

FORT ORD DUNES STATE PARK

Preliminary General Plan and Draft Environmental Impact Report



January 2004

Prepared for
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Prepared by



FORT ORD DUNES STATE PARK

Preliminary General Plan and Draft Environmental Impact Report

SCH # 2003051145

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NOTICE OF AVAILABILITY FORT ORD DUNES STATE PARK PRELIMINARY GENERAL PLAN DRAFT ENVIRONMENTAL IMPACT REPORT

Date: January 22, 2004

To: All Interested Agencies, Organizations, and Persons

A Draft Environmental Impact Report (EIR) has been prepared by the California Department of Parks and Recreation (Department) for the Fort Ord Dunes State Park Preliminary General Plan (General Plan). The Department is the lead agency, pursuant to the California Environmental Quality Act (CEQA), responsible for preparation of this document.

PROJECT LOCATION

Fort Ord Dunes consists of approximately 990 acres of future parkland located in an unincorporated area of Monterey County. Fort Ord Dunes includes 4 miles of ocean beach and 11 acres east of SR 1. The Fort Ord Dunes property is dominated by a continuous coastal sand dune formation that rises steeply to block ocean views from most of SR 1. The property includes the remnants of fifteen small arms firing ranges, the former Fort Ord ammunition storage area that includes twelve bunkers, and other military era structures that are not in use, including a wastewater treatment plant. Fort Ord Dunes also includes an internal road system and utility lines.

PROJECT DESCRIPTION

The 990 acre Fort Ord Dunes State Park unit is a new park unit that will provide a unique opportunity to preserve and make available for public use, inspiration, aesthetic enjoyment, and education, an area along the Monterey Bay shoreline of unique natural beauty and scientific significance including sandy beaches, coastal dunes, and remnants of the site's military history.

The Fort Ord Dunes State Park General Plan has been prepared to address management of these lands in a comprehensive manner. The purpose of a California State Park General Plan is to provide the primary management guideline for a park unit by defining a framework for resource stewardship, interpretation, facilities, visitor use, and services. General Plans define the ultimate purpose, vision, and intent for unit management through goal

statements, guidelines, and broad objectives, but stop short of defining specific objectives, methodologies, and designs on how to accomplish these goals.

Five management zones were identified for Fort Ord Dunes: the Natural Resource Zone (approximately 785 acres), the 8th Street Zone (approximately 30 acres), 1st Street Zone (approximately 45 acres), Storage Bunker Zone (approximately 80 acres), and the Administrative/Operations Zone (approximately 25 acres). Desired resource condition, desired visitor experience, and potential uses and facilities were identified for each zone, along with zone specific goals and guidelines. In association with the management zones, potential circulation routes and access points have been identified based on existing resources and uses and facilities described for management zones. Site-specific management zone and circulation and access development will be analyzed, designed, and implemented on a project specific basis.

SUMMARY OF IMPACTS

The EIR analyzes a program-level analysis of the potential environmental impacts associated with the Preliminary General Plan. No significant environmental impacts would occur as a result of the proposed project.

PUBLIC COMMENT PERIOD

The 45-day public comment period for this Draft EIR will commence on January 29, 2004 and concludes on March 14, 2004. Copies of the Preliminary General Plan and Draft EIR will be available on line at www.parks.ca.gov and at these local locations:

Monterey District Headquarters
2211 Garden Road
Monterey, CA 93940

Monterey City Library
625 Pacific Street
Monterey, CA 93940

Monterey County Free Library –
Marina Branch
266 Reservation Road
Marina, CA 93933

Monterey County Free Library –
Seaside Branch
550 Harcourt Avenue
Seaside, CA 93955

Please submit comments in writing to the address provided below. Comment letters must be postmarked by March 14, 2004.

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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

The Mission of California Department of Parks and Recreation (the Department) 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.

The 990 acre Fort Ord Dunes State Park unit is a new park unit that will provide a unique opportunity to preserve and make available for public use, inspiration, aesthetic enjoyment, and education, an area along the Monterey Bay shoreline of unique natural beauty and scientific significance including sandy beaches, coastal dunes, and remnants of the site's military history.

The Fort Ord Dunes State Park General Plan has been prepared to address management of these lands in a comprehensive manner. The purpose of a California State Park General Plan is to provide the primary management guideline for a park unit by defining a framework for resource stewardship, interpretation, facilities, visitor use, and services. General Plans define the ultimate purpose, vision, and intent for unit management through goal statements, guidelines, and broad objectives, but stop short of defining specific objectives, methodologies, and designs on how to accomplish these goals.

APPROACH TO THE GENERAL PLAN

The Fort Ord Dunes State Park General Plan represents a thorough examination of the existing conditions of the unit in an effort to define the constraints and opportunities for the park as a whole. The Department and other local agencies provided valuable information regarding the physical conditions of the unit. The datasets collected were aggregated to establish a geographic information system (GIS) for the unit, which aided the creation of Management Zones and identification of the areas most suitable for facilities or preservation. Summaries of the existing conditions and preliminary documentation of the issues was presented to the public in June 2003 in order to inform the public regarding the General Plan process and to obtain information and document concerns from the local communities.

The Department drafted possible uses and facilities to be considered for the park's General Plan, and presented alternatives for resolving existing resource management and visitor use issues for the park which varied in terms of the number and location of new visitor facilities. The alternatives were presented to the public and resource agencies in October 2003 for their review and feedback.

The Preferred Plan reflects statewide needs, relevant agency rules and regulations, the park's purpose and vision, and environmental constraints and resources. Input from the local community and resource agencies were also important considerations during the alternative selection process. The Preferred Alternative has been refined into the goals and guidelines presented in this General Plan (see Chapter 3, The Plan).

REGIONAL PLANNING CONTEXT

In light of the considerable urban development planned in the immediate area, consideration of regional context is important in any discussion about the land use and facilities at Fort Ord Dunes. As a result, a planning emphasis was placed on the importance of understanding the intrinsic values within the park as well as the relationship with the surrounding areas. A community-based approach was employed whenever possible, including public outreach, coordination with local agencies such as the Fort Ord Reuse Authority and the County of Monterey. The results of this collaboration with the surrounding communities were incorporated into the planning process and the General Plan.

SUMMARY OF THE GENERAL PLAN

THE PLAN

This Plan identifies the Unit Purpose and Vision, as well as the general park management goals and guidelines for protection of the natural environment; resource restoration; and guidance for future siting, design, and construction of area-specific projects to avoid potential adverse environmental effects. The goals and guidelines of this General Plan seek to avoid potentially significant effects on the environment.

The goals and guidelines are segmented into various environmental topic areas to facilitate an understanding of the individual resource characteristics and sensitivity zones. Some guidelines include measures to address resource agency and California Environmental Quality Act (CEQA) environmental review requirements for protection of resources during area-specific project planning and implementation. Others include recommended programs and day-to-day operations to protect and restore specific environmental resource values within the park.

Some of the key goals and guidelines of the plan, particularly those recommending specific management plans, are listed on Table ES-1.

In addition to parkwide goals and guidelines, broad management zones have been established for Fort Ord Dunes State Park. The physical boundaries of each zone were delineated for areas that contained common features that would govern a site-specific park management strategy that best meets the objectives and purpose of the park. Analysis of key elements posing constraints or potentials was conducted to assess optimum placement of park facilities and other related uses through ArcGIS Spatial Analyst. Spatial Analyst derived information from the existing landform to identify slope percentages and to find suitable locations for opportunities and facilities while considering sensitive biota, natural resources, aesthetic resources, and hazardous materials, among other park resources. Typically, management zones were designed to incorporate the following, to the extent possible:

- Maximize inclusion of existing developed or disturbed areas, areas dominated by non-native vegetation, and areas with unique features such as remnant military era structures within development oriented management zones where frequent visitor use is anticipated.
- Exclude areas of biological, aesthetic, and geographic sensitivity, with appropriate buffers, from development oriented management zones where frequent visitor use is anticipated.
- Include only areas with no spent ammunition present (prior to Army remediation activities) within development oriented management zones where frequent visitor use is anticipated.
- Maximize inclusion of known special-status species and sensitive habitat areas and other sensitive park resources within a management zone that includes minimal facilities development and low visitor use.

Five management zones were identified for Fort Ord Dunes, as shown in Figure ES-1 and Table ES-2, which summarize the location of each management zone, as well as potential uses and facilities proposed for each zone. The desired resource condition and visitor experience for each zone is summarized below:

- Natural Resource Zone (approximately 785 acres). Native natural resources to dominate throughout the zone, which is to remain primarily undeveloped, with further restored native habitat. Visitors will be able to experience solitude and a sense of refuge or escape. Opportunities to learn about protected species and dune habitats will exist. The zone will allow for less contact with other visitors and greater distances to park facilities.

**TABLE ES-1
SUMMARY OF KEY GOALS AND GUIDELINES**

Goals	Guidelines
<i>Geology and Soils</i>	
Identify potential management actions to minimize potential damage to park resources from erosion, seismic activity, or other potential adverse impacts associated with the park's geologic setting.	GEO-1 Exclude construction of new facilities and permanent structures in areas expected to be subject to coastal erosion within 100 years of construction (a maximum of approximately 700 feet).
<i>Biotic Resources</i>	
Preserve, maintain, restore, and interpret the dunes special-status species and communities.	<p>BIO-2 To the extent feasible, site active recreation uses and facilities beyond the limits of direct and indirect effects for known existing special-status plant populations, and known existing special-status wildlife habitat. Limit public use of dune habitat areas to designated trails and public use areas.</p> <p>BIO-4 Establish a Western Snowy Plover Management Program to monitor and protect nesting areas and activities, and to establish appropriate levels of public access to these areas. When determined necessary, implement appropriate supplemental measures, such as erection of exclosures, and predator control, in accordance with the Department's "Western Snowy Plover Systemwide Management Guidelines," and as necessary through consultation with regulatory agencies and local experts.</p>
Continue native dune restoration and non-native plant control to reach the ultimate goal of maintaining a minimum of 700 acres of existing and restored habitat, as set forth in the basewide Habitat Management Plan (HMP) and the Draft Habitat Conservation Plan (HCP).	<p>BIO-5 Review all area- and site-specific planning for consistency with the basewide HMP and Draft HCP.</p> <p>BIO-6 Identify and maintain a minimum of 700 acres of park property that will be designated for habitat preservation and restoration. Restore natural landforms and native plant communities within this area. Restore plant communities to the conditions that prevailed in the area prior to Euro-American influences, to the maximum extent practical.</p> <p>BIO-7 Prepare a long-term Vegetation Management Plan that addresses restoring native dune habitats.</p>

TABLE ES-1 (Continued)
SUMMARY OF KEY GOALS AND GUIDELINES

Goals	Guidelines
<i>Aesthetic Resources</i>	
Identify, preserve, and perpetuate the distinctive landscape qualities of the dunes.	AES-1 Limit the placement of park facilities and uses from which State Route (SR) 1 would be visible to those uses that are not dependent on high quality aesthetic resources, such as vehicular travel, entrance stations, and paved trail use.
	AES-2 Develop unobtrusive park facilities to enhance and create public opportunities for viewing existing panoramic views from the dunes.
Ensure manmade facilities complement and do not detract from the park's natural setting.	AES-4 Visually integrate park facilities into the environment through the use of siting techniques, building forms, scale, materials, and colors. Work with adjoining jurisdictions regarding land use and development within the Fort Ord Dunes viewshed that may affect the park and its scenic resources.
	AES-5 Create architectural design guidelines that place a strong emphasis on the overall park vision, and that direct consistent implementation of design principles in all aspects of park management and development. Integrate guidelines into the design and siting of park components, buildings, and facilities to reflect the overall vision of the park.
<i>Recreation</i>	
Provide, plan, and manage a variety of recreational opportunities that will allow California's diverse population to visit, enjoy, and better understand the significance of the dunes, while maintaining the highest levels of resource management and protection.	REC-1 Develop recreational uses that consider both user needs and resource protection requirements and are compatible with other visitor experiences. Where feasible, develop facilities and recreational and operational use areas that are already developed, disturbed, or of low resource value.
	REC-2 Develop and operate recreational facilities to enable the public to see, enjoy, and understand the primary resources of the park.

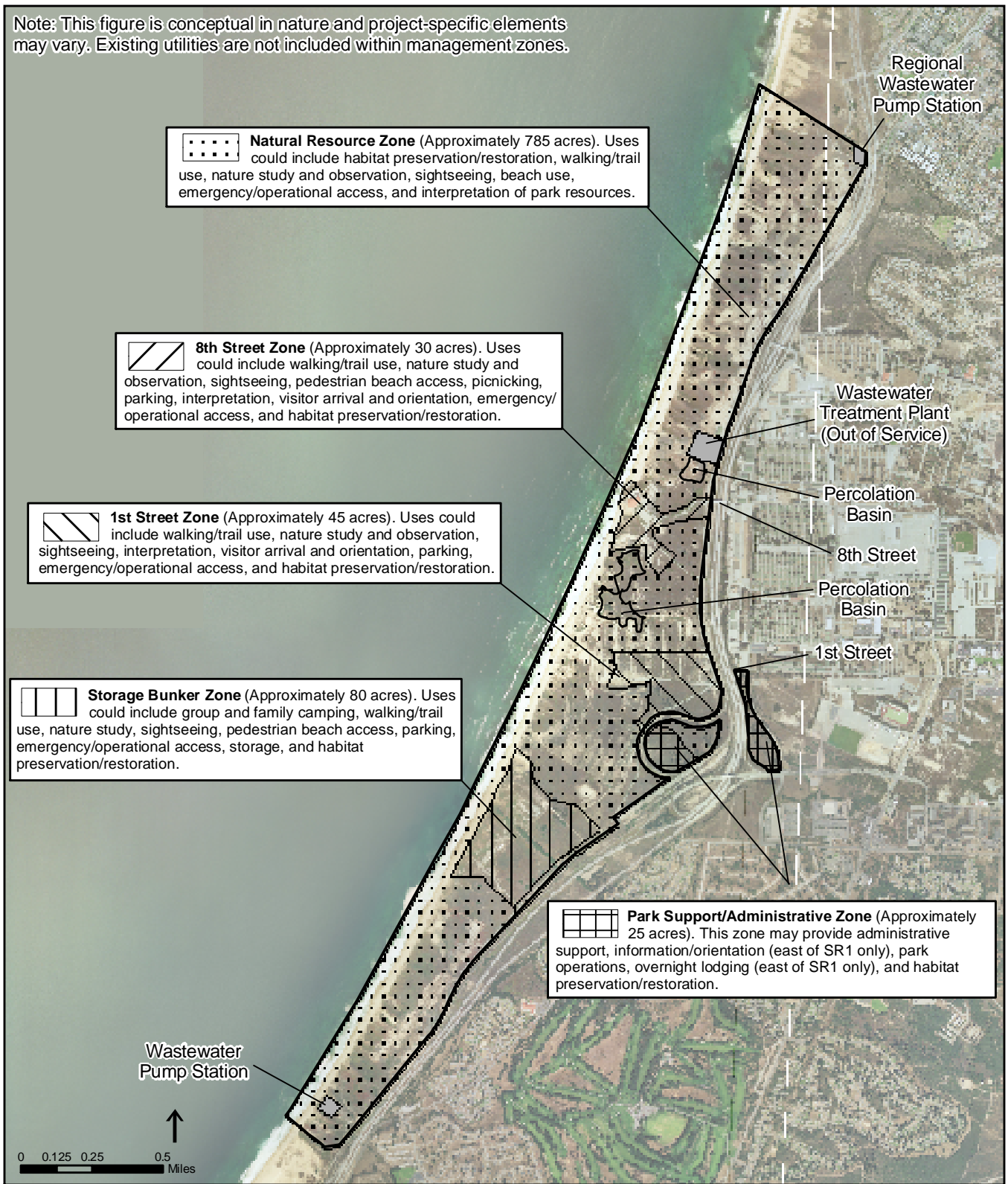
TABLE ES-1 (Continued)
SUMMARY OF KEY GOALS AND GUIDELINES

Goals	Guidelines
<i>Circulation</i>	
Establish a circulation system that establishes clear traffic patterns, conveys the park image, and minimizes traffic impacts.	CIR-1 Consider Fort Ord Reuse Authority, Marina, Seaside, Monterey County, Transportation Agency for Monterey County, and Caltrans transportation and circulation goals, guidelines, and traffic levels of service with respect to potential park entrances and travel corridors approaching entrances. Develop a Circulation and Access Management Plan to assess circulation, access (including beach access), and parking demands, in coordination with the plans of other agencies.
Balance the need for parking with visitor experience, aesthetics, and protection of park's natural and cultural resources.	CIR-9 Balance parking needs with alternate forms of transportation to accommodate public access to the park and serve park uses and facilities.
Provide a system of trails that link all management zones of the park into an integrated whole and encourage development of trail connections to other nearby parks and open space providers.	<p>CIR-12 Develop a Unit Trails Plan that would create opportunities for visitors to enjoy the unique and diverse topography, geology, biotic communities, and scenic values of the park. The actual location, distance, and use of future trails would be governed by this plan. Include specifications and policies concerning trail construction and maintenance, coordinated with soil erosion and sedimentation control measures.</p> <p>CIR-13 Develop trails that provide for public access within the park and to adjacent regional trail systems, with priority for achieving unitwide resource management goals and objectives. Support regional trail objectives, coordinate with other land management agencies in the vicinity to evaluate and monitor resource conditions and share information to develop open space management programs and multiple use trail plans on a regional scale. Recognize the Monterey Bay Coastal Trail and California Coastal Trail as an important non-vehicular transportation corridor and an important means of unifying public use areas within the non-contiguous portions of Monterey Bay.</p>

TABLE ES-1 (Continued)
SUMMARY OF KEY GOALS AND GUIDELINES

Goals	Guidelines
<i>Hazards and Hazardous Materials</i>	
Protect park visitors and staff from potential hazardous conditions, and park staff, visitors, and the environment from adverse impacts associated with hazardous materials.	HAZ-1 Work closely with the Army, the California Department of Toxic Substances Control, and other responsible regulatory agencies to develop procedures that would assure that all contaminated sites within the Park are remediated and managed to appropriate State and Federal standards. Adopt measures to assure public and employee safety will be undertaken.
	HAZ-2 Perform a site-specific review of soil data, as deemed appropriate, for proposed recreation uses and facilities to be located within identified lead-impacted areas prior to area- or site- specific development, and assure appropriate protection of people and the environment from potential impacts associated with handling and disposal of lead-impacted soils.
<i>Regional Planning</i>	
Continue coordination with local land use agencies regarding transfer and/or acquisition of additional nearby property, or other cooperative land management efforts.	REG-1 Evaluate regional land use planning and encourage multi-agency planning, coordination with local cities, Monterey County, universities, youth hostels, and other land managers for locating park administration, operations, employee housing, and maintenance facilities, overnight lodging, an entrance station, or a visitor center on non-park lands nearby, particularly in previously developed and disturbed areas of the former Fort Ord military reservation located east of SR 1.
	REG-2 Consider existing and future Fort Ord Reuse Authority, Seaside, Marina, Monterey County, and other agency plans and proposed land uses within, adjacent to, and near Fort Ord Dunes as related to compatibility and capacity of potential Fort Ord Dunes uses. Planning and development should be carefully coordinated with other agencies to assure that all concerns are addressed, avoiding cumulative impacts to the extent feasible.

