and Point Sal to the south. Additionally, sand and sediment are delivered to this bay via the southward trending longshore current. Another source of sand and sediment comes from older dunes that formed higher up on the landscape, such as at Nipomo Mesa, east of Oceano Dunes, when the sea level was much higher than today. Portions of these old dune deposits washed into the bay when the sea level dropped.

The sand dunes of south SLO County form due to three characteristics. One, as mentioned above, an abundance of sand and finer sediment exists in the bay offshore from the dunes. Two, strong westerly prevailing winds blow ashore every spring and fall and frequently at other times of the year. And three, the coastline in this region is low-lying and west-facing, nearly perpendicular to the prevailing wind direction. The shoreline receives the full force of the wind. The sand and finer materials washed up by tides and surf are pushed up from the shore by the wind which starts the process of saltation.

Sand dunes are formed by the process of saltation. Sand grains creep and bounce as they are pushed by the wind, forming small ripples. The sand ripples move downwind and as they do, each sand ripple lays down a thin layer of sorted sand as the ripple rolls over the landscape. These layers build on each other, sand ripple by sand ripple, to create the dunes. As the wind pushes the sand ripples along, there is also a turbulence of bouncing sand grains just above the dune surface. As the grains bounce downwind, they dislodge other grains, including dust particles. The dust is then caught up in the wind as the wind blows over the dunes.

State and Regional Conservation Objectives

Public Resource Code Section 5090.32(g) requires that management plans within SVRAs be developed in consideration with state and regional conservation objectives (CDPR 2021). As a result, the below referenced state and regional conservation objectives were reviewed and incorporated into the development of the Oceano Dunes SVRA SCP objectives (Table 1). Note: at the time, there were no relevant regional conservation plans for Oceano Dunes District to draw from.

Table 1. Summary of state and regional plans, their geographical relationship to Oceano Dunes SVRA, and whether the SCP contributes to relevant state or regional conservation objectives.

Plan Name	State or Regional Plan	Geographical Overlap with the Park	Contains Relevant Target Resources	Contributes to Conservation Objectives
California Healthy Soils Action Plan	State	X	-	X
2018 Safeguarding California Plan	State	X	-	X
State Wildlife Action Plan	State	X	-	X

California Healthy Soils Action Plan

The California Department of Food and Agriculture created a California Healthy Soils Action Plan. This plan is an interagency effort to promote the development of healthy soils on California's farm and ranchlands through innovative farm and ranch management practices that contribute to building adequate soil organic matter. Even though the plan is directed to farms and ranches, the goals align with the SCP such as improving soils which provide these benefits: maximizing soil retention, minimizing soil loss, reducing erosion, and improving biological diversity and wildlife habitat.

2018 Safeguarding California Plan

Developed by the California Natural Resources Agency, the updated 2018 Safeguarding California Plan's purpose is to layout guidelines for agencies to incorporate strategies necessary to address climate change into their future planning efforts. The 2018 update included a chapter specific to Parks which included the recommendation (PC-5) to incorporate climate change in all California State Parks conservancy planning and decision-making. To meet Recommendation PC-5, the Plan identifies a step (PC-5.6) to "prioritize conservation, protection, and restoration of natural resources in climate change adaptation projects and planning to ensure sustainable recreational opportunities for the public." The 2023 SCP can contribute to this plan by adaptively conserving and improving soils while evaluating whether recreational opportunities are sustainably managed.

State Wildlife Action Plan (SWAP)

This plan, developed by the California Department of Fish and Wildlife in 2015, in concert with several partners statewide, provides a blueprint for conserving wildlife and their habitats in the context of a growing human population and a changing climate. The plan complies with the federal State and Tribal Wildlife Grants (STWG) Program requirements. One of the priority goals of the Plan is to maintain and improve ecological conditions vital for sustaining ecosystems in California by, in part, improving ecosystem connectivity and community structure. The 2023 SCP supports SWAP goals by maintaining and improving wildlife habitat over time within the SVRA.

The SWAP has divided the state of California into seven provinces and developed regional conservation strategies for each. Oceano Dunes SVRA is located within the Bay Delta and Central Coast Province. Oceano Dunes SVRA falls within the Central California Coast Conservation Unit, targeting coastal sage

scrub, coastal dune scrub, and coastal lagoon habitats and their associated focal species. This SCP aligns with the SWAP's conservation goals by incorporating a long-term goal of direct management of these vegetation community types and the protection and improvement of wetland and riparian habitats.

Management Units

Management Units (MU) provide a structure for implementing natural resource management activities. They are defined as land areas with unique identifiers that constitute manageable-sized areas for organizing and scheduling management work. Management Units were established at Oceano Dunes SVRA in 2020 and delineated using GIS (Table 2). Delineations of MUs were conducted based on street-legal and off-highway vehicle use type, land leases, watersheds, closed vegetated islands and dust control projects, and seasonal western snowy plover and California least tern closures (Figure 5). Due to public safety, moving sand, and dust control projects, these acreages are approximate and are subject to change.

Table 2. Management units (approx. acreage as of May 2022 and February 2024)

Number	**MU Name (common name)**	**Dominant Vegetation Community**	**Use Type**	**Approx. Acreage**
1	Street-legal Vehicle Area and Open Riding Area (These two management units are combined since they have similar use types)	Sand	Street-legal and OHV Open Riding	894 (includes 59 acres of Street-legal Vehicle Area from Grand Ave to Post 2 within PSB and 835 acres of Open Riding Area within the SVRA)
2	Vegetated Islands	Central Coast Dune Scrub, Coastal Willow/ Wax Myrtle Thicket, Central Coast foredunes, Coastal Dune Swale	Closed	360
3	Northern Non-Riding Area	Coastal Strand, Central Coast Foredune, Central Coast Dune Scrub, Coastal Willow/ Wax Myrtle Thicket, Coastal Dune Swale, Coastal Dune Riparian Woodland	Closed	1325

Number	MU Name (common name)	Dominant Vegetation Community	Use Type	Approx. Acreage
4	Southern Non-Riding Area	Coastal Strand, Central Coast Foredune, Central Coast Dune Scrub, Coastal Willow/Wax Myrtle Thicket, Coastal Dune Swale	Closed	630
5	Southern Exclosure	Coastal Strand, Central Coast Foredune	Closed	290
6	Arroyo Grande Creek and Lagoon	Coastal Strand, Central Coast Foredune, Freshwater Creek, Coastal Lagoon, Wetland, Riparian Habitat	Closed, except when it is flowing across sandy beach	29
7	Oso Flaco (OF) Watershed	Dune Lake, Freshwater Creek, Coastal Lagoon, Wetland, Riparian Habitat, Coastal Strand	Closed	180
8	Agriculture Land Lease	Agriculture	Closed	118

Short description for each unit and the specific attributes that characterize the unit:

1) **Street-legal Vehicle Area and Open Riding Area**: This MU includes both the Street-legal Vehicle Area of PSB and Open Riding Area (ORA) of Oceano Dunes SVRA. The Street-legal Vehicle Area begins at the Grand Avenue entrance to the entrance of Post marker 2. The ORA starts at Post marker 2 and goes south through the SVRA. The Street-legal Vehicle Area is open to street-legal vehicles and the Open Riding Area is open to street-legal vehicles, Off-highway motor vehicles, and camping. The ORA allows open area (non-trail) riding and camping in non-designated spaces. Riding and camping occur in mostly active coastal sand dunes barren of vegetation.

2) **Vegetated Islands:** Vegetated islands and dust control activities are within the ORA but are fenced from off-highway vehicles (OHVs) and camping. Restoration work and dust control activities are done within this area. Habitat types include: Central Coast Dune Scrub, Coastal Willow/ Wax Myrtle Thicket, Central Coast foredunes, and Coastal Dune Swale.

3) **Northern Non-Riding Area:** This MU includes Phillips 66 Leasehold east of the ORA, dust control projects that were formerly ORA, and a section of North Oso Flaco. This area is closed to vehicles. Oceano Dunes District staff manage the leasehold area (e.g., maintains fences and manages resources) as needed. Habitat types include: Coastal Strand, Central Coast Foredune,

Central Coast Dune Scrub, Coastal Willow/ Wax Myrtle Thicket, Coastal Dune Swale, and Coastal Dune Riparian Woodland.

4) **Southern Non-Riding Area:** This MU includes the shoreline and dunes south of the riding area known as South Oso Flaco. The shoreline is narrow in width, and the dunes are typically heavily vegetated, relative to the riding area. The area is part of the Oso Flaco Lake area, open to pedestrian use but closed to vehicles. Habitat types include: Coastal Strand, Central Coast Foredune, Central Coast Dune Scrub, Coastal Willow/Wax Myrtle Thicket, and Coastal Dune Swale.

5) **Southern Exclosure:** This MU is a single contiguous area, including shoreline, within the southern portion of the ORA. The Southern Exclosure includes the 6, 7, 8, and Boneyard exclosures that are fenced and closed to entry year-round to protect nesting western snowy plover and California least tern. Habitat types include: Coastal Strand and Central Coast Foredune.

6) **Arroyo Grande Creek and Lagoon:** This MU is within PSB. It includes Arroyo Grande creek and lagoon which seasonally flows into the Pacific Ocean. The upper creek area and lagoon are closed to vehicle use year-round to protect sensitive aquatic habitat. Pedestrian and equestrian entry is prohibited during the western snowy plover nesting season and permitted during the nonbreeding season. Posts and signs delineate the closed area during the nonbreeding season; symbolic rope fence is added during the nesting season. Habitat types include: Coastal Strand, Central Coast Foredune, Freshwater Creek, Coastal Lagoon, Wetland, and Riparian Habitat.