Note: This figure is conceptual in nature and project-specific elements may vary. Existing utilities are not included within management zones.



SOURCE: CDPR, 2003a; ESA, 2003

Fort Ord Dunes State Park / 202318 ■

Figure ES-1
Fort Ord Dunes State Park Management Zones

**TABLE ES-2
SUMMARY OF MANAGEMENT ZONE USES AND FACILITIES**

	Natural Resource Management Zone	8th Street Management Zone	1st Street Management Zone	Storage Bunker Zone	Park Support Administrative Zone
Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ No motorized use by visitors (except to comply with Americans with Disabilities Act requirements); low impact walking/trail use through natural resources ▪ Beach use, nature study and observation, interpretation sightseeing ▪ Emergency/operational vehicle access 	<ul style="list-style-type: none"> ▪ Walking/trail use, nature study and observation, sightseeing, pedestrian beach access, picnicking, interpretation, visitor arrival and orientation ▪ Emergency/operational vehicle access 	<ul style="list-style-type: none"> ▪ Interpretation with walking/trail access and vehicular access, visitor arrival and orientation ▪ Emergency/operational vehicle access 	<ul style="list-style-type: none"> ▪ Camping, day use parking, pedestrian beach access, and interpretation ▪ Emergency/operational vehicle access, park operations, adaptive reuse of bunkers for storage 	<ul style="list-style-type: none"> ▪ This zone will provide park administration and maintenance uses ▪ East of SR 1 only, this zone will also provide additional uses such as orientation and interpretation and indoor overnight uses ▪ Emergency/operational vehicle access
Possible Facilities	<ul style="list-style-type: none"> ▪ Limited new multi-use stabilized and/or paved trails, unpaved trails, boardwalks, vista points, outdoor exhibit stations/kiosks ▪ Existing and new Emergency/operational vehicle routes 	<ul style="list-style-type: none"> ▪ New Entrance station, visitor center/kiosk ▪ New vista point, paved and unpaved trails, outdoor exhibit stations, restroom/utilities infrastructure ▪ Existing parking (approximately 90 to 100 day use parking spaces may be appropriate within this zone) ▪ New and existing Emergency/operational vehicle routes 	<ul style="list-style-type: none"> ▪ New entrance station, visitor center/kiosk ▪ New paved and unpaved trails ▪ Interpretation of existing former firing range and military era structures with outdoor exhibit stations ▪ New vista point, limited short-term parking (approximately 15 to 20 parking spaces may be appropriate within this zone), restroom/utilities infrastructure ▪ New and existing emergency/operational vehicle routes 	<ul style="list-style-type: none"> ▪ New family and group campgrounds (approximately 50 to 110 campsites may be appropriate within this zone), paved and unpaved trails, boardwalks, new and existing day-use parking (approximately 40 to 80 day use parking spaces may be appropriate within this zone), and outdoor exhibit stations ▪ Adaptive reuse of existing bunkers and existing buildings ▪ New restrooms/utilities infrastructure ▪ New and existing emergency/operational vehicle routes 	<ul style="list-style-type: none"> ▪ New administrative facilities, maintenance/operations yard, employee housing ▪ East of SR 1 only – new park or multi-agency visitor center, youth hostel, and visitor parking (approximately 40 to 80 visitor serving parking spaces may be appropriate within this zone) ▪ New and existing emergency/operational vehicle routes

- 8th Street Zone (approximately 30 acres). Previously developed features to be modified to accommodate parking, information and interpretive facilities, and access roads. Locations not proposed for development to be restored to natural conditions. Visitors will initially experience the panorama of the park and ocean views. This area will provide a drivable initial park experience; park facilities and park information will orient visitors and provide a sense of arrival and gateway identity. Parking area will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation.
- 1st Street Zone (approximately 45 acres). This zone represents the most intact vestiges of military use that may be restored and adaptively reused for interpretation. Areas within this zone not proposed for interpretation or other park facilities/infrastructure to be restored to natural conditions. The natural and cultural resources will provide visitors a sense of history and appreciation for the chronology of use. This area will provide a drivable initial park experience; park facilities and park information will orient visitors and provide a sense of arrival and gateway identity.
- Storage Bunker Zone (approximately 80 acres). Appropriate existing structures to be preserved, restored, or reused for interpretation and storage (i.e., maintenance equipment, park supplies, collections/artifacts, and interpretive materials). Previously developed features to be modified to accommodate camping, interpretive facilities, parking, and access roads. Restore locations not proposed for development to a natural condition. This zone represents the most accessible, yet secluded area suitable for camping, allowing visitors to experience the park during night time hours; while providing appropriate areas for day use experiences. Parking area(s) will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation.
- Administrative/Operations Zone (approximately 25 acres). Facilities to be developed in areas with lower natural resource values (i.e., areas dominated by non-native vegetation) and lacking significant aesthetic views. Locations not proposed for development to be restored to a natural condition. This zone provides a potential location for a youth hostel, allowing visitors to experience the park during night time hours from east of SR 1. Interpretive facilities east of SR 1 will provide orientation, information, and education opportunities. Parking area east of SR 1 will allow visitors to stage vehicles and explore outlying park resources by non-motorized modes of transportation.

As required by the conditions of the HMP and Draft HCP, the Department implemented a large-scale native dune restoration project and exotic plant control project at lead remediation and recontoured sites. The ultimate goal is to restore 700 acres of northern foredune coastal dune scrub habitat. Although the

restored habitat will chiefly be located within the Natural Resource Zone, restored habitat may also be located in other zones.

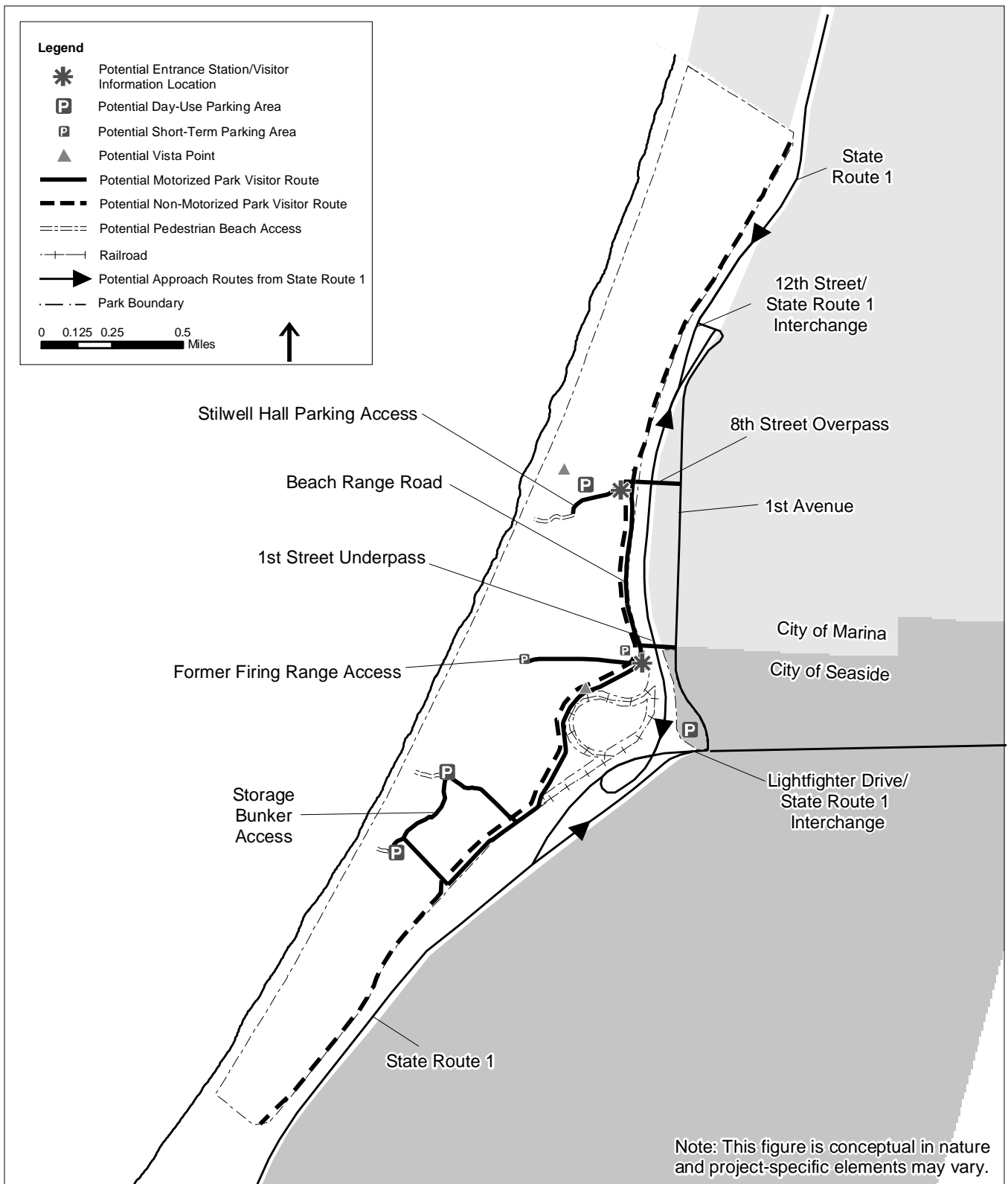
Management zones are an adaptive mechanism to protect and enhance resources of the park. They prescribe certain uses and facilities that are allowed in an area, based on resource compatibility, but do not designate specific sites for development of specific facilities or determine the number of facilities to be developed. Site-specific management zone development will be analyzed, designed, and implemented on a project specific basis. The management zones in combination with the Plan's Adaptive Management Program provide a method used to address carrying capacity.

The management zones do not include existing facilities managed by other agencies such as percolation basins, the wastewater treatment plant, and the wastewater pump stations. These areas make up approximately 25 acres of the park. Should these facilities be removed in the future, the sites should be restored and returned to natural conditions. It is likely that these areas would be included in the Natural Resource Zone.

In association with the management zones, potential circulation routes and access points have been identified based on existing resources and uses and facilities described for management zones (see Figure ES-2). The circulation routes and access points are schematic in nature and do not suggest site specific routes that would necessarily be developed under the General Plan. Rather, the schematic suggests reasonable park connections and types of routes (i.e., vehicular versus pedestrian routes) that may be appropriate given existing resource conditions, and the potential uses and facilities described for the management zones. Site-specific circulation and access development will be analyzed, designed, and implemented on a project specific basis.

ENVIRONMENTAL ANALYSIS

Chapter 4 includes an evaluation of the potential for significant environmental effects to land use, physical resources, biotic resources, cultural resources, and social resources resulting from implementation of this General Plan. The chapter identifies mitigation measures that would, upon implementation, reduce or avoid potential impacts, resulting in a less than significant program level impact. The environmental analysis prepared for the General Plan is programmatic in scope and does not contain project-specific analysis for the facilities recommended in the plan. However, The Plan also includes guidelines that govern project-level environmental review of area- and site-specific projects to avoid or minimize any potential adverse site-specific effects to resources during construction or operation of the facilities. Specific projects would undergo subsequent CEQA review in the future as appropriate.



SOURCE: C DPR, 2003a; ESA, 2003

Fort Ord Dunes State Park / 202318 ■

Figure ES-2
Potential Circulation and Entrance Location Schematic

CHAPTER 1

Introduction



CHAPTER 1

INTRODUCTION

PARK LOCATION AND SETTING

Fort Ord Dunes is located on the central California coast along Monterey Bay and within the Coast Ranges physiographic province of California. It lies in an unincorporated area of Monterey County adjacent to the Cities of Seaside, Marina, and Sand City and south of Marina State Beach (see Figure 1-1). The City of Monterey is about 7 miles southwest of the unit. The property is approximately 990 acres of parkland, including 4 miles of ocean beach. The property is bordered on the west by the Pacific Ocean, on the south by the City of Sand City, on the east by State Route (SR) 1, and on the north by the City of Marina. The property also includes 11 acres of land east of SR 1.

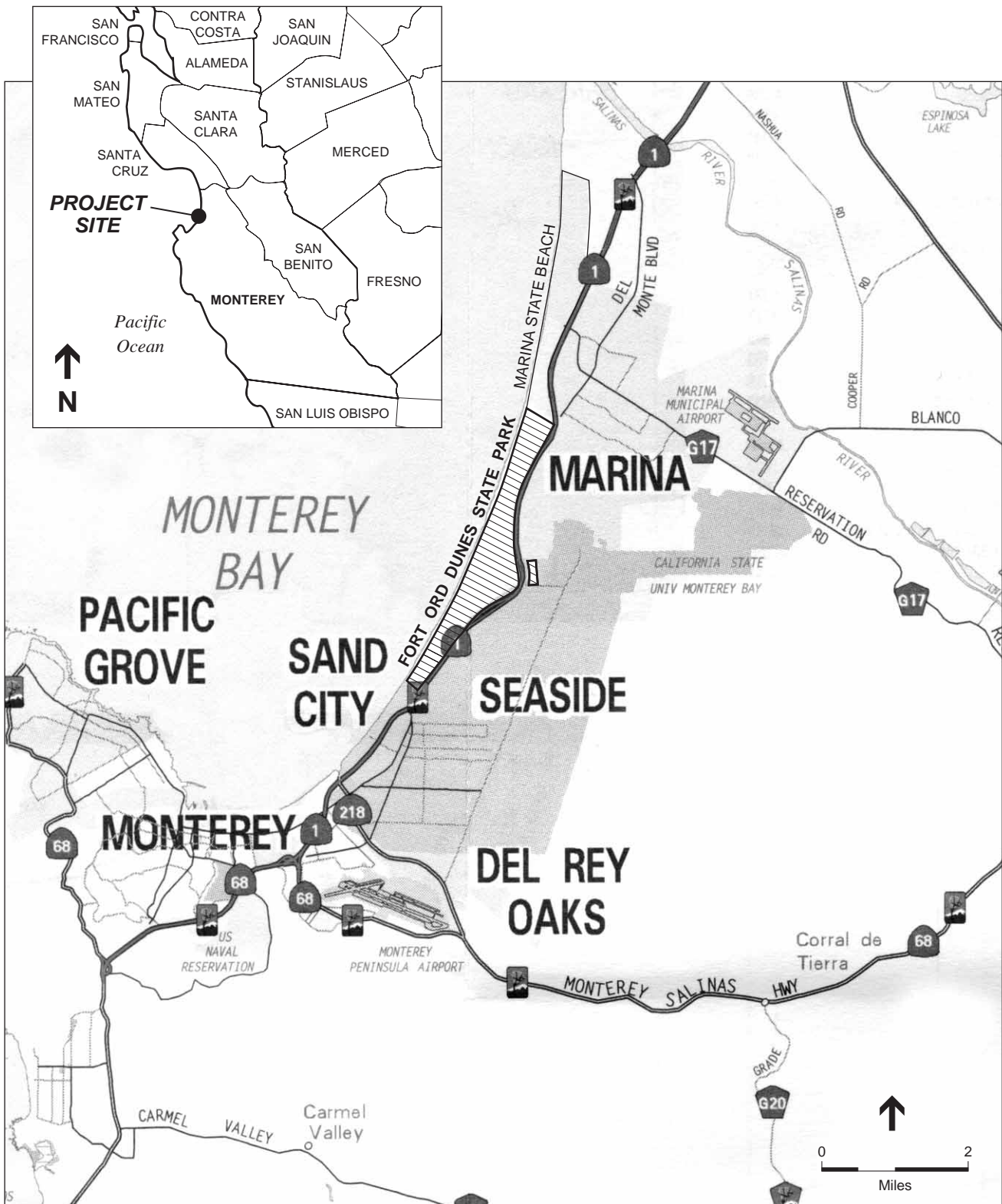
Fort Ord Dunes provides both an expansive seascape and a landform of dune habitat and an undeveloped seashore. This landscape is dominated by coastal dunes, which have been largely degraded by ice plant—introduced by the Army to stabilize the active dunes. This natural system is combined with vestiges of the former Fort Ord military reservation, consisting of numerous structures, including remnants of fifteen small arms firing ranges, the former Fort Ord Ammunition Supply Point consisting of twelve bunkers, and other military era structures (see Figure 1-2). Fort Ord Dunes also includes an internal road system and utility infrastructure.

SR 1 provides the primary road access from the north and south. The former Fort Ord military reservation to the east of Fort Ord Dunes includes a network of roads that are within the Cities of Marina and Seaside.