7) **Oso Flaco Watershed:** This watershed includes Oso Flaco Lake and creek which seasonally flows into the Pacific Ocean. Oso Flaco Watershed is open to pedestrian use but closed to vehicles. Habitat types include: Dune Lake, Freshwater Creek, Coastal Lagoon, Wetland, Riparian Habitat, and Coastal Strand.

8) **Agricultural Land Lease:** Oceano Dunes SVRA leases land to local agricultural operators near Oso Flaco Lake. This leased portion has no public access.

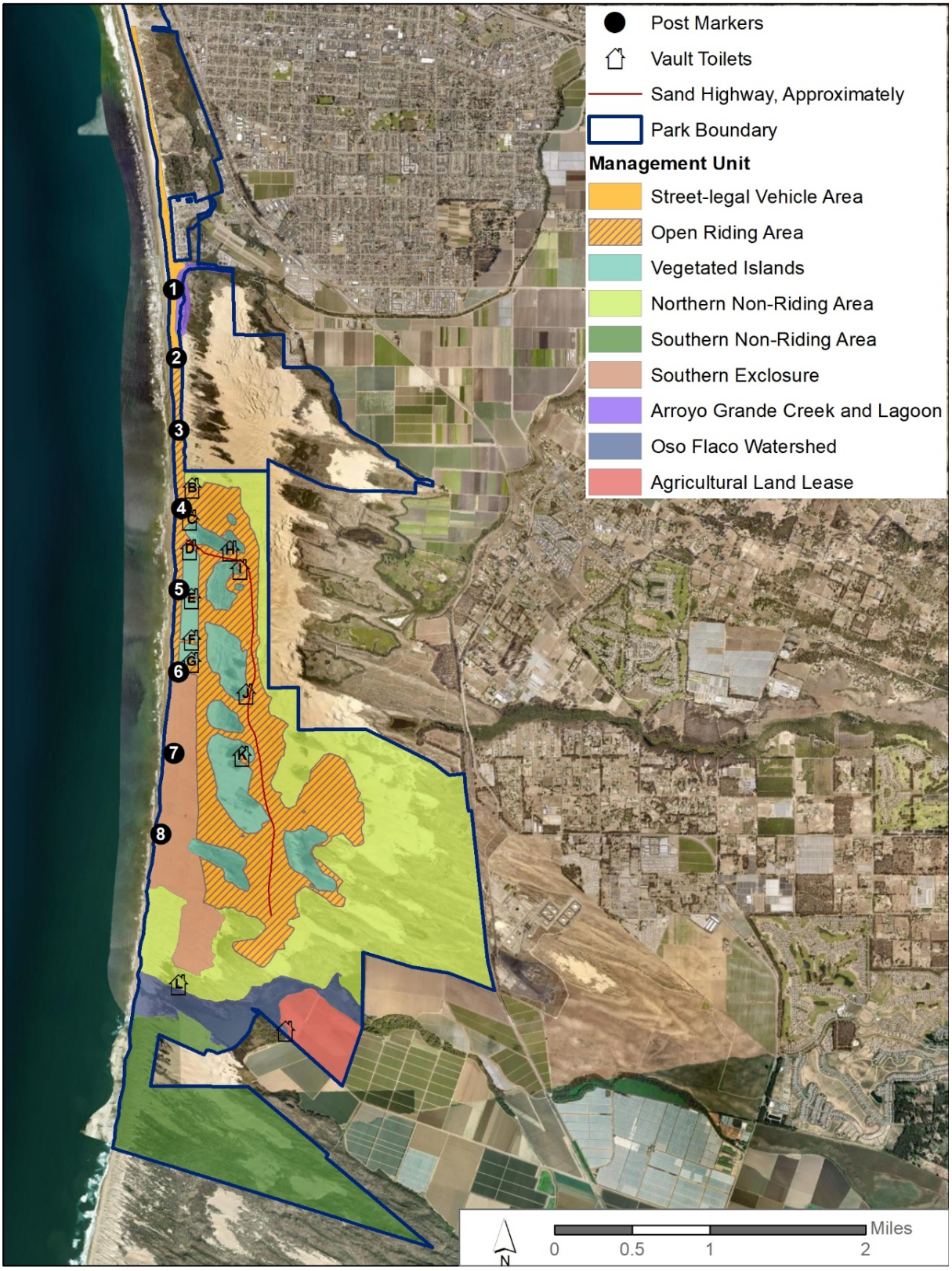

Figure 5. Management Units

Maintenance and Monitoring Plan per MU

Introduction

When considering this dynamic geological setting, it is important to evaluate the consequences of stabilizing a given dune area or allowing it to continue to move. Oceano Dunes SVRA staff do not interfere with natural processes unless sensitive areas are being impacted, or unless a project is designed as part of a regional collaborative effort to address regional issues. Sensitive areas include culturally sensitive areas, important natural resource areas, wetlands, rare plants, and other rare or protected habitats. Management actions are discussed in greater detail within each MU below.