PURPOSE ACQUIRED

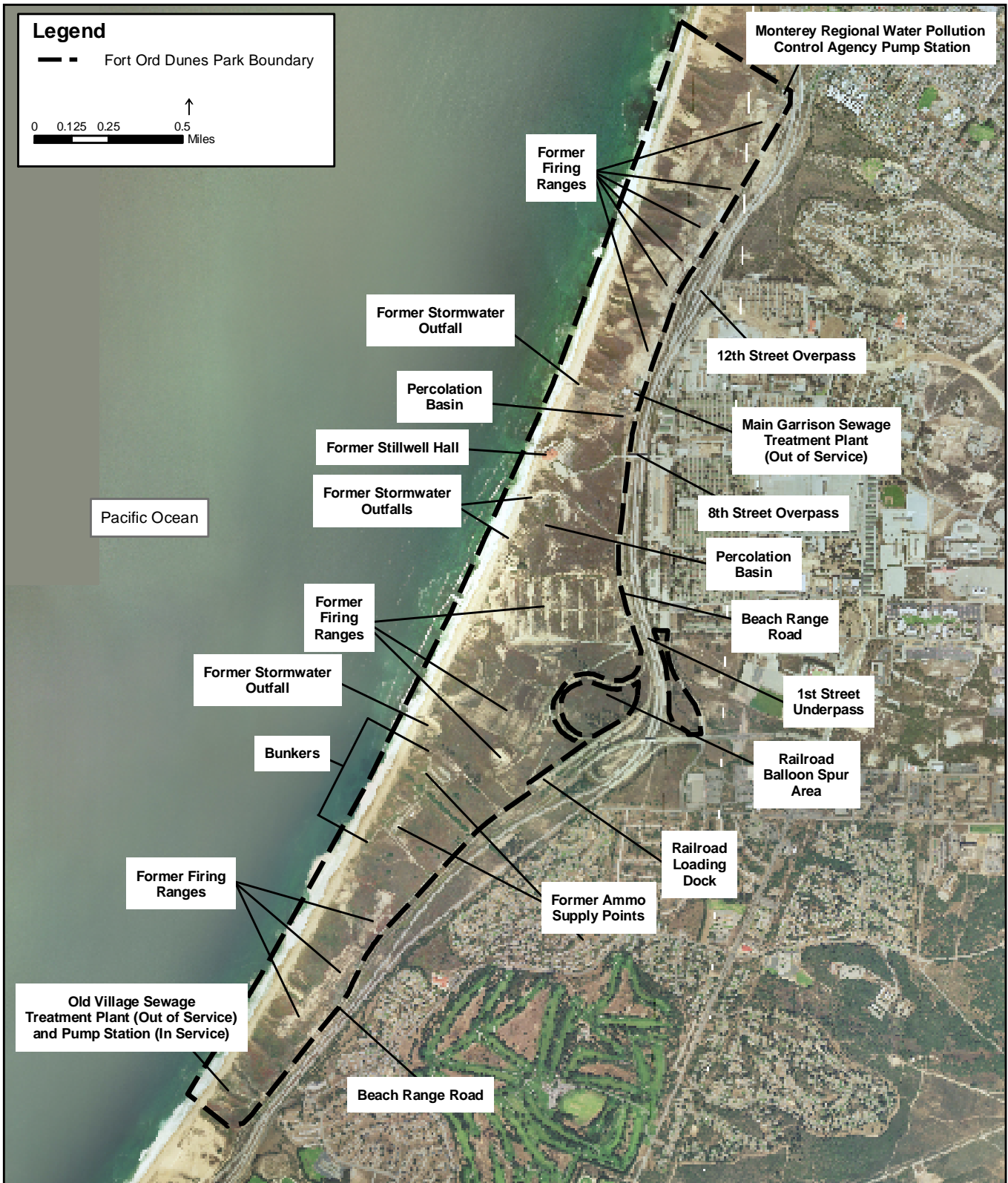
The area that comprises Fort Ord Dunes, as well as significant acreage to the east, was originally established as a military post by the War Department in 1917. For the next 75 years, Fort Ord served the United States Army for training and other functions until it was designated for closure in 1991. The Department applied to the National Park Service¹ for the conveyance of the coastal Fort Ord

¹ The National Park Service is the agency responsible for transfer of surplus Federal real property for public park and recreation use, or for use of historic real property, under the authorization of the Federal Property and Administrative Services Act of 1949, Section 203(k), 63 Stat. 385 as amended, 40 U.S.C. 484, Public Law 91-485; Federal Lands for Parks and Recreation, 16 U.S.C. 4601-5.



SOURCE: Rand McNally, Environmental Science Associates

Fort Ord / 202318 ■
Figure 1-1
 Project Location



SOURCE: C DPR, 2003a; ESA, 2003; USACOE, 1993

Fort Ord Dunes State Park / 202318 ■

Figure 1-2
Project Site and Existing Facilities

property for parks and recreation purposes in July 1992. The application was approved in 1994 and the property is scheduled to be transferred to the State of California in 2004. Fort Ord Dunes State Park was named and classified by the State Park and Recreation Commission in January 1995.

SENSE OF PLACE

Fort Ord Dunes is an area of contrasts and complexity. It is seen by millions of people as they drive by on SR 1, but it has been closed to public use for decades. The land is open and relatively undeveloped, yet the past development of the land has altered landscape form. The beaches and bluffs are pounded by the full force of the Pacific Ocean, yet they are composed of tiny grains of unconsolidated sand. The vegetation is dominated by ice plant, yet the area is highly valued for its habitat value for special-status species and sensitive vegetation communities. The surf can be stormy and rough during winters, providing visitors with a sense of excitement and perspective, or can be serene during other times of the year, providing views that stretch to infinity. Days can be warm and sunny, providing perfect opportunities for beach play, family picnics, or nature study, or can be shrouded in fog and mystery, providing opportunity for quiet reflection.

Much of the beauty of the park is in its potential. There is a commonly shared vision that the park can become an area of outstanding environmental quality and beauty, available for all to enjoy. Fort Ord Dunes exemplifies the dramatic natural beauty of Monterey Bay where visitors can enjoy beach play or long walks along the four miles of undeveloped shoreline, experience the night sky of the central coast, or explore portions of the rich historic legacy imparted on the land.

Fort Ord Dunes is in view of the Monterey Peninsula, one of the most popular tourist destinations in the world, adjacent to the nation's largest National Marine Sanctuary, and is the largest component of California's newest State Seashore. The dunes, and the natural vegetation and wildlife that inhabit it, represent a rare and rapidly disappearing feature of the California coast.

The character of the sandy beach is one of relative isolation from the urban environment. The high bluffs, the view of the uninterrupted beach, and the sound of the surf all contribute to the pristine nature of the beach and also the experience of the visitor. Unlike the high-use beaches in Sand City, Seaside, and Monterey, the bluffs and surf noise separate this area from direct contact with the urban scene. The interaction of the surf, wind, and the steep topography and the migrating dunes gives the visitor a dynamic experience of these natural forces at work. Although the impacts of the freeway noise and the developed area inland are quite real on the east-facing portion of the dunes, as soon as one drops over the crest to the west, the feeling of isolation is quite powerful.

With spectacular panoramic views, powerful shoreline, and expansive coastal dunes, the park provides a place to gather, enjoy the quiet, and feel a sense of belonging to an important place. Within minutes of developed urban areas another world exists – one where the delicate balance of plants and animals is honored, where a tranquil recreational experience is easily available, and where enjoyment of the natural world and our cultural heritage would play an important part of protecting the health and quality of life for all Californians.

PURPOSE OF GENERAL PLANS

General plans are prepared to guide future management and development of State Park System Units. The general plan must satisfy certain requirements of the Public Resources Code, and its approval by the California Department of Parks and Recreation Commission is required prior to any development in the park that would constitute a permanent commitment of natural or cultural resources. A general plan typically documents the planning process, summarizes available information about the park and relevant data used in making land use decisions, and recommends resource management policies and appropriate development. Thus, as conditions change or new information becomes available, it may be necessary to update the plan. Details of facility design are not provided, nor the specific configuration of new use areas, or the specific nature of resource management plans. These will be further refined when funding is identified for implementing the general plan recommendations. Camping, day use, and parking capacities are approximate only, indicating potential limitations on peak capacity; actual development may be less. Future specific park and facility projects will comply with the CEQA as well as all other applicable laws and statutes. This may include additional environmental and other site studies to assess the potential impacts of future proposals.

HISTORY OF PARK PLANNING

The Department completed a Preliminary General Plan for Fort Ord Dunes State Park in 1996, which proposed a range of use types that were considered appropriate at that time, including extensive concession opportunities, and development of revenue generating facilities, including a large campground and a lodge. Given the availability of these types of facilities in the region, and reevaluation of economic conditions, it was determined that the level of development and some of the facilities envisioned in the 1996 Preliminary General Plan were duplicative of facilities available nearby, and potentially inconsistent with Department land use goals and responsibilities. Further, public and agency comment expressed concern regarding the level of use and facilities that could be placed on the property, potential impacts to special-status species and other biological resources of concern, potential circulation impacts, and overall concern regarding the intensity of use and facility development that could

occur under the Preliminary General Plan. Upon considering these changed conditions, and agency and public concerns, the Department determined that a new general plan should be prepared for Fort Ord Dunes.

Preparation of this Fort Ord Dunes State Park General Plan began in early 2003 with data collection and review of the existing conditions of Fort Ord Dunes (see Chapter 2, Existing Conditions). The park unit purpose and vision, alternative concepts, and Preferred Plan were prepared in Fall 2003 (see Chapter 3, The Plan). An environmental analysis of the Preferred Plan was conducted in winter 2003 (see Chapter 4, Environmental Analysis) and a Preliminary General Plan/Draft EIR was prepared in early 2004 for public review. Public input was received throughout the planning process and public workshops were held in June and October 2004. Following completion of the Preliminary General Plan/Draft EIR, responses to comments will be prepared, and if approved, the General Plan/EIR will be finalized and adopted for implementation.

CHAPTER 2

Existing Conditions and Issues



CHAPTER 2

EXISTING CONDITIONS AND ISSUES

EXISTING LAND USES

FORT ORD DUNES LAND USES

Fort Ord Dunes consists of approximately 990 acres of future parkland located in an unincorporated area of Monterey County. Fort Ord Dunes includes 4 miles of ocean beach and 11 acres east of SR 1 (see Figures 1-1 and 1-2). The Fort Ord Dunes property is dominated by a continuous coastal sand dune formation that rises steeply to block ocean views from most of SR 1. The property includes the remnants of fifteen small arms firing ranges, the former Fort Ord ammunition storage area that includes twelve bunkers, and other military era structures that are not in use, including a wastewater treatment plant. Fort Ord Dunes also includes an internal road system and utility lines.

Existing land use at Fort Ord Dunes is limited and consists of ongoing revegetation efforts by the Department, operation of existing pump stations, and U.S. Army hazardous materials cleanup efforts, stormwater facility maintenance, and other facility maintenance efforts. No public land use currently occurs at Fort Ord Dunes and the majority of Fort Ord Dunes is currently maintained as undeveloped open space.

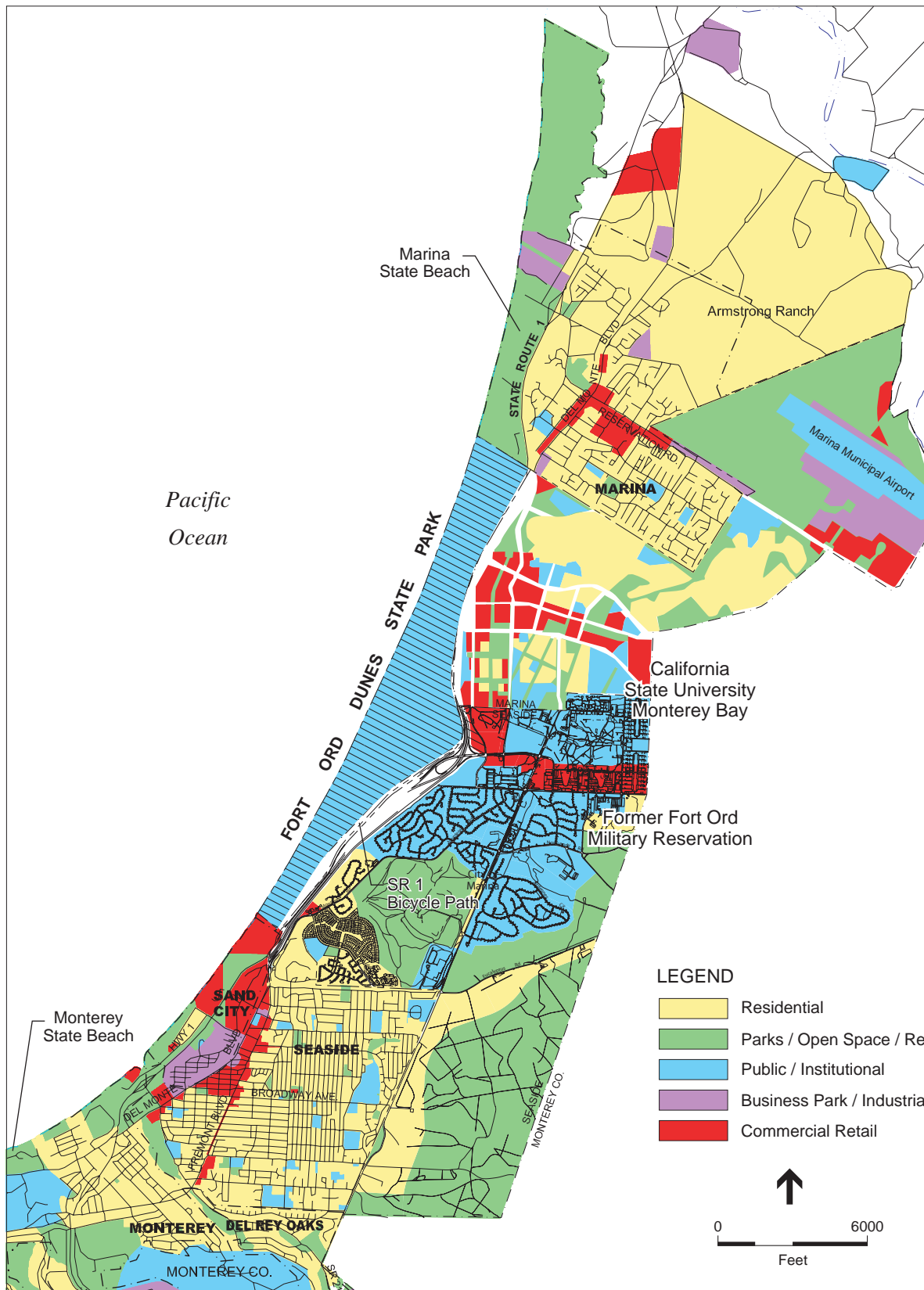
SURROUNDING LAND USES

The former Fort Ord military reservation, residential, commercial, and recreation land uses dominate the area surrounding Fort Ord Dunes. Refer to Figure 2-1 for jurisdictional boundaries and surrounding land use designations, as indicated in regional land use plans. Land use designations within the former Fort Ord military reservation will guide future development within those areas (see Regional Planning, below).

ADJACENT URBAN LAND USES

Former Fort Ord Military Reservation

The former Fort Ord military reservation is located within the crescent of Monterey Bay, and is situated between the Salinas River Valley and the Coastal Range that juts into the Pacific Ocean to form the Monterey Peninsula.



SOURCE: FORA, 1997; City of Seaside, 2003; City of Marina, 2001

Fort Ord / 202318 ■

Figure 2-1
Regional General Plan
Land Use Designations

Existing development at the former Fort Ord military reservation is characterized by the following areas:

- Fort Ord Dunes, also known as the Coastal Zone/Practice Range Area (described above)
- The Main Garrison Area, which is the main developed portion of the former Fort Ord military reservation and is directly accessed from two freeway ramps along SR 1: Lightfighter Drive and 12th Street/Imjun Parkway
- The former residential communities north of the Main Garrison Area, which provided military enlisted and officer housing, and the existing military personnel residential community south of the Main Garrison Area
- The Fritzsche Field Area, located on a flat terrace overlooking the Salinas River Valley at the northern edge of Fort Ord, which once included a helicopter training and maintenance facility and is now the Marina Municipal Airport
- The Historic East Garrison Area, which overlooks the Salinas River Valley at the intersection of Inter-Garrison Road and Reservation Road and was the location of the original Fort structures
- Upland Areas that lie above the Main Garrison and other developed portions of the former Fort Ord that are crisscrossed with dirt roads utilized when the U.S. Army still occupied Fort Ord. Much of this upland area has or will be transferred to the U.S. Bureau of Land Management and is undergoing unexploded ordnance removal activities

As of June 30, 2003, approximately 11,600 acres of the former Fort Ord military reservation had been transferred to other land management agencies, transfer is in progress for 1,600 acres, transfer has not started for 14,000 acres, and 300 acres would be retained (of approximately 28,000 acres) (FORA, 2003). Land transfers include the 700 acre California State University Monterey Bay campus which opened in 1995.

City of Marina

The City of Marina is located to the north and east of Fort Ord Dunes, south of the Salinas River Valley, and north of the Monterey Peninsula. The community historically provided a strong service role for the adjacent former military reservation. The City is oriented to the major crossroads of Del Monte Boulevard and Reservation Road. Neighborhood retail centers are located along both of these corridors, serving a compact residential community of single family home subdivisions, mobile home parks, and apartment and condominium complexes. Access from SR 1 is limited to interchanges at Reservation Road

and Del Monte Boulevard, and the 12th Street gate within the former Fort Ord military reservation.

The City of Seaside

The City of Seaside is located between Sand City on the west, the cities of Monterey and Del Rey Oaks to the south, and the former Fort Ord military reservation to the east. Seaside is adjacent to the City of Marina on its northern boundary. Seaside includes commercial districts, but is dominated by single family residential neighborhoods. The city also includes schools, neighborhood parks, and other open spaces. Seaside High School is located near the city's boundary with the former Fort Ord military reservation. The existing roadway system limits direct connection to the former Fort Ord military reservation.

The City of Sand City

Sand City lies along the coast and is bordered on the north by Fort Ord Dunes, on the east by the City of Seaside, and on the south by the City of Monterey. Sand City is bisected by SR 1, with limited freeway access. West of SR 1, development is limited and the city's coastal dunes are largely intact. East of SR 1, Sand City has evolved into a major regional shopping location. The city includes few residential areas and its population is small.

REGIONAL RECREATION USES

Marina State Beach is adjacent to Fort Ord Dunes to the north. The main access point to Marina State Beach is at the west end of Reservation Road. This access point includes a parking lot, restroom, and an accessible boardwalk that winds through the Marina Dunes Natural Preserve. The parking lot is one of the few points along the Monterey Bay shoreline where ocean viewing can be conducted from parked cars. The beach is known for hang-gliding, radio-controlled gliding, surfing, and surf fishing. The beach is a popular site for picnics.

Monterey State Beach is approximately one mile south of Fort Ord Dunes and is a favorite place for surfing, beachcombing, and fishing. Monterey State Beach is within the jurisdictional boundaries of the cities of Monterey, Sand City, and Seaside and includes three separate beach areas approximately a mile apart. The underwater area adjacent to the State Beach attracts scuba divers.

Portions of the Monterey Bay Recreational Trail are located along the west side of SR 1, within the California Department of Transportation right of way and adjacent to Fort Ord Dunes. The path allows for recreational and commuter bicycling between Marina, Sand City, and Seaside. The trail extends north to Castroville and south to Monterey and Pacific Grove.

In addition, the project region includes informal beach access across private lands south of Fort Ord Dunes for hang-gliding, parasailing, beachcombing, and fishing. The Monterey Peninsula Regional Park District manages an area of coastal Sand City. Sand City includes a portion of the Monterey Bay Recreational Trail that extends south through the cities of Seaside, Monterey, and Pacific Grove. In addition, the Bureau of Land Management manages approximately 7,200 acres of inland areas within the former Fort Ord military reservation for public use.

There are approximately 20 public beach access locations around Monterey Bay. However, there are no beach camping opportunities in the South Monterey Bay Area; the closest beach camping opportunities are Sunset State Beach near Watsonville, approximately 15 miles to the north and Andrew Molera State Park along the Big Sur Coast, approximately 30 miles to the south.