Natural Resource Protection Overview

Within the Open Riding Area MU, vegetated islands and nesting areas for western snowy plover and California least tern are protected and closed to street-legal and off-highway vehicle (OHV) activity in order to minimize potential impacts to these natural resource areas. These areas are fenced, signed (where deemed appropriate), and stabilized to keep from being uncovered, buried, or impacted from OHV use. These actions are discussed in greater detail within the Vegetated Islands and Southern Exclosure MU below.

Vegetation Management Overview

The Oceano Dunes District staff systematically remove invasive exotic vegetation within the park. Weeds that currently threaten native plant life have been inadvertently and purposefully introduced into the dune environment to stabilize the dunes. The Oceano Dunes District staff actively control and/or remove invasive plant species, such as European beach grass, perennial veldt grass, jubata grass, iceplant, Cape ivy, and Russian wheat grass.

In an effort to minimize offsite effects related to dust generated from the dune saltation process, Oceano Dunes District staff oversee the planting of native dune vegetation in select areas of the ORA, as part of regional air quality projects designed to arrest the dune saltation process. These actions are discussed further in the Open Riding Area MU.

Cultural Resource Protection Overview

Within each Management Unit in the District, cultural resource sites are protected and closed to street-legal vehicles, OHVs, and pedestrian activity in order to minimize potential impacts to the features. Several approaches are used to protect newly encountered cultural and archaeological resources within the District. Frequently, the active and ever-changing nature of the dune landscape repeatedly reveals archaeological materials where none were previously visible. Preservation in place and as found is the preferred method to protect the integrity and character of an exposed cultural resource. This typically involves closure of the area with fencing, signage, or other barriers to prohibit entrance and disturbance. Certain environmental, geological, and/or cultural and recreational factors may initiate additional protective measures. For exposed Native American resources, protective measures are developed, discussed, and determined through consultation with tribal groups traditionally and culturally affiliated with the area. Enhanced protection can include mechanical capping using

surrounding sand or introducing native vegetation around and/or over the resource to reduce visibility and facilitate natural sand accumulation. In rare circumstances, protection of archaeological resources may require artifact collection or excavation, though this is limited to circumstances where damage, destruction, or loss of the resource is threatened or imminent.

Management Units Detailed

The following sections detail the MUs at Oceano Dunes SVRA. Included are detailed overviews of each MU, pertinent management information, maintenance activities, and monitoring efforts as they relate to soil conservation.

Street-legal Vehicle Area and Open Riding Area MU

Overview

This MU includes both the Street-legal Vehicle Area of PSB and Open Riding Area (ORA) of Oceano Dunes SVRA. The Street-legal Vehicle Area begins at Grand Avenue entrance and extends southward to the entrance of Post marker 2. The ORA starts at Post marker 2 and goes south through the SVRA. The Street-legal Vehicle Area is open to street-legal vehicles and the ORA is open to street-legal vehicles, Off-highway motor vehicles, and camping. The ORA allows open area (non-trail) riding and camping in non-designated spaces. Riding and camping occur in mostly active coastal sand dunes barren of vegetation. Vegetation communities exist in the ORA but they are closed off to vehicles and discussed in the Vegetation Islands MU below. The soils in the Street-legal Vehicle Area and Open Riding Area MU are unstabilized and stabilized sand dunes discussed in the Soils section of this plan.

Maintenance and Monitoring Activities

- Fence Installation:

Perimeter fencing delineates the ORA (labeled riding area boundary fence on MU map, Figure 5) and is also used to enclose the vegetation islands within the ORA. Oceano Dunes District staff monitors and maintains miles of fencing by mechanized methods when practical and hand crews where the scope of work is too restrictive for mechanized equipment. All fencing must be maintained, including by removing sand to ensure the fences are not buried and by replacing the fences as needed. The fencing consists of field fencing, peeler poles, and T-posts. Due to sand movement, fencing may not always be replaced in the exact same location but is aligned to maintain consistent boundaries.

Protocol for Monitoring fence integrity:
Consistent observation and preventative action are the basis for conducting proper maintenance of fencing in order to prevent illegal incursion into closed areas. Fences are monitored by visual inspections as needed or once a week during windy periods, typically March to June, when sand movement occurs at a higher rate. Fences are repaired or replaced as necessary. If a fence is in place and performing to its intended purpose, such as preventing access to sensitive areas, the fence is considered effective.

- Grand Avenue, Pier Avenue, and Strand Way Wind Fencing:

Oceano Dunes District installs wind fencing directly upwind of Grand Avenue, Pier Avenue, and Strand Way annually from March to July. The plastic fencing material is stretched across fence poles in approximately 80-foot sections. The district is also trying different materials and different orientations including wooden snow fencing. This wind fencing is installed to control natural sand drift from the beach onto public roads, parking areas, and other structures such as residences that front the southern portion of Pismo Beach. Maintaining the wind fencing requires ongoing grading to remove sand, depending on the wind strength and direction. This is done as needed, approximately every two weeks during the windy season. The Oceano Dunes District may use heavy equipment to move and distribute sand that has accumulated in wind fencing projects. The sand is typically distributed in front of the wind fencing and above the mean high tide line.