PHYSICAL RESOURCES

TOPOGRAPHY

Elevations at Fort Ord Dunes vary between sea level and 140 feet above mean sea level. The sandy beaches that border southern Monterey Bay are backed by eroding bluffs that transition eastward, generally quite steeply, into mounded sand dunes (see Figure 1-2 and Figure 2-2). These dunes generally slope upward to elevations over 100 feet above mean sea level before gently sloping downward in the eastern region of Fort Ord Dunes (CDPR, 1994).

METEOROLOGY

Fort Ord Dunes is located in the North Central Coast Air Basin, which is comprised of Monterey, Santa Cruz, and San Benito counties. This region has a Mediterranean climate. The semi-permanent eastern Pacific high pressure cell is the basic controlling factor in the climate of the air basin. In the summer, the high pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High pressure cell, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement (MBUAPCD, 2002).

The generally northwest-southeast orientation of mountainous ridges in the air basin tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito valleys creates a weak low pressure which intensifies the onshore air flow in the basin during the afternoon and evening (MBUAPCD, 2002).

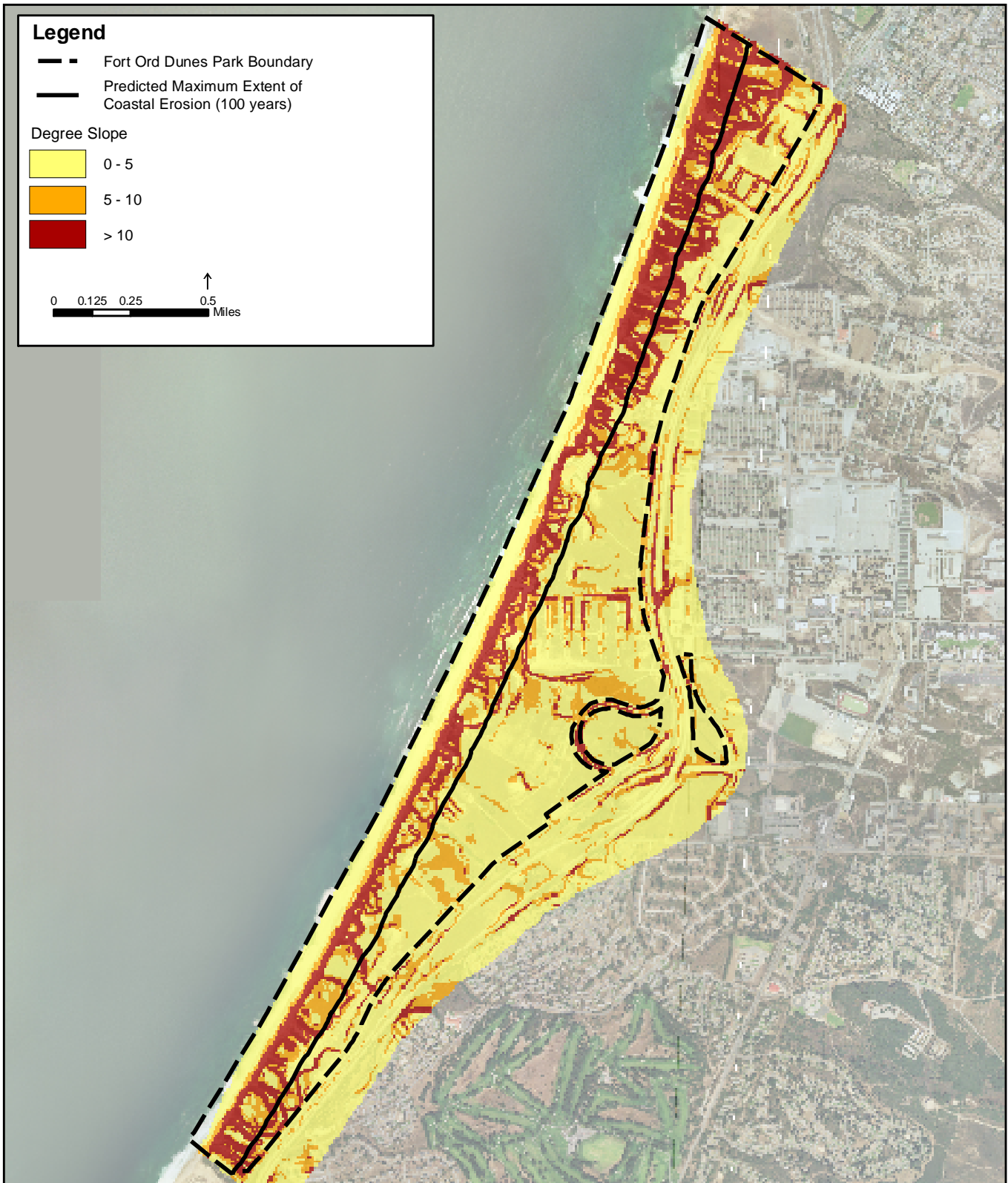


Figure 2-2
Slope Analysis and Predicted Extent of Coastal Erosion

In the fall, surface winds become weak and the marine layer grows shallow, dissipating altogether on some days. Air flow is occasionally reversed in a weak off shore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the air basin (MBUAPCD, 2002).

During the winter, the Pacific High pressure cell migrates southward and has less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin in winter and early spring (MBUAPCD, 2002).

EXISTING AIR QUALITY

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted, tempered by meteorological and topographical conditions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

To identify the ambient concentrations of six criteria pollutants regulated by the Monterey Bay Unified Air Pollution Control District (see Regional Plans and Policies), the Air Pollution Control District operates ten air quality monitoring stations throughout the air basin. These stations are located in Monterey, Moss Landing, Salinas, Hollister, Carmel Valley, Santa Cruz, Scotts Valley (with two monitoring stations), Davenport, and Watsonville. In addition, the National Park Service operates an eleventh monitoring station at the Pinnacles National Monument in San Benito County. The monitoring station in Monterey (on Silver Cloud Court) is the closest to Fort Ord Dunes at about five miles to the south. This station monitors ozone levels; the nearest station that monitors particulate matter (PM10) levels is located in Salinas.

Table 2-1 lists the concentrations registered and the violations of State and Federal standards (see Regional Plans and Policies) that have occurred at the monitoring stations from 1998 through 2002. As shown in Table 2-1, the Monterey monitoring station has registered values above the State ozone standard on one day during the 1998-2002 period, and has registered no values that are above the State standard for PM10 over those five years. The Federal standards for ozone and PM10 have not been exceeded.

**TABLE 2-1
EXCEEDANCES OF AMBIENT AIR POLLUTANT STANDARDS IN THE
NORTH CENTRAL COAST AIR BASIN**

Pollutant	Standards ^{a,b}	Year				
		1998	1999	2000	2001	2002
OZONE						
Maximum 1-hour concentration monitored (ppm)		0.07	0.08	0.10	0.08	0.08
Number of days exceeding Federal standard	0.12 ppm	0	0	0	0	0
Number of days exceeding State standard	0.09 ppm	0	0	1	0	0
SUSPENDED PARTICULATE MATTER (PM10)^c						
Maximum 24-hour concentrations (µg/m ³)		52	50	36	50	33 ^d
Number of samples		98	100	94	100	--
Number of samples exceeding Federal standard	150 µg/m ³	0	0	0	0	0
Number of samples exceeding State standard	50 µg/m ³	0	0	0	0	0

- ^a Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean.
- ^b Federal and State standards are for the same time period as the maximum concentration measurement unless otherwise indicated.
- ^c PM10 measurements for the years 2000-2002 were collected from the monitoring station at Salinas High School; PM10 measurements for the years 1998-2000 were collected from the monitoring station on Natvidad Road in Salinas.
- ^d Estimate based on preliminary data.

Source: California Environmental Protection Agency, Air Resources Board, 2003a

SENSITIVE RECEPTORS

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because infants and children, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time and on a regular basis, resulting in sustained exposure to any pollutants present. Industrial and commercial districts are less sensitive to poor air quality because exposure periods are shorter and workers in these districts are, in general, the healthier segment of the public.

Some of the land uses surrounding the park are sensitive receptors to air quality. This includes the residences on Lake Court near the north boundary of the park, and the neighborhoods east of the park (east of SR 1). Some schools, day cares, and churches are located in these neighborhoods but none are located within a quarter mile of the Fort Ord Dunes boundary. The nearest hospitals are in Salinas and Monterey.

LOCAL AIR POLLUTANT SOURCES

Motor vehicles, particularly those traveling along SR 1, are the primary sources of air pollutant emissions in and near Fort Ord Dunes. Currently there is very little activity at Fort Ord Dunes, though some motor vehicle activity occurs related to dune restoration and Army activities at stormwater disposal facilities and other existing facilities. The wastewater pump station on the south end of the park has been identified as a potential odor source. The disabled wastewater treatment plant located north of the 8th Street overpass is the site of the connection point between the local Fort Ord wastewater system and the regional force main and is another potential odor source.

HYDROLOGY

SURFACE WATER

Due to the high permeability of underlying sandy soils, no surface water bodies are present at Fort Ord Dunes. However, historic development of the former Fort Ord military reservation included construction of a stormwater drainage system which conveyed stormwater flows generated within the reservation to six outfalls that emptied into Monterey Bay (see Figure 1-2). Coastal retreat of 100 to 200 feet in the last 40 years destabilized the stormwater outfalls, leaving them suspended above the beach on pilings. In addition, failure of storm drain piping behind the outfalls resulted in extensive sand dune erosion at two outfalls. Temporary measures were undertaken by U.S. Army Corps of Engineers beginning in the spring of 2003, including construction of gabion structure headwalls and energy dissipators composed of riprap and grout at the outfall locations to halt erosion. Four failed beach outfall structures were removed and three stormwater percolation basins and diversion facilities were installed within Fort Ord Dunes in the fall of 2003 (Arnold, 2003) (see Figure 1-2). The purpose of these basins is twofold; to halt sand dune erosion associated with stormwater flows, and to allow stormwater to percolate downward and recharge the underlying groundwater aquifer, more closely mimicking stormwater flow patterns prior to the creation of the former Fort Ord military reservation (Pacific Municipal Consultants, 2003). Flow within storm drains at the percolation basin locations are diverted to the basins and the gabion enforced headwalls would not be used for stormwater disposal, except under an extreme high stormwater flow period where the capacity of the percolation basins is temporarily exceeded. The storm drain north of the storage bunkers was not connected to the percolation basin system and failed in November 2003, resulting in continued erosion. Alternate strategies to repair this storm drain were under consideration by the Army at the end of 2003. The measures undertaken for operation of the stormwater drainage system are temporary, as future redevelopment of former Fort Ord military reservation will include a drainage master plan that includes construction

of percolation basins east of SR 1, to ultimately replace the basins within Fort Ord Dunes.

GROUNDWATER

Sand dunes in the northern portion of Fort Ord Dunes overlie the Salinas groundwater basin, while the southern portion of Fort Ord Dunes overlies the Seaside groundwater basin. Depth to groundwater varies significantly, ranging from 0 to 100 feet below ground surface. The deeper aquifers within the Salinas Basin are the source of water for the former Fort Ord military reservation and the City of Marina. Shallow groundwater is brackish due to historic overdraft of the aquifer, particularly within the Salinas groundwater basin, which has resulted in saltwater intrusion from Monterey Bay (Schaaf & Wheeler, 2000). Shallow groundwater underlying Fort Ord Dunes is no longer used for drinking water due to its high salinity.

FLOODING

Potential flooding within Fort Ord Dunes is minimized by underlying sandy soils which have a high permeability rate. However, a portion of Fort Ord Dunes southeast of former Stilwell Hall and stretches of beach are located within a 100-year flood zone, as designated by the Federal Emergency Management Agency (ESRI-FEMA, 2003).

WATER QUALITY

Stormwater Runoff

Water pollution is a critical problem associated with urban runoff. As previously discussed, stormwater flow from the former Fort Ord military reservation has been historically funneled through stormwater piping into the Monterey Bay Marine Sanctuary. Water quality monitoring by the State Water Resources Control Board indicated that mussels within Monterey Bay have high levels of lead, pesticides, and petroleum hydrocarbons (National Oceanic and Atmospheric Administration, 1990 as cited in USACOE, 1993). In addition, previous analyses of sediments and soils at stormwater outfalls detected concentrations of total petroleum hydrocarbons, organic chemicals, pesticides, lead, cadmium, and polychlorinated biphenyls. These concentrations are likely due to former Army activities on the former Fort Ord military reservation that resulted in widespread impacts to surficial soils (USACOE, 1993). Concentrations detected at stormwater outfalls within Fort Ord Dunes were determined to not pose a threat to human health or the environment (Pacific Municipal Consultants, 2003).

Groundwater

The former Fort Ord military reservation was placed on the National Pollutant List Superfund list in 1990 due to the extent of groundwater contamination resulting from Army operations. Although the majority of groundwater impacted areas are outside Fort Ord Dunes, a portion of Fort Ord Dunes is underlain by impacted groundwater (see Hazards and Hazardous Materials, below). A groundwater treatment system was constructed to remediate volatile organic compounds concentrations and began operation in 1994; it is anticipated that the system will operate for 30 years in order to reach water quality cleanup objectives (USACOE, 2002).

GEOLOGY AND SOILS

GEOLOGIC SETTING

Fort Ord Dunes lies within the geologic region of California referred to as the Coast Ranges geomorphic province.¹ Discontinuous northwest-trending mountain ranges, ridges, and intervening valleys characterize this province. The Sierra de las Salinas and Santa Lucia Range lie southeast and south, respectively, of Fort Ord Dunes, while the Salinas River Valley lies to the north. Located along the present-day shoreline of Monterey Bay, Fort Ord Dunes is underlain by granitic bedrock and deep sand deposits, the latter created by erosion and wave action in the mid-to late Pleistocene (1.6 million to 700,000 years ago). Surficial materials consist of Quaternary-age (1.6 million years ago to present) sand dune deposits (U.S. Geological Survey, 1971).

SOILS

The U.S. Department of Agriculture Natural Resources Conservation Service has characterized soils within Fort Ord Dunes as Coastal Beach, Dune Land, Oceano loamy sand, and Baywood sand. Coastal Beach and Dune Land soils are coarse-grained, sandy soils located in the western region of Fort Ord Dunes that are highly susceptible to wind erosion. These soils have a high permeability rate, indicating surface water is rapidly and easily absorbed. Oceano loamy sand and Baywood sand, with slopes of 2-15%, are located farther inland on stabilized, generally well vegetated sand dunes. Erosion and permeability rates are lower in these soils (U.S. Department of Agriculture, 1978).

The soils of Fort Ord Dunes are classified by the California Geological Survey as Mineral Resource Zone 2; areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high

¹ A geologic province is an area that that possesses similar bedrock, structure, history, and age. California has 11 geologic provinces.

likelihood for their presence exists. However, the California Geological Survey recognizes that dedicated park lands have special-status as opposed to other current land uses and so the mineral resources within parks are considered separately.

SEISMICITY

The Monterey Bay Area region contains both active and potentially active faults and is considered a region of high seismic activity (see Figure 2-3).² The 1997 Uniform Building Code locates the Monterey Peninsula within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake.

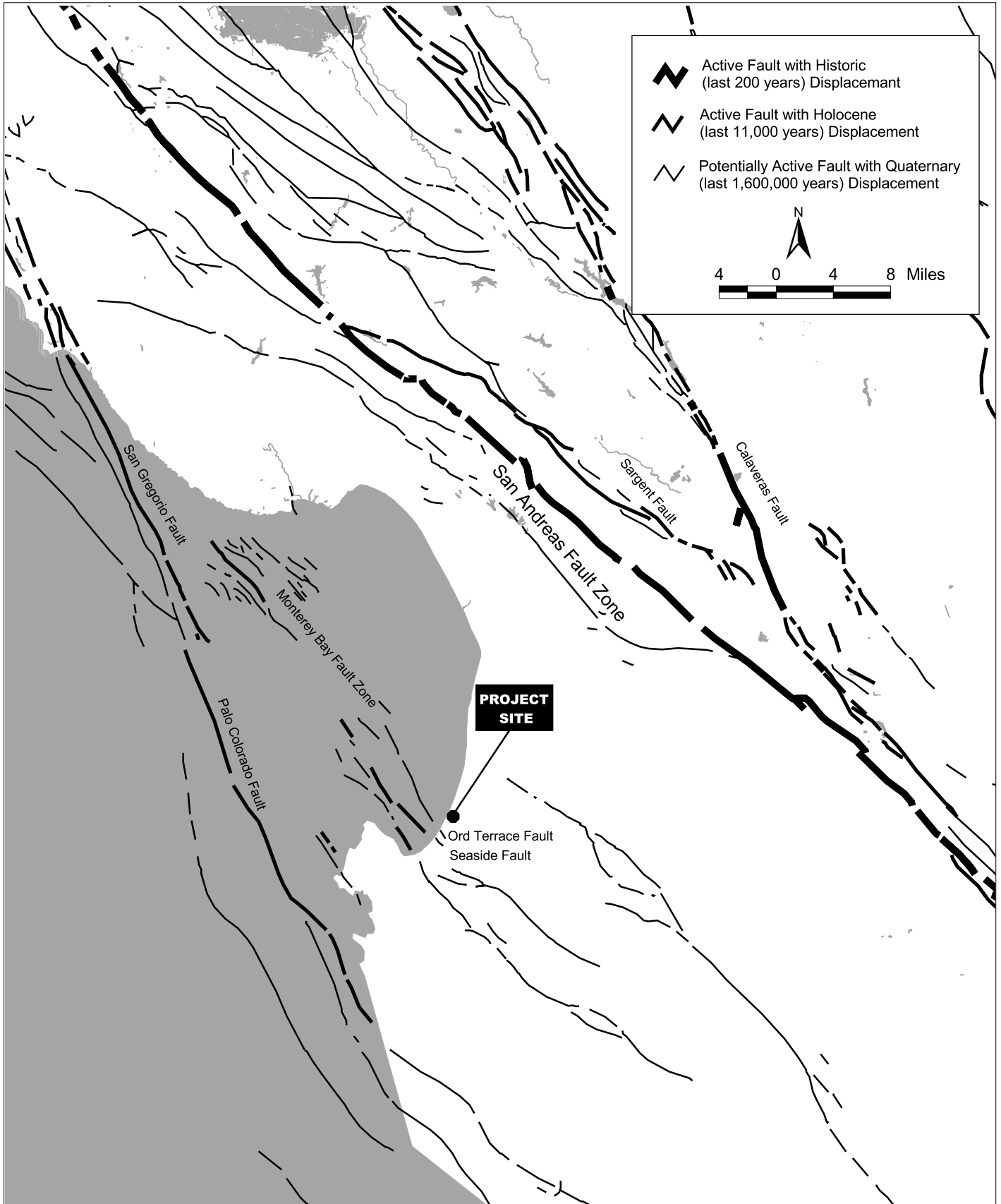
While magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. The estimated (moment) magnitudes shown in Table 2-2 represent *characteristic* earthquakes on particular faults.³ Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. The Modified Mercalli intensity scale (see Table 2-3) is commonly used to measure earthquake effects due to ground shaking. The Modified Mercalli values for intensity range from I (earthquake not felt) to XII (damage nearly total).

Intensities ranging from IV to X could cause moderate to significant structural damage.⁴

² An “active” fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A “potentially active” fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that faults lacking evidence of surface displacement are necessarily inactive. “Sufficiently active” is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

³ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CGS, 1997a). The concept of “characteristic” earthquake means that it can be anticipated that, with reasonable certainty, the actual earthquake that can occur on a fault.

⁴ The damage level represents the estimated overall level of damage that will occur for various Modified Mercalli intensity levels. The damage, however, will not be uniform. Some buildings will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance (ABAG, 1998).



SOURCE: California Department of Conservation,
 Division of Mines and Geology (After Jennings, 1994)

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Figure 2-3
 Active and Potentially Active
 Monterey Bay Area Earthquake Faults

**TABLE 2-2
ACTIVE AND POTENTIALLY ACTIVE FAULTS IN THE FORT ORD DUNES VICINITY**

Fault	Distance and Direction from Fort Ord Dunes	Recency of Movement	Fault Classification	Historical Seismicity ^a	Maximum Moment Magnitude Earthquake (Mw) ^b
Monterey Bay	0.3 miles west	Holocene	Active	Historic active creep	7.1
Ord Terrace (onshore segment)	0.3 miles south	Late Quaternary	Potentially Active	NA	NA
Seaside (onshore segment)	1 mile south	Late Quaternary	Potentially Active	NA	NA
San Gregorio-Palo Colorado	14 miles west	Holocene – Late Quaternary	Active	Many M3-6.4	7.3
San Andreas	20 miles east	Historic (1906; 1989 ruptures) Holocene	Active	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many <M6	7.9

^a Richter magnitude (M) and year for recent and/or large events. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

^b Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CGS, 1997b). The Maximum Moment Magnitude Earthquake (Mw), derived from the joint California Geological Survey/U.S. Geological Survey Probabilistic Seismic Hazard Assessment for the State of California, 1996 (CGS OFR 96-08 and USGS OFR 96-706).

Sources: Hart, 1997; Jennings, 1994; Peterson, 1996

Regional Faults

The potentially active portions of the Ord Terrace and Seaside faults are located immediately south of Fort Ord Dunes, while the active Monterey Bay Fault Zone lies immediately offshore. The active San Gregorio Fault-Palo Colorado fault is located approximately 14 miles southwest of Fort Ord Dunes, while the active San Andreas Fault Zone is approximately 20 miles southwest (see Figure 2-3). Maximum credible earthquakes and historic seismic activity on these faults is summarized on Table 2-2.

Monterey Bay Fault Zone

The active Monterey Bay Fault Zone abuts the San Gregorio Fault Zone in the northwestern part of Monterey Bay and consists of a discontinuous series of northwest-trending faults. The Ord Terrace and Seaside Faults are part of the Monterey Bay Fault Zone and extend onshore immediately south of Fort Ord Dunes. Earthquake studies in Monterey Bay have indicated that strike-slip

**TABLE 2-3
MODIFIED MERCALLI INTENSITY SCALE**

Intensity Value	Intensity Description	Average Peak Acceleration
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0017 g ^a
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.014 g
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. Duration estimated.	< 0.014 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014–0.04 g
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.04–0.09 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.09–0.18 g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.18–0.34 g
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.34–0.65 g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65–1.24 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 1.24 g
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 1.24 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 1.24 g

^a g (gravity) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

Source: Bolt, 1988; CGS, 2003

displacement is occurring within these series of faults.⁵ However, these onshore segments are classified potentially active in the Late Quaternary, indicating known fault activity occurred 700,000 to 1.6 million years ago.

San Gregorio-Palo Colorado Fault Zone

The San Gregorio Fault Zone is made up of several faults and extends roughly parallel to the coast of California. The Palo Colorado Fault extends from a point that is roughly in the center of Monterey Bay to the Big Sur area and is believed to be a part of the San Gregorio Fault System. The Palo Colorado Fault appears off the coast about 14 miles west of Fort Ord Dunes.

Unlike the San Andreas Fault Zone, the San Gregorio Fault Zone has not experienced observable evidence of displacement due to the location of the fault trace, which is almost entirely offshore in the Pacific Ocean. The 1989 Loma Prieta Earthquake did not appear to trigger secondary movement on the San Gregorio Fault Zone. However, two large earthquakes (magnitudes 6.0 and 6.4) occurred in the late 1800's to early 1900's off the Monterey Coast that are believed to have originated from the San Gregorio Fault. The U.S. Geological Survey Working Group estimated there is a 7% chance of the San Gregorio fault experiencing an earthquake of magnitude 6.7 or greater in the next 30 years (USGS, 2002).

San Andreas Fault Zone

The San Andreas Fault Zone is the largest in the state, extending from the Salton Sea in Southern California near the border with Mexico to north of Point Arena, where the fault trace extends out into the Pacific Ocean. The main trace of the San Andreas Fault is located east of the Monterey Bay Area in the Gabilan Mountains. As the principle strike-slip boundary between the Pacific plate to the west and the North American plate to the east, the San Andreas is often a highly visible topographic feature.

The San Andreas Fault Zone was the source of the two major seismic events in recent history that resulted in widespread damage through the San Francisco Bay region, the 1906 San Francisco earthquake (magnitude 7.9), and the more recent 1989 Loma Prieta earthquake (magnitude 7.1). The U.S. Geological Survey Working Group on California Earthquake Probabilities estimated there is a 21% chance of the San Andreas fault experiencing an earthquake of magnitude 6.7 or greater in the next 30 years (USGS, 2002).

⁵ A strike-slip fault is a fault on which movement is parallel to the fault's strike (Bates and Jackson, 1984).

GEOLOGIC HAZARDS

Settlement

Settlement is the depression of bearing soil when a load, such as that of a building or new fill material, is placed upon it. Soils tend to settle at different rates and by varying amounts depending on the load weight, which is referred to as differential settlement. Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or the Bay Mud present in the marshland on the San Francisco Bay margin. Fort Ord Dunes is underlain by sandy soils that are unlikely to experience differential settlement.

Expansive Soils

Expansive soils possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Due to the high percentage of coarse-grained materials that underlie Fort Ord Dunes, expansive soils are not considered a potential hazard.

Soil Erosion

Soil erosion is a process whereby soil materials are worn away and transported to another area, either by wind or water. Rates of erosion can vary depending on the soil material, structure, placement, and human activity. Soil containing high amounts of silt can be easily eroded, while sandy soils are less susceptible. Excessive soil erosion can eventually damage building foundations and roadways. Erosion is most likely to occur on sloped areas with exposed soil, especially where unnatural slopes are created by cut-and-fill activities. Soil erosion rates can be higher during the construction phase. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, or asphalt.

Coastal erosion along the Central California is estimated at 1.5 feet to 7 feet per year, depending upon the severity of winter storms (USACOE, 1983; 1993). Figure 2-2 indicates the amount of erosion that could occur within the next 100 years under the worst case scenario where an average of 7 feet of coastal erosion occurs annually. Within the last 40 years, 100 to 200 feet of coastline erosion has occurred (Pacific Municipal Consultants, 2003). This erosion is caused by the reduction in sediments being transported to the ocean, due to reduced flow volumes in the Salinas River and to sand mining activities, in addition to loss of vegetation in shoreline dunes (see Figure 2-4). Commonly called “coastal retreat,” erosion patterns are starkly evident at the deep gullies resulting when stormwater outfalls previously connected to piping extending



Erosion at Stormwater Outfall (with former outfall structure)



Coastal Erosion at former Stillwell Hall

through sand dunes failed and stormwater discharge points shifted landward (see Figure 2-4). Maximum erosion gully length is 600 feet, ranging in depth from 25 to 60 feet (Pacific Municipal Consultants, 2003).

The Coastal Beach and Dune Land soils that underlie Fort Ord Dunes are also highly susceptible to wind erosion. Cut and fill operations or removal of vegetation which results in exposure of sandy soils can result in dune erosion as ocean winds scour away at loose, unconsolidated sands.

Slope Failure

Ground failure is dependent on the slope and geology as well as the amount of rainfall, excavation, or seismic activities. A slope failure is a mass of rock, soil, and debris displaced down slope by sliding, flowing, or falling. Steep slopes and down-slope creep of surface materials characterize landslide susceptible areas.

The steeply sloping, easily eroded sand dunes within Fort Ord Dunes are highly susceptible to slope failure, especially when vegetation is removed or nonexistent. Currently, coastal erosion and gullying associated with stormwater discharge have resulted in unstable dune slopes in areas of Fort Ord Dunes, and sloughing of sandy soils.

SEISMIC HAZARDS

Seismic hazards include those hazards that could reasonably be expected to occur at the project site during a major earthquake on any of the Bay Area fault zones, especially the San Andreas and San Gregorio faults. Some hazards can be more severe than others, depending on the location, underlying materials, and level of ground shaking. Some of the hazards discussed below might not occur, or would occur with minor consequences.

Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Surface rupture can damage or collapse buildings, cause severe damage to roads and pavement structures, and cause failure of overhead as well as underground utilities. Future faulting is generally expected along different strands of the same fault (California Geological Survey, 1997b). Ground rupture is considered more likely along active faults, which are described under "Seismicity," above.

The project site is not located within an Alquist-Priolo Fault Rupture Hazard Zone (see Geology and Soils Regulatory Background, below), as designated through the Alquist-Priolo Earthquake Fault Zoning Act, and no mapped active or potentially active faults are known to pass through the project site. Therefore, there is a low potential that fault rupture would occur within the site.

Ground Shaking

Strong ground movement from a major earthquake could affect Fort Ord Dunes in the near future. Earthquakes on the active faults (listed in Table 2-2) are expected to produce a range of ground shaking intensities at the project site. Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. A major seismic event on any of these active faults could cause significant ground shaking at the site, as experienced during earthquakes in recent history, namely the 1989 Loma Prieta earthquake. The epicenter of the magnitude 7.1 Loma Prieta event was approximately 26 miles north of the project site, and Fort Ord Dunes sustained only minor damage from this earthquake.

According to the California Geological Society probabilistic seismic hazard map, peak ground acceleration in the Fort Ord Dunes region could range from 0.3 g to 0.4 g (Peterson, et al., 1999). A probabilistic seismic hazard map is a map that shows the hazard from earthquakes that geologists and seismologists agree could occur. It is "probabilistic" in the sense that the analysis takes into consideration the uncertainties in the size and location of earthquakes and the resulting ground motions that can affect a particular site.⁶ The unconsolidated alluvial material that underlies the project site at depth could intensify ground shaking effects in the event of an earthquake on one of the aforementioned faults.

⁶ The probabilistic seismic hazard maps are typically expressed in terms of probability of exceeding a certain ground motion. For example, the 10 percent probability of exceedance in 50 years maps depict an annual probability of 1 in 475 of being exceeded each year. This level of ground shaking has been used for designing buildings in high seismic areas. The maps for 10 percent probability of exceedance in 50 years show ground motions that geologists and seismologists do not think will be exceeded in the next 50 years. In fact, there is a 90 percent chance that these ground motions will not be exceeded. This probability level allows engineers to design buildings for larger ground motions than geologists and seismologists think will occur during a 50-year interval, which makes buildings safer than if they were only designed for the ground motions that are expected to occur in the next 50 years. Seismic shaking maps are prepared using consensus information on historical earthquakes and faults. These levels of ground shaking are used primarily for formulating building codes and for designing buildings. The maps can also be used for estimating potential economic losses and preparing for emergency response (Peterson et al., 1999).

Liquefaction

Liquefaction is a phenomenon whereby unconsolidated and/or near-saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in temporary, fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet (ABAG, 1996). Liquefaction potential is highest in areas underlain by Bay fills, Bay Mud, and unconsolidated alluvium.

The California Geological Survey has not yet delineated the project site for potential designation as a Seismic Hazard Zone (see Geology and Soils Regulatory Background, below). The groundwater table is approximately 100 feet below the ground surface, minimizing liquefaction hazards. However, the unconsolidated, sandy soils that underlie Fort Ord Dunes could be subject to liquefaction hazards through saturation of subsurface sediments, such as those of the stormwater percolation basins.

Earthquake-induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, noncompacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or Bay Mud. As the project site is underlain by unconsolidated sandy materials, it would likely be susceptible to earthquake-induced settlement hazards.

Tsunami

Tsunamis (seismic sea waves) are long period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled but are still at or near sea level. The 1964 Alaskan earthquake had a magnitude of 8.5 (Richter scale) and generated a tsunami with a maximum wave height of 11 feet in Monterey Harbor and wave height of 6 feet in Pacific Grove (Thornton, 1979 as cited in ESA, 1997). It also caused whirlpools at the seaward end of the breakwater in Monterey Harbor and caused a bank to break loose. A 1989 study concluded that the 1964 Alaska earthquake resulted in what is probably the maximum tsunami to be expected in the vicinity of the Monterey Bay Aquarium, south of Fort Ord Dunes (Thornton, 1989 as cited

in ESA, 1997). It has been recognized that potentially active submarine faults off-shore, and the Cascadia Subduction Zone off the Northwest coast, are potential sources of tsunamis. The National Oceanic and Atmospheric Administration in cooperation with the California Office of Emergency Services is undertaking a tsunami mapping project that initially targets the San Francisco and Santa Barbara areas (NOAA, 2003a), and the Office of Emergency Services is developing tsunami hazard mitigation guidelines for local jurisdictions.

Seiche

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin, such as Monterey Bay, that may be initiated by an earthquake.⁷ Due to the relatively large size of Monterey Bay and its outlet to the Pacific Ocean, the hazard of seiche waves is interpreted to be low. In addition, there is no historic record of such waves occurring in Monterey Bay during recent strong earthquakes.

NOISE ENVIRONMENT

NOISE SOURCES

Existing noise within Fort Ord Dunes results from motor vehicles, mechanical devices associated with building operations, generators, aircraft flying overhead, and from human activities such as talking and yelling. Ambient noise levels in the vicinity of the project site are primarily influenced by vehicle travel on SR 1 and arterial roads such as Del Monte Boulevard. Noise from the freeway is audible from the east-facing portion of the dunes but not on the western slopes.

Natural sounds within Fort Ord Dunes — such as ocean surf, wind, rustling trees, birds, and animals — are not considered to be noise.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both duration and insulation from noise) and the types of activities typically involved. Residential areas, hotels, schools, hospitals, and parks generally are more sensitive to noise than commercial and industrial land uses. Parks and recreational areas are considered sensitive receptors because excessive noise (in duration or intensity) detracts from the visitor experience at recreational areas.

⁷ The ‘sloshing’ produced by seiches within enclosed water bodies commonly occurs during earthquakes on a small-scale in swimming pools.

Recreational users of the SR 1 bicycle path are the sensitive receptors located closest to the Fort Ord Dunes boundary. However, traffic noise along SR 1 influences the noise environment along the path. Monterey County considers state beaches noise sensitive areas, including Fort Ord Dunes State Park and Marina State Beach to the north. Residential areas adjacent to Fort Ord Dunes constitute sensitive noise receptors near Fort Ord Dunes, including residences on Lake Court near the north boundary of Fort Ord Dunes, and residential areas east of SR 1. A residential neighborhood is currently being developed along Coe Avenue near the southeast portion of Fort Ord Dunes, but on the east side of SR 1. There are no schools located within a quarter mile of Fort Ord Dunes boundary; the nearest schools are Marina Del Mar Elementary School, located approximately 0.5 mile to the north, and Seaside High School, located approximately 0.5 mile to the east.

BIOTIC RESOURCES

Fort Ord Dunes lies in the central coast floristic region of the California Floristic Province (Hickman, 1993), where coastal sage scrub occupies the southern portion and coastal prairie and salt marshes dominate the San Francisco Bay. The central coast floristic region, particularly at Monterey Bay, is notable for its endemic plant species.

The native dune vegetation at Fort Ord Dunes is mostly absent or degraded due to intensive human use and the aggressive growth of ice plant (*Carpobrotus edulis*), non-native grasses, and a variety of other invasive non-native species. Ice plant is a highly invasive species that was planted by the Army to stabilize the dunes following construction of the firing ranges, ammunition supply point, and other facilities. Even where it was not planted, ice plant invaded native plant communities, dominated the landscape, and displaced native vegetation.

In 1998, the Department implemented a large-scale native dune restoration project and non-native plant control project at lead remediation and recontoured sites (i.e., former rifle-firing ranges) in accordance with protocols established in the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California* (HMP) (U.S. Army Corps of Engineers, 1997) and the *Draft HCP Supplement to the Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California* (HCP) (Zander Associates, 2000a) (see Planning Influences for a description of these plans). As part of the restoration effort, the Department is restoring habitat for special-status plant and animal species covered in the HMP and Draft HCP, including Monterey spineflower, sand gilia, coast wallflower, and Smith's blue butterfly. This effort is being conducted for and funded by the U.S. Army as mitigation for the biological impacts associated with lead remediation conducted in 1997.

NEED FOR CONNECTING HABITAT AREAS

For special-status species, habitat connectivity between the Fort Ord Dunes and adjacent undeveloped lands to the north and south are unconstrained. Marina State Beach lies north and supports habitat for special-status species, including Smith's blue butterfly. In its existing condition, Sand City (located to the south) supports potential habitat for special-status species. SR 1 constrains wildlife movement in the east and fences to the north and south may constrain movement of large mammals; however, the movement of special-status species known to occur within the project vicinity is not affected. On-going restoration efforts within Fort Ord Dunes will improve the migration corridor for native wildlife, including Smith's blue butterfly, traveling north to south.

PLANTS

VEGETATION ZONES

Fort Ord Dunes supports three general vegetation zones: beaches, bluffs, and blowouts; coastal dunes; and invasive species dominant areas (see Figure 2-5). Each vegetation zone includes one or more vegetation communities, as described below. In addition to the vegetation community zones, Fort Ord Dunes includes developed areas that are devoid of vegetation (i.e., buildings and paved areas). Table 2-4 demonstrates the relationship between the zones, vegetation communities, and associated vegetation and wildlife.

Beaches, Bluffs, and Blowouts Zone

The Beaches, Bluffs, and Blowouts Zone and community is mostly devoid of vegetation because of the frequently moving substrates. The inland edge of the beach, as well as blowouts, can support a sparse distribution of low-growing plants, such as non-native sea rocket (*Cakile maritima*), beach evening primrose (*Camissonia cheiranthifolia*), and yellow sand verbena (*Abronia latifolia*). These early colonizers are frequently the only species present. They become stabilized as wind-blown sand accumulates around the base of the plant.