Wind Fencing at Strand Way to the south of Pier Avenue entrance-photo looking north

Protocol for Monitoring wind fencing:

Consistent observation and appropriate preventative action are the basis for conducting proper maintenance of wind fencing. Wind fencing is monitored by visual inspections as needed or once a week during windy periods, typically March to June, when sand movement occurs at a higher rate. Sand is typically removed when the wind fence is buried halfway.

- Sand Ramp and Other Vehicular Access Maintenance:

At Pismo State Beach, vehicles access the beach via the sand ramps at Grand Avenue and Pier Avenue. The sand ramps are maintained as needed, sometimes as often as daily, to ensure safe

vehicular access. Excess sand is scraped off the ramp by heavy equipment and deposited above the mean high tide line, and road base is added to the face of the sand ramps for traction. CDPR vehicles also access the beach via the Midramps staff vehicle entrance from Oceano Campground, which is between Grand and Pier Avenue. The Midramps access is also maintained by grading the sand adjacent to the campground area and adding road base as needed.

Protocol for Monitoring sand ramps:
Consistent observation and appropriate preventative action are the basis for conducting proper maintenance of the sand ramps. These areas are monitored by visual inspections as needed or once a week during windy periods, typically March to June, when sand movement occurs at a higher rate. If the ramps remain functional and accessible to the public, they are considered effective.

- Track out Devices:

A mobile track out device is in place at Pier Avenue entrance and a permanent track out device is at Grand Avenue entrance to prevent track out of sand from the vehicles exiting the beach. The shaking of the vehicle as it drives across the device knocks sand off the tires and chassis, which reduces sand from moving on the paved, public roadways. These devices are in place year-round and maintained on a regular schedule as needed.

Track out device at Pier Avenue entrance

- Street Sweeping:

The Oceano Dunes District operates a street sweeping program to remove wind-blown sand that accumulates on Grand Avenue in the City of Grover Beach and on Pier Avenue in the community of

Oceano. To perform this task, District staff operate a CDPR-owned street sweeper on the Grand Avenue and Pier Avenue entrance stations to the sand ramps leading to the beach (a distance of approximately 550 feet at Grand Avenue and 250 Feet at Pier Avenue) two to four times per week, or as needed, depending on how much sand accumulates on the roads. The District also contracts privately for a firm to sweep from the Pier kiosk to Air Park Drive on Pier Avenue. This work occurs three times per week.

Protocol for Monitoring track-out devices and street sweeping:
Consistent observation and appropriate preventative action are the basis for conducting proper maintenance of track-out devices and street sweeping on both Grand and Pier Avenues. Both Grand and Pier Avenue are visually monitored regularly during windy periods, typically March to June, when sand movement occurs at a higher rate. Track out devices are cleaned and cleared as needed to remain effective. Maintenance logs are kept when the streets are swept and track-out devices are cleaned. The District coordinates street sweeping activities with San Luis Obispo County street sweeping schedules on the County-maintained portion of Pier Avenue using OHV In Lieu fees.

- Dust Control:

Within this MU, the District has implemented an extensive program to control and minimize indirect emissions of saltation-derived dust that is generated in the dunes during periods of strong, persistent winds. Dust management has been recognized as a priority soil conservation issue in the park. In general, the program consists of planting native vegetation in select areas of the OHV riding area to prevent or minimize the saltation process within those areas. It is recognized that the dune setting has always emitted dust via the saltation process and will continue to do so. The efforts here are to achieve a balance that allows for recreational activities while increasing the acreage of native vegetation within the MU to levels that meet our regulatory requirements. This approximates the amount and location of native dune vegetation that existed before there was OHV recreation in the dunes. This metric is made via the comparison of aerial imagery of the dunes from the 1930s--before widespread dune OHV recreation existed—with present-day aerial imagery. More information can be found in the Stipulated Order of Abatement (SOA) Case No. 17-01, which was amended in November 2019 and October 2022 as well as the Annual Report and Work Plan (ARWP) approved by the San Luis Obispo Air Pollution Control District. The ARWP can be found at https://www.slocleanair.org/.

As part of the SOA, State Parks released a draft Particulate Matter Reduction Plan (PMRP) in June 2019, including an implementation plan outlining steps the department will take through December 2023 to achieve requirements outlined in the SOA. This effort includes complex computer modeling, air quality measurements in the field, and close coordination with APCD and an international group of earth and atmospheric scientists known as the Scientific Advisory Group.

Protocol for Monitoring Dust Control:
There is an existing robust program to monitor dust control efforts and report on the effectiveness through the SOA. Condition 4 of the SOA requires the ARWP to review dust control activities implemented over the previous 12-month period, identify dust control activities proposed to be undertaken or completed in the next 12-month period, use air quality modeling

and estimate downwind benefits and anticipated reductions, describe budgetary considerations, and provide a detailed schedule of proposed dust control actions. The ARWP is prepared annually from 2019 to 2022. Since the assessment and reporting requirements of this Soil Conservation Plan are already well demonstrated through the ARWP, there will not be a reporting section as part of this SCP.[2]

Additionally, regular field observations of the planting projects are undertaken throughout any given year to ensure these projects have taken root. Depending on observed conditions, areas that have been planted may be modified based on viability of the plants and the saltation transport of sand in those areas. Additionally, these areas are fenced to prevent vehicular and pedestrian traffic through them. During field observations, the condition and functionality of these fences are noted, and the fences are repaired or replaced as necessary.