Coastal Dune Zone

The Coastal Dune Zone consists of dynamic natural plant communities that respond to moving sands and changing dune configuration. Dune plant communities are adapted to the harsh environmental conditions resulting from salt spray, strong winds, shifting sands, and low soil moisture. These harsh environmental conditions gradually decrease moving away from the beach. Adaptive features of dune plants include extensive root systems, low growing habit, hairy or waxy stems and leaves, and small fleshy leaves (CDPR, 1994). The Coastal Dune Zone supports four plant communities: northern foredune,

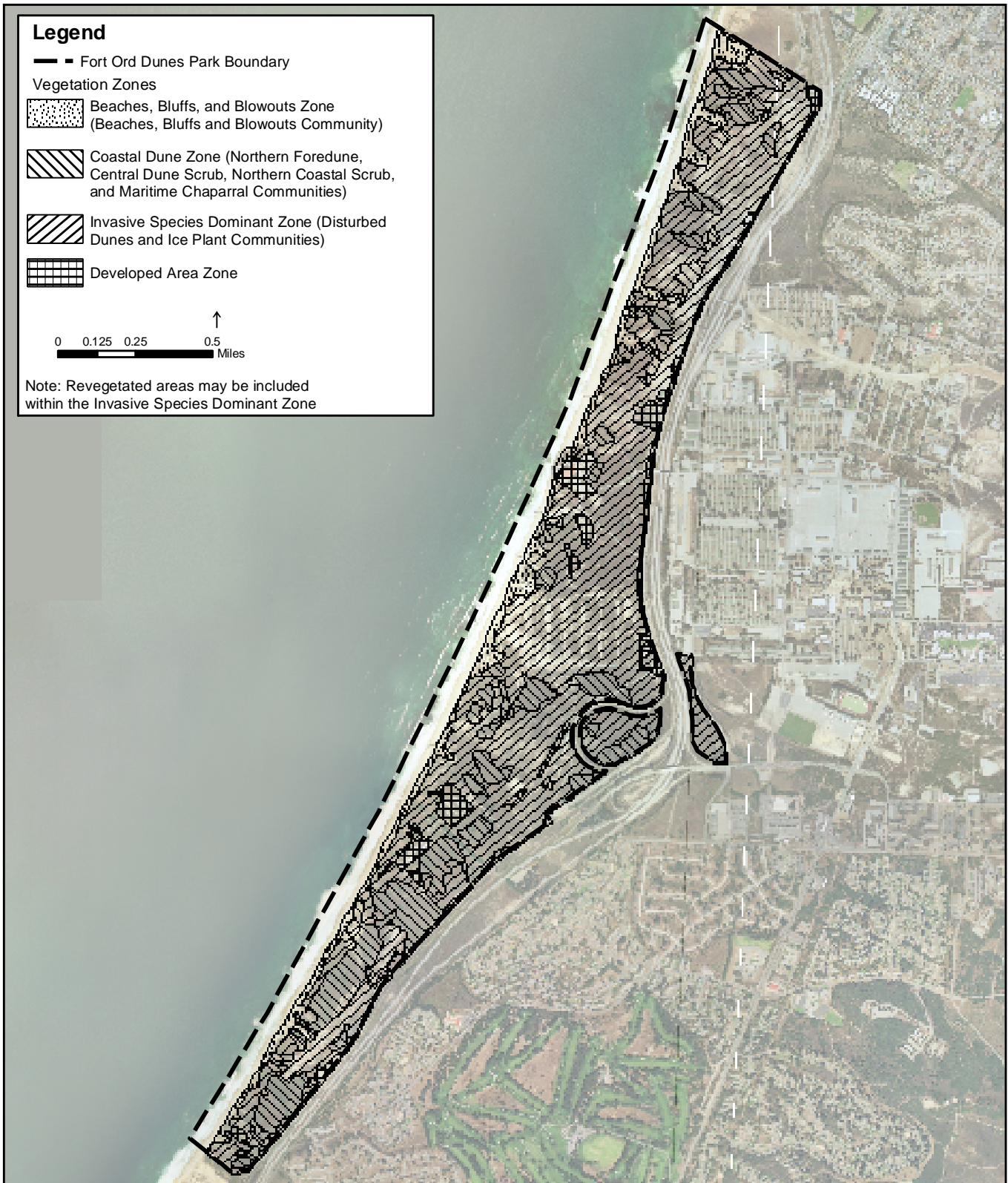


Figure 2-5
Fort Ord Dunes Vegetation Zones

**TABLE 2-4
VEGETATION ZONES, VEGETATION COMMUNITIES, AND ASSOCIATED VEGETATION AND WILDLIFE AT FORT ORD DUNES**

Vegetation Zone	Associated Vegetation Community	Dominant Common Plant Species ^a	Associated Special-status Plant Species	Associated Wildlife Habitat	Dominant Common Animal Species ^a	Associated Special-status Animal Species
Beaches, Bluffs, and Blowouts	Beaches, Bluffs, and Blowouts	sea rocket beach evening primrose yellow sand verbena	—	Barren	loons Caspian tern cormorants grebes California gull Heermann's gull least sandpiper black-bellied plover killdeer European starling red fox feral animals	Western snowy plover globose dune beetle
Coastal Dune	Northern Foredune	buckwheat species seacliff beach sagewort seaside paintbrush Douglas' bluegrass pink sand verbena iceplant	Monterey spineflower Yadon's wallflower sand gilia coast wallflower sandmat manzanita	Coastal Scrub	common insects red-tailed hawk northern harrier white-tailed kite American kestrel sharp-shinned hawk feral animals	Smith's blue butterfly globose dune beetle black legless lizard
	Central Dune Scrub (or Coastal Dune Scrub)	subshrubs silver beach lupine deerweed mock heather coyote brush poison oak	Monterey spineflower sand gilia Monterey ceanothus coast wallflower sandmat manzanita	Coastal Scrub	common insects white-crowned sparrow brown-head cowbird Anna's hummingbird bushtit red-tailed hawk northern harrier white-tailed kite American kestrel sharp-shinned hawk feral animals	Smith's blue butterfly globose dune beetle black legless lizard

TABLE 2-4 (Continued)
VEGETATION ZONES, VEGETATION COMMUNITIES, AND ASSOCIATED VEGETATION AND WILDLIFE AT FORT ORD DUNES

Vegetation Zone	Associated Vegetation Community	Dominant Common Plant Species ^a	Associated Special-status Plant Species	Associated Wildlife Habitat	Dominant Common Animal Species ^a	Associated Special-status Animal Species
	Northern Coastal Scrub	coyote brush poison oak blue blossom California coffeeberry cow parsnip bee plant California man-root common yarrow and soap plant	Monterey spineflower sand gilia Monterey ceanothus coast wallflower sandmat manzanita	Coastal Scrub	common insects red-tailed hawk northern harrier white-tailed kite American kestrel sharp-shinned hawk feral animals	globose dune beetle black legless lizard
	Maritime Chaparral	blue blossom manzanita species mock heather coyote brush California sagebrush poison oak	Monterey ceanothus coast wallflower	Mixed Chaparral	common insects red-tailed hawk northern harrier white-tailed kite American kestrel sharp-shinned hawk feral animals	globose dune beetle
Invasive Species Dominant	Disturbed Dunes	cut leaved plantago ripgut brome Kikuya grass	—	Annual Grassland	European starling ground squirrel deer mouse red fox feral animals	—
	Ice Plant	ice plant	—	—	squirrel red fox feral animals	—

^a List does not include all species found within a vegetation community, but summarizes dominant species found within a community.

Sources: CDPR, 1994; CDFG, 2003; CNPS, 2003; Federal Register, 1999; Styer, 2003a; 2003b; Zander Associates, 2000a; USACOE, 1997; USFWS, 2003a

central dune scrub, northern coastal scrub, and maritime chaparral. Northern foredune and central dune scrub are considered sensitive habitats by the California Department of Fish and Game (CDFG) because of their limited distribution either locally or regionally.

Northern Foredune Community

The northern foredune community lies inland from the beach. At Fort Ord Dunes this community type is found in the northern portion of the property, and is rare and sheltered from harsh conditions because of the tall stabilized dunes covered by iceplant (Harlan, 2003). This community is dominated by buckwheat species (*Eriogonum latifolium*, *E. parvifolium*), seacliff (*Dudleya caespitosa*), beach sagewort (*Artemisia pycnocephala*), seaside paintbrush (*Castilleja latifolia*), Douglas' bluegrass (*Poa douglasii*), and pink sand verbena (*Abronia umbellata*). The non-native iceplant occurs frequently in this community, degrading its biological value and threatening its existence.

CDFG defines this community as very threatened, with only 2,000-10,000 acres remaining.

Central Dune Scrub (or Coastal Dune Scrub) Community

Central dune scrub lies directly inland from northern foredune vegetation. This community consists primarily of subshrubs (low-growing woody species). Dominant species comprising central dune scrub include silver beach lupine (*Lupinus chamissonis*), deerweed (*Lotus scoparius*), mock heather (*Ericameria ericoides*), coyote brush (*Baccharis pilularis*), and poison oak (*Toxicodendron diversilobum*). Central dune scrub was likely historically extensive at Fort Ord Dunes and at what is now the cities of Marina and Seaside and the former Fort Ord military reservation main garrison area. Only a few small natural patches now remain because of the presence of invasive, non-native plant species or development.

CDFG defines this community as threatened, with only 2,000-10,000 acres remaining.

Northern Coastal Scrub Community

Northern coastal scrub consists of a dense to moderately open shrub canopy with a sparse herbaceous understory. Northern coastal scrub makes up roughly twenty acres of Fort Ord Dunes, located near the center of the property (Harlan, 2003). The dominant shrub in this community is coyote brush. Common shrub associates can also include poison oak, blue blossom (*Ceanothus thyrsiflorus*), and California coffeeberry (*Rhamnus californica*). The understory can consist of cow parsnip (*Heracleum lanatum*), bee plant (*Scrophularia californica* ssp.

californica), California man-root (*Marah fabaceus*), common yarrow (*Achillea millefolium*), and soap plant (*Chlorogalum pomeridianum*).

Maritime Chaparral Community

Maritime chaparral is located in three small patches at Fort Ord Dunes, on the north and south sides of 8th Street and at the railroad balloon spur (Harlan, 2003). Periodic disturbance such as vegetation removal or fire are important factors in maintaining maritime chaparral. This community typically supports blue blossom, manzanita species (*Arctostaphylos* spp.), mock heather, coyote brush, California sagebrush (*Artemisia californica*), and poison oak.

Invasive Species Dominant Zone

The Invasive Species Dominant Zone is composed of areas that have been graded to construct firing ranges or other developed sites. These areas also include plant communities introduced for soil stabilization, such as ice plant.

Disturbed Dunes Community

Disturbed dunes exist where Army activities have removed native perennial vegetation. This community type occurs in areas of frequent or intense ground disturbance in firing ranges. Disturbed dunes are either bare or support species tolerant of frequent ground disturbance, such as cut leaved plantago (*Plantago coronopus*), ripgut brome (*Bromus diandrus*), and Kikuya grass (*Pennisetum clandestinum*).

Ice Plant Community

Ice plant is the most common plant community in non-restored areas throughout Fort Ord Dunes, such as in the southern portion. Ice plant is the dominant species, and at many sites, it is the only species present. Ice plant spreads as large thick mats derived from individual vegetative clones. The trailing stems can root at every node, forming a dense, stable cover. It displaces native perennial species by using space, water, and light and eliminates habitat for native annual species by stabilizing and covering dune sands. Much of the ice plant was planted by the Army in the 1940s and 1950s to stabilize the dunes.

SENSITIVE AND SPECIAL INTEREST PLANT POPULATIONS

Special-status species are defined as listed plant and animal species that receive specific protection defined in federal or state legislation (Endangered Species Act), and are formally designated as endangered, threatened, or rare under state or federal legislation. Also included in this definition are species that have no formal listing status as threatened or endangered, but are regarded as sensitive on the basis of adopted policies and expertise of federal, state, or local resource agencies, or local organizations with acknowledged expertise, such as the

California Native Plant Society (CNPS). Species that meet the criteria of Section 15380 of the California Environmental Quality Act or the California Native Plant Protection Act are defined as special-status species. In general, plants constituting CNPS List 1A, 1B, or 2 meet the definitions of California Fish and Game Code Section 1901 (California Native Plant Protection Act) and/or Sections 2062 and 2067 (California Endangered Species Act), and are protected as such.

Based on information compiled from the CNPS (2003), CDFG (2003), and U.S. Fish and Wildlife Service Monterey County species list (USFWS) (2003a), a list of fifteen special-status plant species have been considered in the evaluation for this plan. Table 2-5 lists special-status plant species that are known to occur at Fort Ord Dunes and/or the remaining former Fort Ord military reservation in the immediate project vicinity. Six of the fifteen special-status plant species are known to occur within the Fort Ord Dunes boundaries. These species include three federal or state listed species, Monterey spineflower, Yadon's wallflower, and sand gilia; two federal species of concern,⁸ coast wallflower and Monterey ceanothus; and one CNPS List 1B species, sandmat manzanita. USFWS designated the coastal area from just south of the mouth of the Salinas River to the city of Monterey as Critical Habitat for Monterey spineflower (Federal Register, 2002). The presence of robust spineflower is unconfirmed.

NON-NATIVE FLORA AND POTENTIAL FOR RESTORATION OF NATIVE SPECIES

Non-native plant species are capable of establishing viable populations in the wild, are often adapted to a Mediterranean climate, and are highly competitive since they tend to be annual plants that produce prolific amounts of seed. Non-native plant species invade native plant communities and rapidly colonize both disturbed and undisturbed sites. Non-native species decrease diversity by forming monocultures and by displacing native plant and wildlife species.

The Department's non-native plant control program primary target species include iceplant and yellow-star thistle (*Centaurea solstitialis*). Additional non-native plant species targeted for removal include:

- European beachgrass (*Ammophila arenaria*)
- Ripgut brome and other non-native annual grass (*Bromus diandrus* et al.)
- Conicosia (*Conicosia pugioniformis*)
- New Zealand spinach (*Tetragonia tetragoniodes*)
- Veldt grass (*Ehrharta calycina*)

⁸ 'Federal Special Concern' is a term used for former Category 2 candidates for which USFWS has information indicating that these species may be of concern, but there is not enough information available to determine whether listing is appropriate.

**TABLE 2-5
SPECIAL-STATUS PLANT SPECIES REPORTED AT
FORT ORD DUNES AND THE IMMEDIATE VICINITY**

Common Name Scientific Name	Listing Status (USFWS / CDFG / CNPS)	General Habitat	Project Site Occurrence
FEDERAL OR STATE LISTED SPECIES			
Monterey spineflower <i>Chorizanthe pungens</i> var. <i>pungens</i>	FT / -- / List 1B	Coastal dunes and scrub on sandy soil	Present and restored at Fort Ord Dunes and remaining former Fort Ord area
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE / -- / List 1B	Sandy terraces and bluffs within cismontane woodlands, dunes, or scrub	Unconfirmed presence at Fort Ord Dunes
Seaside bird's-beak <i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	-- / CE / List 1B	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub (sandy, disturbed sites)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Yadon's wallflower <i>Erysimum menziesii</i> ssp. <i>yadonii</i>	FE / CE / List 1B	Coastal dunes	Restored at Fort Ord Dunes, and present in remaining former Fort Ord area
Sand gilia <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	FE / CT / List 1B	Coastal dunes, coastal scrub on sandy soil	Present and restored at Fort Ord Dunes
Tidestrom's lupine (Clover Lupine) <i>Lupinus tidestromii</i>	FE / -- / List 1B	Coastal dune, and other coastal habitats	Not observed or reported at Fort Ord Dunes or remaining former Fort Ord area
Yadon's rein orchid <i>Piperia yadonii</i>	FE / -- / List 1B	Coastal bluff scrub, closed-cone coniferous forest, maritime chaparral (sandy soil)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
FEDERAL SPECIES OF CONCERN			
Monterey ceanothus <i>Ceanothus cuneatus</i> var. <i>rigidus</i>	FSC / -- / List 4	Closed-cone coniferous forest, maritime chaparral, coastal scrub	Present in the northern portion of Fort Ord Dunes
Coast wallflower <i>Erysimum ammodophilum</i>	FSC / -- / List 1B	Maritime chaparral, coastal dunes, coastal scrub (sandy)	Present and restored at Fort Ord Dunes and remaining former Fort Ord area
Kellog's horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	FSC / -- / List 1B	Closed-cone coniferous forest, maritime chaparral, coastal scrub (sandy or gravelly)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
CALIFORNIA NATIVE PLANT SOCIETY SPECIES ONLY			
Hickman's onion <i>Allium hickmanii</i>	-- / -- / List 1B	Closed-cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, grassland	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Hooker's manzanita <i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>	-- / -- / List 1B	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal scrub (sandy)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area

**TABLE 2-5 (Continued)
SPECIAL-STATUS PLANT SPECIES REPORTED AT
FORT ORD DUNES AND THE IMMEDIATE VICINITY**

Common Name <i>Scientific Name</i>	Listing Status (USFWS / CDFG / CNPS)	General Habitat	Project Site Occurrence
CALIFORNIA NATIVE PLANT SOCIETY SPECIES ONLY (cont.)			
Monterey manzanita (=Toro manzanita) <i>Arctostaphylos montereyensis</i>	-- / -- / List 1B	Maritime chaparral, cismontane woodland, coastal scrub (sandy)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Sandmat manzanita <i>Arctostaphylos pumila</i>	-- / -- / List 1B	Coastal dunes, coastal scrub on sandy soil	Present at Fort Ord Dunes and remaining Former fort Ord area
Eastwood's goldenbush <i>Ericameria fasciculata</i>	-- / -- / List 1B	Closed-cone coniferous forest, maritime chaparral, coastal scrub (sandy)	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area

STATUS CODES:

FEDERAL: USFWS

FE = Listed as endangered by the federal government
 FT = Listed as threatened by the federal government
 FSC = Federal Special Concern
 FPE = Federally proposed for listing as endangered

STATE: CDFG

CE = Listed as endangered by the State of California
 CR = Listed as rare by the State of California

CNPS

List 1B = Plants rare, threatened, or endangered in California and elsewhere
 List 2 = Plants rare, threatened, or endangered in California but more common elsewhere
 List 3 = Plants about which more information is needed
 List 4 = Plants of limited distribution

-- = No listing status

Sources: CDFG, 2003; CNPS, 2003; Styer, 2003a; 2003b; Zander Associates, 2000a; USACOE, 1997; USFWS, 2003a

- Pampas grass (*Cortaderia jubata*)
- Kikuya grass (*Pennisetum clandestinum*)
- French broom (*Genista monspessulana*)

As required by the conditions of the HMP and Draft HCP, the Department implemented a large-scale native dune restoration project and non-native plant control project at lead remediation and recontoured sites in 1998. Target species identified in the HMP requiring habitat restoration include Monterey spineflower, sand gilia, coast wallflower, seacliff buckwheat, and coast buckwheat. An estimated 15,000 to 20,000 native plants were planted between 1998 and 2003, with emphasis on the aforementioned target species. The ultimate goal is at least 700 acres of restored coastal dune habitat, as set forth in the HMP and

Draft HCP. Restoration on State Parks' lands is designed to partially mitigate for impacts to some species (e.g., Monterey gilia, *Gilia tenuiflora* ssp. *arenaria*) that will occur due to development elsewhere on the former Fort Ord military reservation (USFWS, 2003b).

A monitoring program was implemented following the first year of restoration, using the protocol established in the HMP and the methods set forth in the Habitat Restoration and Monitoring Plan for Lead Remediation Areas on the Future Fort Dunes State Park (CDPR, 2000). Annual monitoring will continue to document the results of the restoration efforts.

ANIMALS

Wildlife habitat within Fort Ord Dunes has been degraded by the location and use of the former firing ranges and other military era facilities, and the introduction of ice plant and other non-native plant species. Nevertheless, the area provides significant wildlife habitat values due to the relative large area of shoreline that currently receives little human use (CDPR, 1994).

As described above, special-status species are species that receive specific protection defined in federal or state legislation (Endangered Species Act), and are formally designated as endangered, threatened, or rare under state or federal legislation. Species that meet the criteria of CEQA Section 15380 are defined as special-status species. Certain special-status animal species are protected under the Federal Migratory Bird Treaty Act, which prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The Federal Migratory Bird Treaty Act encompasses whole birds, parts of birds, and bird nests and eggs. Migratory is defined broadly in the act so that most native birds fall under its provisions. The act is typically applied on domestic projects to prevent injury or death of nesting birds and their chicks. Birds of prey are protected in California under the California Fish and Game Code, §3503.5, under which it is unlawful to take, possess, or destroy any raptors or owls or to take, possess, or destroy the nest or eggs of raptors or owls. Disturbance that causes nest abandonment or loss of reproductive effort is considered a taking by the CDFG.

Based on information compiled from various sources, including California Natural Diversity Data Base (CDFG, 2003), USFWS Monterey County species list (USFWS, 2003a), and the U.S. Army Corps of Engineers' *Installation-wide Multispecies Habitat Management Plan for Former Fort Ord* (1997), special-status animal species known to occur at Fort Ord Dunes and/or the remaining former Fort Ord military reservation have been considered in the evaluation for this plan (see Table 2-6). Four of the listed species are known to occur, or have historically occurred, within the boundaries of Fort Ord Dunes, including two

**TABLE 2-6
SPECIAL-STATUS ANIMAL SPECIES REPORTED AT
FORT ORD DUNES AND THE IMMEDIATE VICINITY**

Common Name Scientific Name	Listing Status (USFWS / CDFG)	General Habitat	Site Occurrence
FEDERAL OR STATE LISTED SPECIES			
Invertebrates			
Smiths blue butterfly <i>Euphilotes enoptes smithi</i>	FE / --	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties; <i>Eriogonum latifolium</i> (coast buckwheat) and <i>E. parvifolium</i> (dune buckwheat) are foodplants for larvae and adults.	Smith's blue butterfly occurs from the mouth of Salinas Rive south to San Carpoforo Creek in northern San Luis Obispo County. Present at Fort Ord Dunes; habitat restoration on-going
Birds			
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT / CSC	Sandy beaches above high tide, salt pond levees and shores of large alkali lakes.	Historically nested along the beaches of Fort Ord Dunes from the northern reservation boundary to Stilwell Hall; no nesting occurrences since 1999; Fort Ord beach designated as Critical Habitat by USFWS
California brown pelican <i>Pelecanus occidentalis californicus</i>	FE / CE	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Rare to uncommon on Salton Sea from July to September. Breeds on Channel Islands: Anacapa, Santa Barbara, and Santa Cruz	No breeding; only seasonal visitor
FEDERAL OR STATE SPECIES OF CONCERN			
Invertebrates			
Globose dune beetle <i>Coelus globulus</i>	FSC / --	Foredunes and sand hummocks; burrowing beneath sand surface commonly under dune vegetation	Present at Fort Ord Dunes (DPR, 1994)
California linderiella <i>Linderiella occidentalis</i>	FSC / --	Ephemeral freshwater habitats	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	-- / CSC	Requires ground squirrel burrows and water sources for breeding	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Reptiles			
Black legless lizard <i>Anniella pulchra nigra</i>	-- / CSC	Sand dunes, and sandy soils in the Monterey Bay and Morro Bay regions	Present at Fort Ord Dunes and remaining former Fort Ord area
California horned lizard <i>Phrynosoma coronatum frontale</i>	FSC / CSC	Open areas for sunning, bushes for cover, patches of loose soil for burial in a variety of habitats	Absent from Fort Ord Dunes, but present in remaining former Fort Ord area
Birds			
Sharp-shinned hawk <i>Accipiter striatus</i>	-- / CSC	Nests in a variety of habitats, including deciduous riparian forest, but is commonly associated with dense stands of smaller conifers	Potential nesting in remaining former Fort Ord area
Northern harrier <i>Circus cyaneus</i>	-- / CSC	Grasslands, prairie, savanna, sloughs, wet meadows, and marshes. Nests on the ground or in thick vegetation near the ground.	Breeding not likely; seasonal visitor

**TABLE 2-6 (Continued)
SPECIAL-STATUS ANIMAL SPECIES REPORTED AT
FORT ORD DUNES AND THE IMMEDIATE VICINITY**

Common Name Scientific Name	Listing Status (USFWS / CDFG)	General Habitat	Site Occurrence
FEDERAL OR STATE SPECIES OF CONCERN (cont.)			
Mammals			
Pallid bat <i>Antrozous pallidus</i>	-- / CSC	Caves, crevices, mines, open buildings	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Pacific western (Townsend's) big-eared bat <i>Corynothinus townsendii townsendii</i>	FSC / --	Buildings, caves, and cliffs	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Western mastiff bat <i>Eumops perotis californicus</i>	FSC / --	Crevices on cliff faces, high buildings, trees, and tunnels	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Long-eared myotis <i>Myotis evotis</i>	FSC / --	Crevices, under bark, snags, forests	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Small-footed myotis <i>Myotis leibii</i>	FSC / --	Caves, and crevices, sometimes bridges and bark	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Yuma myotis bat <i>Myotis yumanensis</i>	FSC / --	Buildings, caves, and cliffs	Potential roosting in buildings at Fort Ord Dunes; no confirmed presence
Birds			
Raptors (e.g., red-shouldered hawk, red-tailed hawk, American kestrel)	-- / 3503.5	Dense large trees	Potential nesting at Fort Ord Dunes
White-tailed kite <i>Elanus leucurus</i>	-- / 3511	Dense trees near open foraging area	Potential nesting at Fort Ord Dunes

STATUS CODES:

FEDERAL: USFWS

FE = Listed as endangered by the federal government
 FT = Listed as threatened by the federal government
 FSC = Federal Special Concern

STATE: CDFG

CE = Listed as endangered by the State of California
 CT = Listed as threatened by the State of California
 CSC = California Special Concern
 * = CDFG Special Animals list
 3503.5 = Fish and Game Code Birds of Prey
 3511 = Fish and Game Code Fully Protected Species

-- = No Listing Status

Sources: CDFG, 2003; Federal Register, 1999; Zander Associates, 2000a; USACOE, 1997; Styer, 2003a; 2003b

federal or state listed species, Smith's blue butterfly and Western snowy plover; and two federal species of concern, globose dune beetle and black legless lizard.

ARTHROPODS SPECIES

The diversity of arthropod populations is generally dependent upon plant diversity. Because many insects specialize on one or a few closely related species of plants, they are often limited by the densities and distributions of the host plant species upon which they feed. The most important habitat at Fort Ord Dunes for insects is vegetated areas of the Coastal Dune Zone, particularly central dune scrub.

Arthropods Species of Concern

Fort Ord Dunes supports two insects of concern, Smith's blue butterfly and globose dune beetle.

Smith's blue butterfly (*Euphilotes enoptes smithi*), a federally endangered species, is present in restored coastal dune habitat at Fort Ord Dunes. The butterfly is completely dependent on coast buckwheat (*Eriogonum latifolium*) and dune buckwheat (*E. parvifolium*) for oviposition and as food sources. Both of these plant species are present in the Coastal Dune Zone.

Globose dune beetle (*Coelus globulus*), a federal species of concern, is found beneath native coastal dune vegetation where it eats dead plant material. This species is present at Fort Ord Dunes.

REPTILE AND AMPHIBIAN SPECIES

The composition and abundance of amphibian and reptile populations are directly related to the amount of suitable habitat present. Portions of Fort Ord Dunes that support native vegetation are often fragmented and have been degraded by the invasion of introduced plant species. These invasions reduce the quality of such habitats for native amphibians and reptiles by altering protective cover, often increasing the vulnerability of such organisms to native and introduced predators, such as feral dogs and cats (domestic species which have reverted to living in a wild state).

Reptile and Amphibian Species of Concern

Black legless lizard (*Anniella pulchra nigra*), a state species of concern, is the only special-status reptile known to occur at Fort Ord Dunes. It is found on dune habitats supporting native vegetation and where maritime chaparral and coastal scrub occur on loose sandy soils. California tiger salamander and California horned lizard are known to occur east of Fort Ord Dunes.

BIRD SPECIES

Numerous species of birds have been observed along the beach ranges of Fort Ord Dunes. 113 species of native birds were observed in 2002 along the beach areas of Fort Ord Dunes (Styer, 2003a; 2003b). Loons (*Gavia* spp.), Caspian tern (*Sterna caspia*), cormorants (*Phalacrocorax* spp.), and grebes (*Aechmophorus* spp.) are regularly observed in Monterey Bay. Gulls and shorebirds, including California gull (*Larus californicus*), Heermann's gull (*Larus heermanni*), least sandpiper (*Calidris minutilla*), black-bellied plover (*Pluvialis squatarola*), and killdeer (*Charadrius vociferus*), are very common along the ocean beach in this area. They forage along the littoral zone and some roost on the back beach and on the unvegetated dune formations. Breeding birds that are regularly observed in central dune scrub include white-crowned sparrow (*Zonotrichia leucophrys*), brown-head cowbird (*Molothrus ater*), Anna's hummingbird (*Calypte anna*), and bushtit (*Psaltriparus minimus*).

European starling (*Sturnus vulgaris*), an introduced species from Europe, is now a widespread and common to abundant resident of most of California, excluding higher mountains. European starling nests in the beach ranges of Fort Ord Dunes. Up to ten individuals can be found nesting in buildings (Styer, 2003a). European starling may compete with native species for cavity nesting sites.

Bird Species of Concern

Fort Ord Dunes supports potential breeding habitat for Western snowy plover and several raptor species.

Western snowy plover (*Charadrius alexandrinus nivosus*), a federally threatened and state species of concern, use the beach and bare dune areas. Western snow plover nest on open sandy beaches and bare dunes above high tide. Western snowy plover historically nested along the beaches of Fort Ord Dunes from the northern boundary to former Stilwell Hall. Data collected in this area by the Point Reyes Bird Observatory since 1988 indicate the following nesting occurrences:

<u>Year</u>	<u>Number of Nests</u>	<u>Fledges</u>
1988	10	8
1989	15	4
1990	16	0
1991	5	0
1992	1	0
1995	2	2
1996	1	0

Other nests were observed in the southern portion of Fort Ord Dunes during this time period. However, recent nesting occurrences have been limited within Fort Ord Dunes, likely due to poor quality habitat, and the last confirmed nest within Fort Ord Dunes occurred in 1999, near the southern property boundary (Harlan, 2003). The narrow beach above the high tide line does not provide optimal breeding habitat for Western snowy plover. Fort Ord Dunes includes Critical Habitat (CA-7 Monterey Bay Beaches, Unit 5 Fort Ord/Seaside Beaches) as designated by USFWS (Federal Register, 1999). The Department has prepared systemwide guidelines for management of this species. The purpose of the Western Snowy Plover Systemwide Management Guidelines is to provide direction and guidance to the Departments' stewardship efforts to protect the Western snowy plover and manage coastal habitat (CDPR, 2003). The guidelines identify a variety of actions to be used in managing this species and supplement the Draft Recovery Plan for the Western snowy plover prepared by USFWS in May 2001. Both documents provide information necessary to prepare management plans to direct stewardship actions in a unit or District. The guidelines will assist in: planning and managing Western snowy plover nesting and overwintering habitat; collecting information and data in a consistent manner; and assessing and reporting results on a systemwide basis (CDPR, 2002).

Many raptors have been observed flying over Fort Ord Dunes and some are known to nest in trees. These species include, but are not limited to, red-tailed hawk, northern harrier, white-tailed kite, American kestrel, and sharp-shinned hawk.

MAMMAL SPECIES

Wildlife species that occur in the disturbed habitat community are those typically tolerant of frequent human disturbance. Common species include common ground squirrel, deer mouse, and red fox. The extensive ice plant mats provide only marginal wildlife habitat because although they provide cover for some species, they provide little forage value. However, ice plant provides a source of moisture for ruderal species such as ground squirrel and red fox. Red fox forages on the beaches for birds, eggs, and carrion washed up on shore (CDPR, 1994).

The presence of feral animals, such as cats, dogs, and red foxes at Fort Ord Dunes, and uncontrolled domestic pets can seriously threaten native wildlife. Feral dogs and cats not only threaten native species by directly preying upon them, but also by competing with native species for resources. Non-native red foxes are known to prey on ground nesting birds and their eggs in the park (CDPR, 1994).

Mammal Species of Concern

Bats feed on small insects over water sources and roost in buildings, mines, caves, or crevices. The wooden buildings at Fort Ord Dunes may provide suitable habitat for one or several of special-status bat species including: pallid bat, pacific western (Townsend's) big-eared bat, western mastiff bat, long-eared myotis bat, small-footed myotis bat, and Yuma myotis bat.

MARINE LIFE

The Monterey Bay marine environment off Fort Ord Dunes is within the Monterey Bay National Marine Sanctuary. The local marine environment is within the Central California Seascape Province, a region of characteristic geological and biological features extending from San Francisco Bay to Point Conception (CDPR, 1994).

The intertidal benthic environment at Fort Ord Dunes is the sandy beach between high and low tides. This zone marks the western boundary of the Fort Ord Dunes property. This zone has limited biological diversity due to the daily exposure to the atmosphere and the constantly shifting sand. Nevertheless, some species, primarily burrowing animals, thrive. The most common burrowing animals are blood worms (*Glycera Americana*) and the mole crab (*Albunea gibbesi*). Scavengers are also present, primarily beach hoppers (*Traskorchestia traskiana*), kelp flies (*Coelopidae* sp.), and sand fleas. When the tide is in, several fish species including surf perch (*Cymatogaster aggregate*), diamond turbot (*Hypsopsetta guttalata*), and round stingray (*Urolophus halleri*), utilize this habitat. When the tide is out, the major vertebrates are foraging shorebirds such as willets (*Catoptrophorus semipalmatus*) and sanderlings (*Calidris alba*) (CDPR, 1994).

Beyond Fort Ord Dunes, subtidal benthic environments extend from the lowest tide to a depth of thirty feet and are primarily composed of unconsolidated sand. The dominant species that dwell within the substrate is the tube worm. Species that dwell on the substrate include dungeness crab (*Cancer magister*) and short spined sea star (*Pisaster brevispinus*). Fish that commonly occur in this zone are sanddabs (*Citharichthys* sp.), California halibut (*Paralichthys californicus*), and starry flounder (*Platichthys stellatus*) (CDPR, 1994).

The pelagic environment includes floating and swimming organisms. Floating organisms include phytoplankton, zooplankton, crustaceans, jellyfish, and copepods. Fish in this zone include surf perch, rockfish (*Sebastes* sp.), and night smelt (*Spirinchus starksi*). Marine mammals occurring in this zone include harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*). A number of inshore birds including grebes, Caspian tern, and gulls also utilize this habitat (CDPR, 1994).

The placement of rock on the beach to protect former Stilwell Hall and the stormwater outfalls have created minor occurrences of rocky intertidal and rocky subtidal habitats. The small extent of these areas do not provide significant habitat (CDPR, 1994).

Sea otter occurs in Monterey Bay and may occasionally be seen from offshore of Fort Ord Dunes as it migrates between kelp beds, its preferred habitat. Other marine mammals including dolphins and whales can occasionally be observed from the Fort Ord Dunes coastline. Dead sea lions are commonly seen on the beach. On rare occasions, other species of dead or injured marine mammals may be seen (CDPR, 1994).

ECOLOGY

The Fort Ord Dunes coast environment includes many examples of the interdependent relationship between physical and biological features. The most striking is the relationship between the stability of the dune sand and vegetation. Without vegetation, the coastal dunes are unstable and are being constantly reshaped and blown inland by the prevailing onshore winds. When dunes are stabilized with vegetation, sand blown off the beaches is trapped by the vegetation causing the dunes to build and increase in height. The native dune vegetation is adapted to the severe wind, exposure, salt spray, and sand blowing conditions. Bare dunes provide little wildlife habitat, although ground nesting shorebirds may find these areas suitable nesting habitat. When vegetated, dunes support a diverse native plant community and unusual wildlife species, including butterflies and reptiles. The native dune vegetation at Fort Ord Dunes is not adapted to withstand extensive human disturbance (CDPR, 1994).

Most coastal dune areas of California have lost their natural qualities due to urban developments, non-native plant species, and intensive recreation use. At Fort Ord Dunes, the Army planted ice plant to keep the dunes stable when they were modified for use as firing ranges. The remaining areas provide the only habitat for the many plant and animal species that are specifically adapted to and dependent upon coastal dune environments. The limited extent of the remaining habitat is why many of these species are rare, threatened, or endangered. The survival of these species depends on the restoration and preservation of coastal dunes (CDPR, 1994). As noted above, the Fort Ord Dunes have been severely modified and their natural values degraded. Despite the extensive loss of habitat from former modifications, the Fort Ord Dunes coast provides critical plant and animal life habitat. The potential for restoration of habitats at Fort Ord increases the area's importance for the preservation of special-status species (CDPR, 1994).