Vegetated Islands MU

Overview

This MU includes pockets of vegetation, which are fenced off and closed to vehicles year-round. In this MU, the vegetation is composed largely of central coastal dune scrub, willow thicket, and dune swale found in hollow pockets in active coastal dunes. There are approximately 16 vegetation islands (mostly in the Street-legal Vehicle Area and Open Riding Area MU). The vegetation islands range in size from less than an acre to over 56 acres and are closed to pedestrians.

Maintenance and Monitoring Activities

- Fences:

All vegetated islands within Oceano Dunes SVRA are fenced, signed, and regularly maintained to keep people from driving in them. Vegetated island fencing is maintained in approximately the same acreage and orientation as the shifting dune sand often undermines or overtops the fencing. Mechanized methods are used when practical, and hand crews are used where the scope of work is too restrictive for mechanized equipment. The fencing consists of field fencing, peeler poles, and T-posts. All fencing must be maintained, including by removing sand to ensure the fences are not buried and by replacing the fences as needed. Due to sand movement, fencing may not always be replaced in the exact same location but is aligned to maintain consistent boundaries.

Because fencing is prone to being buried, depending on wind conditions, the District will also perform larger projects to remove old fencing and re-establish historic fence lines. At times, maintenance requires heavy equipment to remove accumulated sand and dig out old fencing. This activity is typically done during non-windy times.

Protocol for Monitoring fence integrity:
Consistent observation and preventative action are the basis for conducting proper maintenance of fencing in order to prevent illegal incursion into closed areas. Fences are monitored by visual inspections as needed or once a week during windy periods, typically March

[2] The current version of the SOA has reports done through 2024.

to June, when sand movement occurs at a higher rate. Repairs and replacement of fence is done as necessary. If fence is in place and preventing unauthorized forms of access, fence is considered effective.

- Stabilization Projects:

Stabilization projects occur on vegetated islands when sand movement compromises the ecological function and integrity of the habitat in the islands. Vegetated islands are managed for habitat quality and to prevent vegetation loss through sand movement. Projects have varied from stabilizing sand encroachment along the edges of a vegetated island to restoring areas with potential soil or habitat loss due to high winds, weed encroachment, and other factors.

Projects occur as needed, in order to stabilize portions of the islands that are being lost to excessive sand movement. Stabilization activities may include minor grading to access work areas, seed collection, propagation, native vegetation planting, and monitoring the effectiveness of the action. Native vegetation is planted to maximize soil retention and minimize soil loss. Projects are done by mechanized methods when practical and hand crews where the scope of work is too restrictive for mechanized equipment. As a complement to these activities, the District will systematically remove invasive exotic vegetation that has been historically and accidentally introduced in these islands.

Protocol for Monitoring stabilization projects:
Skilled restoration specialists and environmental scientists perform visual assessments to determine where active dunes may be impeding on a sensitive cultural or natural area, facilities, fence, or water body, and to what extent it is occurring. They also assess how past stabilization projects are performing and whether those habitat values are still being threatened by erosional processes. Staff identifies what actions will take place (e.g., what vegetation will be needed to stabilize eroding areas; what time of year re-vegetation will take place; and where fences and signs should be installed to protect sensitive areas). A list of actions is prioritized based on the SVRA's budget, project timeline, and crews available. In order to monitor effectiveness of projects, photo points are used to establish a historical overlay showing visual representation of soil loss and/or sand movement over time. Aerial monitoring by drones is also done to capture areas of potential erosion and make sure sensitive areas are being protected.

Northern Non-Riding Area MU

Overview

This MU includes Phillips 66 Leasehold east of the ORA, dust control projects in areas that were formerly ORA, and a section of North Oso Flaco. This MU is outside of the ORA and is closed to public vehicles. Habitat types include: Coastal Strand, Central Coast Foredune, Central Coast Dune Scrub, Coastal Willow/ Wax Myrtle Thicket, Coastal Dune Swale, and Coastal Dune Riparian Woodland.

The Phillips 66 leasehold lies between the ORA and communities east of the Oceano Dunes SVRA. Phillips 66 serves as an eastern land buffer for the SVRA. The District staff manages the leasehold area (e.g., maintains fences and manages resources), as needed. This area can be used for emergency access.

Maintenance and Monitoring Activities

- Fence Installation:

Perimeter fencing keeps vehicles from the ORA from driving within this management unit. District staff monitors and maintains this fencing by mechanized methods when practical and hand crews where the scope of work is too restrictive for mechanized equipment. The fencing consists of field fencing, peeler poles, and T-posts. All fencing must be maintained, including by removing sand to ensure the fences are not buried and by replacing the fences as needed. Due to sand movement, fencing may not always be replaced in the exact same location but is aligned to maintain consistent boundaries.

Protocol for Monitoring fence integrity:
Consistent observation and preventative action are the basis for conducting proper maintenance of fencing in order to prevent illegal incursion into closed areas. Fences are monitored by visual inspections as needed or once a week during windy periods when sand movement occurs at a higher rate. Repairs and replacement of fence is done as necessary. If fence is in place and preventing unauthorized forms of access, fence is considered effective.

- Road maintenance:

Phillips 66 maintains a dirt road through the leasehold property to ensure access for pipeline maintenance and emergency access. This includes light grading with heavy equipment on a weekly basis during the windy season to keep the road passable. Light vegetation trimming is also conducted to keep the road passable. Phillips 66 also uses heavy equipment to continually cover their outfall pipeline with sand, so it does not become exposed. The pipeline is within the SVRA and goes from Phillips 66, past Pipeline Revegetation island, and out to the ocean.

Southern Non-Riding Area MU

Overview

This MU includes the shoreline and dunes south of the ORA known as South Oso Flaco. This MU is outside of the open riding area and is closed to vehicles. This area (approximately 1.2 miles of shoreline) extends from the Oso Flaco Lake boardwalk to the southern boundary of Oceano Dunes SVRA. Symbolic fencing is used in this area during the western snowy plover breeding season instead of predator fencing to close off the upper beach and dune habitat. The shoreline remains open to the public. The shoreline is narrow in width, and the dunes are typically heavily vegetated, relative to the riding area. Habitat types include: Coastal Strand, Central Coast Foredune, Central Coast Dune Scrub, Coastal Willow/Wax Myrtle Thicket, and Coastal Dune Swale.

Maintenance and Monitoring Activities

Since off-highway vehicle use does not occur within this MU, there are no maintenance or monitoring activities to report as it pertains to the Soil Conservation Plan. However, some limited park and contractor maintenance activities are done for weed control, cultural resource protection, and wind monitoring in remote areas of South Oso Flaco. OHVs may be used to access remote areas and minor grading using light heavy equipment may be used to make some of the areas more accessible when doing maintenance activities. Maintenance activities within this MU are limited to these activities.

Southern Exclosure MU

Overview

This MU comprises approximately 290 acres within the southern portion of the riding area. This area was permanently closed to the public beginning October 2021. Prior to this, the Southern Exclosure was installed seasonally, with the fencing removed for the winter months from October to February. During the nesting season, to discourage coyotes from entering the exclosure, fencing will include 2-inch by 4-inch no-climb wire fencing, a second layer of wire fencing to extend height to 6 feet, buried 6-8 inches, and posted to form a single contiguous fenced area. The adjoining shoreline is also part of the Southern Exclosure and is symbolically fenced to close it to the public year-round using large posts, rope, and signs during the nesting season. During the winter months outside the nesting season (October through February), the west fencing may need to be removed to avoid being destroyed during storm-driven surf, but the area, including the shoreline, will remain closed to the public using symbolic or wire fence and signs[3].

Habitat types include: Coastal Strand and Central Coast Foredune. Habitat enhancement activities occur within the Southern Exclosure area to maintain and improve habitat for nesting, resting, and foraging SNPL and CLTE. For more information about habitat enhancement and other management activities associated with this program, see the latest SNPL and CLTE annual report which highlights those details online.

Maintenance and Monitoring Activities

- Fence Installation:

The Southern Exclosure is made of a lower layer of 2-inch by 4-inch non-climb wire fence and an upper layer of field fencing placed along the top. The fence is buried in the sand up to 8 inches deep to discourage coyotes (*Canis latrans*) and other mammalian predators from digging into the nesting area and depredating a nest. The 6-foot height of the exclosure is intended to deter coyotes from climbing over the fencing. The fence is installed using peeler poles, which are located roughly every 100 to 120 feet with about five metal T-posts between them. Bird barrier spikes (e.g., Nixalite) are installed on peeler poles to discourage avian predators from perching near the Southern Exclosure.

Installation, maintenance, and removal of the Southern Exclosure involves substantial labor and requires heavy equipment, including vehicles for CDPR staff and materials transport. Because exclosure fencing is prone to being buried or undermined, depending on wind conditions, it requires constant maintenance to remain an effective predator barrier. During the windy season, maintenance occurs several times a week. Routine maintenance includes replacing fencing, adjusting fencing and fence posts, and maintaining signs. At times, maintenance requires heavy equipment—at least once per week during windy periods—to remove accumulated sand or bury large sections that have become exposed.

[3] During the pendency of current appeals, the Southern Exclosure is closed year-round but the long-term management strategy is to maintain it as a seasonal exclosure.

During the winter months outside the nesting season (October through February), the west fencing may need to be removed to avoid being destroyed during storm driven surf, but the area, including the shoreline, will remain closed to the public using symbolic or wire fence and signs.

Protocol for Monitoring fence integrity:
Consistent observation and preventative action are the basis for conducting proper maintenance of fencing in order to prevent illegal incursion into closed areas. Fences are monitored by visual inspections frequently during windy periods, typically March to June, when sand movement occurs at a higher rate. Repairs and replacement of fence is done as necessary to maintain six feet for predator control. If fence is in place and preventing unauthorized forms of access and mammalian predators from entering, fence is considered effective.

Arroyo Grande Creek and Lagoon MU

Overview

This MU within PSB is between Marker Posts 1 and 2 and includes Arroyo Grande (AG) Creek and Lagoon, which seasonally flows into the Pacific Ocean (see photo below). The associated lagoon is east of the area between Post 1 and Post 2. The upper creek area and lagoon are closed to vehicle use year-round to protect sensitive aquatic habitat. Pedestrian and equestrian entry is prohibited during the western snowy plover nesting season and permitted during the nonbreeding season. Posts and signs delineate the closed area during the nonbreeding season; symbolic rope fence is added during the nesting season.

Arroyo Grande Creek crossing after heavy rains

Arroyo Grande Creek can only be crossed using street-legal vehicles (no OHVs). Pursuant to Superintendent's Order 554-005-2024, street-legal vehicles are prohibited from crossing Arroyo Grande Creek in any manner other than by crossing the creek as close to the ocean waterline as possible and parallel to the ocean waterline. Driving upstream or downstream in the creek channel or in any other manner in the creek channel is prohibited. In addition, it is prohibited to cross the creek when posted closed, or water depth is greater than twelve inches as measured closest to the ocean waterline. The Oceano Dunes District informs visitors of these creek-crossing rules via outreach, including through active contact with visitors. When it rains and the creek becomes a challenge to cross, CDPR rangers specifically patrol the crossing area to keep visitors from crossing. The Grand Avenue and Pier Avenue entrances remain open even when the creek crossing is closed because the public is still allowed on the beach north of Arroyo Grande Creek to Grand Avenue.

Habitat types in this MU include: Coastal Strand, Central Coast Foredune, Freshwater Creek, Coastal Lagoon, Wetland, and Riparian Habitat.

Maintenance and Monitoring Activities

A year-round fenced enclosure has been installed to keep vehicles from driving through the upper reaches of Arroyo Grande Creek where the lagoon forms every year. Fences and signs are regularly maintained and/or moved if the creek or lagoon expand outside of the fenced area. All maintenance work will be done by hand unless mechanized methods are practical and can be performed outside of any sensitive areas.

Protocol for Monitoring Flow and Creek Crossing:
Access to the SVRA may be restricted periodically by high flows in Arroyo Grande Creek, which is subject to water releases from the Lopez Lake Dam and/or increased flow during winter storms. Staff will periodically inspect the creek crossing to verify that crossings are not impacting soil or habitat and are being done in a safe manner. Park personnel will also track significant changes in creek outflow depths after seasonal flood events and/or when there are changes to beach/ creek profile. Staff will close creek crossing when the water depth is greater than twelve inches as measured closest to the ocean waterline. The District staff will fence any significant ponded areas that form outside of the year-round fenced enclosure to protect any species that might choose to use those areas. Identification of activities and scheduling will be done as needed and as creek conditions allow.

Protocol for Monitoring fence integrity:
Consistent observation and preventative action are the basis for conducting proper maintenance of fencing in order to prevent illegal incursion into closed areas. Fences are monitored by visual inspections as needed or once a week during windy periods, typically March to June, when sand movement occurs at a higher rate. Repairs and replacement of fence is done as necessary. If fence is in place and preventing unauthorized forms of access, fence is considered effective.

Oso Flaco Watershed MU

Overview

This MU includes Oso Flaco Lake and Oso Flaco Creek, which seasonally flows into the Pacific Ocean. This MU is open to pedestrian use but closed to OHVs and street-legal vehicles.

Habitat types in this MU include: Dune Lake, Freshwater Creek, Coastal Lagoon, Wetland, Riparian Habitat, and Coastal Strand.

Maintenance and Monitoring Activities

Because OHV use does not occur within this MU, there are no maintenance activities to report as it pertains to the Soil Conservation Plan. However, the District does maintain the Oso Flaco Lake road for emergency access. This maintenance includes light grading and vegetation trimming along the road to keep the road passable.

> Protocol for Monitoring:
> Consistent observation is the basis for conducting proper maintenance of Oso Flaco Lake road. This area is monitored by visual inspections as needed when sand movement occurs at a higher rate.

Agriculture Land Lease MU

Overview

This MU consists of agricultural fields east of the Oso Flaco Watershed MU. Private entities lease this land from CDPR for crop production. This MU is not open to the public. Per lease agreement, the lessee is to adhere to applicable water quality regulations.

Maintenance and Monitoring Activities

Since off-highway vehicle use does not occur within this MU, there are no maintenance or monitoring activities as it pertains to the Soil Conservation Plan.

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