PALEONTOLOGY⁹

FOSSILS AND THEIR ASSOCIATED FORMATIONS

Geologic formations are the matrix in which most fossils are found, occasionally in buried paleosols (ancient soils). These formations are totally different from modern soils and cannot be correlated with soil maps that depict modern surface soils representing only a thin veneer on the surface of the earth. Geologic formations may range in thickness from a few feet to hundreds of thousands of feet, and form complex relationships below the surface. Geologic maps available through the U.S. Geological Survey or California Geological Society show the surface expression (in two dimensions) of geologic formations along with other geologic features such as faults, folds, and landslides. Although sedimentary formations were initially deposited one atop the other, much like a layer cake, over time the layers have been squeezed, tilted, folded, cut by faults and vertically and horizontally displaced, so that today, any one rock unit does not usually extend in a simple horizontal layer. If a sensitive formation bearing fossils can be found at the surface in an outcrop, chances are that same formation may extend not only many feet into the ground straight down, it may well extend for miles just below the surface. This makes the task of predicting which areas are paleontologically sensitive difficult.

As mentioned above, stratified deposits of ancient environments that are accessible for study represent a record of a regions geologic history. In the case of Monterey County, the stratigraphy and the fossils remains are predominately of marine origins and demonstrate a lengthy history of advancing and retreating sea levels (Rosenberg, 2001). Much of Monterey County's fossils are the skeletons of micro-organisms, i.e. foraminifers or diatoms, or invertebrates found in sedimentary rocks aging from Cretaceous (138-96 million years ago) to Pleistocene age (1.6 million to 11 thousand years ago) (Rosenberg, 2001). No paleontological sites have been recorded within the boundaries of Fort Ord Dunes, while a number of sites have been identified inland. Given the mutable state of the dunes and coastal erosion, significant deposits of fossil material in Fort Ord Dunes is unlikely. However, significant assemblages of fossil remains are possible even in areas designated as having low-potential for resources.

⁹ Paleontology is a branch of geology that studies prehistoric life forms other than humans, through the study of plant and animal fossils. Fossils are the remains of organisms that lived in the region in the geologic past and therefore preserve an aspect of Northern California prehistory that is of scientific importance, since many species are now extinct. Fossils are found embedded in geologic formations that range in thickness from a few feet to hundreds of feet.

CULTURAL RESOURCES

Fort Ord Dunes is located within the Central Coast archaeological region. Although this region contains a singular archaeological record, as well as a rich historical legacy, the area was less populated prehistorically than other regions of California. The Central Coast and the South Coast Ranges as a whole contain a wide diversity of habitats for wildlife and vegetal species, ranging from littoral and marine to coastal scrub and redwood groves, along with upland grassland. However, unlike the prolific acorn producing oaks of the Sierra Foothills and Central Valley, the South Coast Ranges are dominated by coast live oak (*Quercus agrifolia*), an inferior nut producing species. In addition, the high bluffs along the coast, especially along the Big Sur coast, made shellfish gathering more difficult and time consuming than in the Bay Area. As a result, the region had smaller populations of prehistoric inhabitants compared to other regions of California, yet still had relatively large populations. The South Coast Ranges represent an important archaeological region, especially in the study of prehistoric adaptations to dynamic coastal environments.

The following section addresses the existing conditions of cultural resources at Fort Ord Dunes from within the context of cultural change and landscape use over time, culminating with a discussion of the current setting and the historical significance of the Fort Ord Dunes property.

ARCHAEOLOGICAL RESOURCES

PREHISTORIC PERIOD (PRIOR TO 1542)

Although a number of early studies revealed many long-term shellfish processing sites along the Monterey coast, no clear chronology of cultural change had been developed from these highly stratified sites (Pilling, 1948; Meighan, 1955; Pohorecky, 1964; Howard, 1969, as cited in Moratto, 1984). However, the littoral settlement and economic focus of the inhabitants was clearly derived from these sites. The results of early excavations were distilled into two patterns that designate the archaeological manifestations of the Monterey-Carmel area: the Sur Pattern and the Monterey Pattern (Breschini and Haversat, 1980). The Sur Pattern (approximately 3,000 B.C. – 500 B.C.) represents more permanent settlements on the coast combined with inland sites, both site types exhibiting strong reliance on local resources. This pattern is associated with the ancestors of the Esselen, a tribal group who inhabited a small region south of the Monterey Peninsula (Hester, 1978). The Monterey Pattern (approximately 500 B.C.), on the other hand, is characterized by large midden sites, or shell refuse accumulations, that would suggest more food processing sites along the coast, rather than sedentary coastal village sites like the earlier Sur Pattern. Instead, the Monterey Pattern emphasized inland village sites and temporary, seasonal

sites designed for specific activities. The evidence from the Monterey Pattern sites indicated connections to the Costanoans, who, ethnographically, held much of the Monterey Bay and San Francisco Bay Area (Levy, 1978). Some sites began to show a replacement of the Esselen by the Costanoans by 500 B.C. (Pritchard, 1968). As a result, it seems tenable that the Esselen were driven from their territories soon after circa 500 B.C. The two opposing adaptive strategies, foraging dominated (Esselen) versus collection dominated (Costanoan), seemed to favor the latter, which emphasized food storage, logistically organized across the landscape.

ETHNOGRAPHIC BACKGROUND

The Costanoan consisted of eight subgroups that together inhabited most of the San Francisco Bay Area and much of the region surrounding the Monterey Bay. In spite of having a common language base, they were not bound together in any political sense. Therefore, they did not have a single term or word in their language by which they referred to themselves as a whole. Europeans referred to them as Costanos or “people of the coast” from which the name “Costanoan” was derived (Levy, 1978). Today, the surviving descendents of these people frequently use a native language term “Ohlone” to designate themselves (Margolin, 1978; Bean, 1994).

The ethnic groups recognized within the Ohlone culture were sets of tribelets that spoke a common language and lived in a circumscribed, contiguous area. The tribelet served as the basis of sociopolitical organization and generally had at least one permanent village. Many of the tribelets exhibited slight variations in dialect that further distinguished tribelet membership and its ethos. This was true of the *Rumsen*, who occupied the areas surrounding the lower Carmel, Sur, and lower Salinas rivers. The coastal areas that represent Fort Ord Dunes may have been the territory of the *kalenta ruc* tribelet (Milliken, 1987). Of the villages represented by this tribelet, the southern villages were named *Guachirron*, or the “river people,” which may have encompassed the former Fort Ord military reservation. The tribelets that most likely occupied the area surrounding the former Fort Ord military reservation was a commingling of *Rumsen*, the *Calenaruc*, the *Ensen*, and the *Guachirron* (Levy, 1978; Milliken, 1987). Additional ethnographic discussions are presented in Milliken (1987).

The Costanoans maintained a consistent output of yield from plant and animal foods, through many techniques of land management, which shaped the landscape of the early Monterey Bay area. For instance, controlled burning of extensive areas was conducted each fall to promote the growth of seed-bearing annuals (Galvan, 1968). The frequent use of fires selects for certain types of grasses that are quick to grow back and for fire-retardant bushes and shrubs. As the frequency of fires increases, the overall composition of the plant communities

change, and hence the animal population as well. The amount of land available for grazing and browsing animals, such as deer, elk, and antelope, thus increases, along with their populations.

The acorn was the most important dietary staple of the Costanoan—specifically the coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) for their acorn production. The acorns were ground to produce a meal that was leached to remove the bitter tannin. Technologically, the Costanoan crafted tule balsa, basketry, lithics such as mortars and metates, and household utensils. Riverine and littoral resources were also exploited when available or economically suitable.

HISTORICAL BACKGROUND

Spanish explorations of California began in 1542 with the expedition led by Juan Rodriguez Cabrillo, followed by Cermeño in 1594. In 1602, the expedition of Sebastian Vizcaino followed the route of Cabrillo along the California coast, and as in the case of the Cabrillo expedition, did not venture inland; however, Vizcaino was the first to make contact with native populations in Monterey and named the port after Viceroy el Conde de Monterey (Waite, 1995). By 1770, Gaspar de Portola's expedition, in essence, founded Monterey with the landing of the *San Antonio* in Monterey to initiate the colonization and mission building process. Junipero Serra was on board to assist with the building of the mission and presidio of San Carlos de Borromeo de Monterey. Throughout much of the early to mid-19th Century, the presidio housed much of the population of Monterey (Chartkoff and Chartkoff, 1984). During this Spanish era of settlement, the former Fort Ord military reservation area was likely used for cattle grazing (Swernoff, 1982 as cited in Waite, 1995). Lands were usurped by many retired Spanish soldiers during this era in the form of ranchos. For the areas surrounding Fort Ord, these ranchos included Rancho Noche Buena, Ranch El Chamisad, Rancho Laguna Seca, and Rancho Saucito (Monterey County Book of Deeds 1914, as cited in Waite, 1995).

As the Mexican Period (approximately 1822-1846) began in California, the Spanish influence on California's socio-political development ended and changed California into a nearly independent, self-sufficient state with an economic focus on cattle ranching and foreign trade. With the decline of the missions, those Costanoans who were missionized, in some cases, returned to their pre-Spanish hunter-gatherer lifeways. However, with the growing secularization and the sale of ranchos to non-hispanics for the first time, the influx of Anglo-American settlers began the next stage in California's history, which brought with it statehood by 1850—just four years after the territory was wrested from the Mexican government. As increasing settlement and competition for land increased, many of the vestiges of the Indian communities were lost (Chartkoff and Chartkoff, 1984).

Fort Ord began in 1917 with the U.S. Government's purchase of 15,000 acres from the David Jacks Corporation, which was land designated as City of Monterey Tract No. 1, and including several ranches (Clark, 1991). Originally called Gigling Reservation as a subinstallation of the Monterey Presidio, it was renamed Camp Ord in 1933 after Major General Edward Ord, a venerated Civil War veteran (Clark, 1991; USACOE, 1993). General Ord arrived in Monterey in 1847 and assumed command of the Monterey Garrison. After then serving in the Civil War, he returned to serve as commander of the Department of the Pacific from 1868 to 1871 (Clark, 1991).

Up to 1939, very little infrastructure was installed on the site, which was mainly used to drill the 11th Cavalry stationed at the Presidio of Monterey. However, by 1940, numerous facilities were built at Camp Ord using funds from the Work Progress Administration, which included the East Garrison and Stilwell Hall. That same year the camp was renamed Fort Ord when the 7th Infantry Division was stationed there. With the onset of World War II, Fort Ord experienced a great deal of expansion and growth. Fort Ord became an important processing center throughout World War II and also served as a training facility during the Korean War (USACOE, 1993). Further details regarding the history of Fort Ord are presented in Swernoff (1982).

ARCHAEOLOGICAL RECORDS REVIEW

A records search of all pertinent survey and site data was conducted on April 11, 2003 at the Northwest Information Center at Sonoma State University (NWIC File # 02-729) (see Table 2-7). The records were accessed by utilizing the Marina, California and Seaside, California U.S. Geological Survey 7.5-minute quadrangle maps, unsectioned, Township 14S and 15S, Range 1E. In an effort to establish a general impression of the area archaeologically, the review included the Fort Ord Dunes boundary, along with a 1,000 foot Study Area boundary. However, the Area of Potential Effect for this project was established to include a 250-foot area circumscribing the Fort Ord Dunes boundaries.

Previous surveys and studies and archaeological site records were accessed as they pertained to the Study Area. Records were also accessed and reviewed in the *Directory of Properties in the Historic Property Data File for Monterey County* for information on sites of recognized historical significance within the *National Register of Historic Places*, the *California Register of Historic Resources*, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* (1992). In addition, the California Department of Transportation State and Local Bridge Survey (1986) was consulted.

**TABLE 2-7
IDENTIFIED CULTURAL RESOURCES AND EXAMPLES OF
SURVEYS CONDUCTED WITHIN THE PROJECT VICINITY**

Site/Study Designation	Location	Age	Description	Comments	Reference
CA-MNT-1288H	Southeast Marina State Beach	Historic	Building Foundation; privy	Lacks integrity	Furnis, L. 1984
P-3671	Fort Ord	Not Applicable	Cultural Resource Overview	Identified eligible resources, i.e. Stilwell Hall, East Garrison	Zahniser, J.L. 1980
P-3341	Fort Ord	Not Applicable	Archaeological Survey	No sites identified	Johnson, P. 1975
S-5210	Fort Ord	Not Applicable	Archaeological reconnaissance	Two sites identified outside State Park boundaries	Swernoff, M. 1982
S-18372	Fort Ord	Not Applicable	Cultural Resource Survey; 783 hectares	Three sites identified outside State Park boundaries	Waite, P.R. 1995

Source: On file at the Northwest Information Center, Sonoma State University.

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission was contacted and consulted on June 30, 2003 in order to request a database search for sacred lands or other cultural properties of significance to local Native Americans. The record search failed to indicate the presence of Native American cultural resources in Fort Ord Dunes area. The Native American Heritage Commission provided a list of Native American contacts who may have further knowledge of the project area with respect to cultural resources and potential impacts to those resources that could occur as a result of future actions on the State Park (see Appendix C). Further consultation with Native American representatives is recommended when project-specific information is available.

ARCHIVAL RESULTS

The records search indicated that no sites have been recorded within the Fort Ord Dunes boundaries. However, a total of ten cultural resource investigations have been conducted within or adjacent to the boundaries. One historic site was identified just to the north of Fort Ord Dunes, CA-MNT-1288H, on the southeast corner of Marina State Beach. Stilwell Hall is the only National Register eligible cultural resource recorded for the former Fort Ord Dunes (see Figure 2-6). Fort



Former Stilwell Hall from South (Removed 2003)



Fiesta Mural, by Merlin C. Hardy, May 4, 1942
Now located in Pomeroy Hall at California State University Monterey Bay

Ord Dunes has no other recorded cultural resources determined to be eligible for the National Register or the California Register of Historic Resources.

Due to the extensive volume of temporary structures that exist related to the mobilization effort for W.W.II, the Department of Defense, in 1991, entered into a Programmatic Memorandum of Agreement with the National Conference of State Historic Preservation Officers and the Advisory Council on Historic Preservation. This Programmatic Memorandum of Agreement resulted in the evaluation and recordation of the historic structures at the former Fort Ord military reservation, as well as other facilities across the country.

During the Historical and Architectural studies conducted at the former Fort Ord military reservation, Stilwell Hall, Building 2425 (Vehicle Maintenance Shed), and 35 structures in the east garrison area were the only Fort Ord properties found eligible for listing on the National Register of Historic Places (Office of Directorate of Environmental Programs, 1993). Stilwell Hall was found to be eligible because it contains several Works Progress Administration funded murals (see Figure 2-6) and other artwork incorporated into the building, and because of its role in the history of Fort Ord and the surrounding community. The Army spent hundreds of thousands of dollars in trying to protect the structure from coastal erosion, which continued to threaten the buildings' foundation. Stilwell Hall was thoroughly documented and recorded with Level II Historic American Building Survey recordation, and as a result, the adverse effect caused by coastal erosion could be resolved by moving the structure, rehabilitation, or demolition (National Historic Preservation Act §110 [b]). In the Fall of 2003, in consultation with State Historic Preservation Officer, the Army proceeded with demolition activities under an emergency order, including removal of the western portion of the parking area to the east of the hall and removal of rock reinforcement placed along the shoreline. Upon its destruction, the footprint and area surrounding Stilwell Hall may contain historical archaeology that would merit further recordation.

Base Closure Cultural Resource Studies

An archaeological study conducted by Isaacson (1993, as cited in Waite, 1995) divided the former Fort Ord military reservation into five strata based on landforms: 1) beach strand, 2) active (unstablized) dunes, 3) younger (early-mid-Holocene) stabilized dunes, 4) older (Late Pleistocene) stabilized dunes, and 5) dissected uplands. This research design suggests that the beach strand and the active, unstabilized dunes have no or very low archaeological potential. The more stabilized dunes and dissected uplands have a greater degree of archaeological potential, given the deposition stability and greater accessibility to riverine and oak woodland resources to prehistoric inhabitants. In addition, 783 hectares of Fort Ord was surveyed and resulted in scant evidence of prehistoric activity on the facility (Waite, 1995). The positive relocation of two sites and the identification of a new site were limited to the east upland area of

the facility. Thus, it appears that the Fort Ord locality represented a marginal resource area for prehistoric inhabitants.

CULTURAL RESOURCES SURVEY

No cultural resource survey has been conducted for the purposes of this general plan. However, as indicated by the previous surveys and the landform factors that would predict archaeological potential, the beach strand and active dunes areas that comprise Fort Ord Dunes would have a very low site probability (Waite, 1995). The existing firing ranges and the bunkers (see Figure 1-2), often referred to as “igloos,” were found to be common, functional structures and therefore not eligible for the National Register (Lapp et al., 1993).

COLLECTIONS

No collections are presently located within Fort Ord Dunes.

SOCIAL RESOURCES

INTERPRETIVE AND EDUCATIONAL RESOURCES

There are no existing or former interpretive and educational resources within Fort Ord Dunes.

AESTHETIC RESOURCES

VISUAL RESOURCES, SCENIC CHARACTERISTICS, AND VIEWSHEDS

Panoramic views of the Monterey Bay area from the Fort Ord Dunes property are best available from the 90 foot bluff that Stilwell Hall was formerly located on, and from other dune bluffs (see Figure 2-7). From here, sweeping views of the curved shoreline of Monterey Bay are visible to the north and south. On a clear day, the cities of the Monterey Peninsula are clearly visible to the south and the outline of the Santa Cruz Mountains are clearly visible to the north. The most prominent feature visible to the north is the Moss Landing Power Plant. A small residential area within the City of Marina and Marina State Beach are visible from the northern portion of Fort Ord Dunes (see Figure 2-7). On clear nights, lights from the Monterey Bay cities extending from Pacific Grove to Santa Cruz are visible. These views are available from several sites along the Fort Ord Dunes bluffs and shoreline (CDPR, 1994). Typical views within Fort Ord Dunes include existing military era facilities, the internal road system, and the extensive dune system (see Figure 2-7).



Typical view of northern Monterey Bay from Fort Ord Dunes (with former outfall structure)



Typical view of southern Monterey Bay from Fort Ord Dunes (with former outfall structures)



Typical view within Fort Ord Dunes



Typical view within Fort Ord Dunes



View of residences north of Fort Ord Dunes on Lake Court



Typical view of SR 1 from Fort Ord Dunes



Typical view of Fort Ord Dunes from east of SR 1



View of existing facilities near storage bunkers

Typical views from Fort Ord Dunes to the east are dominated by SR 1 and urban development within the city of Seaside and the former Fort Ord military reservation (see Figure 2-7). Commercial and residential development visible from Fort Ord Dunes primarily occur within the City of Seaside and a new residential development on the southern portion of the former Fort Ord military reservation. Views of military era buildings and facilities east of SR 1 are available from most elevated areas within Fort Ord Dunes.

EXTERNAL VIEWS

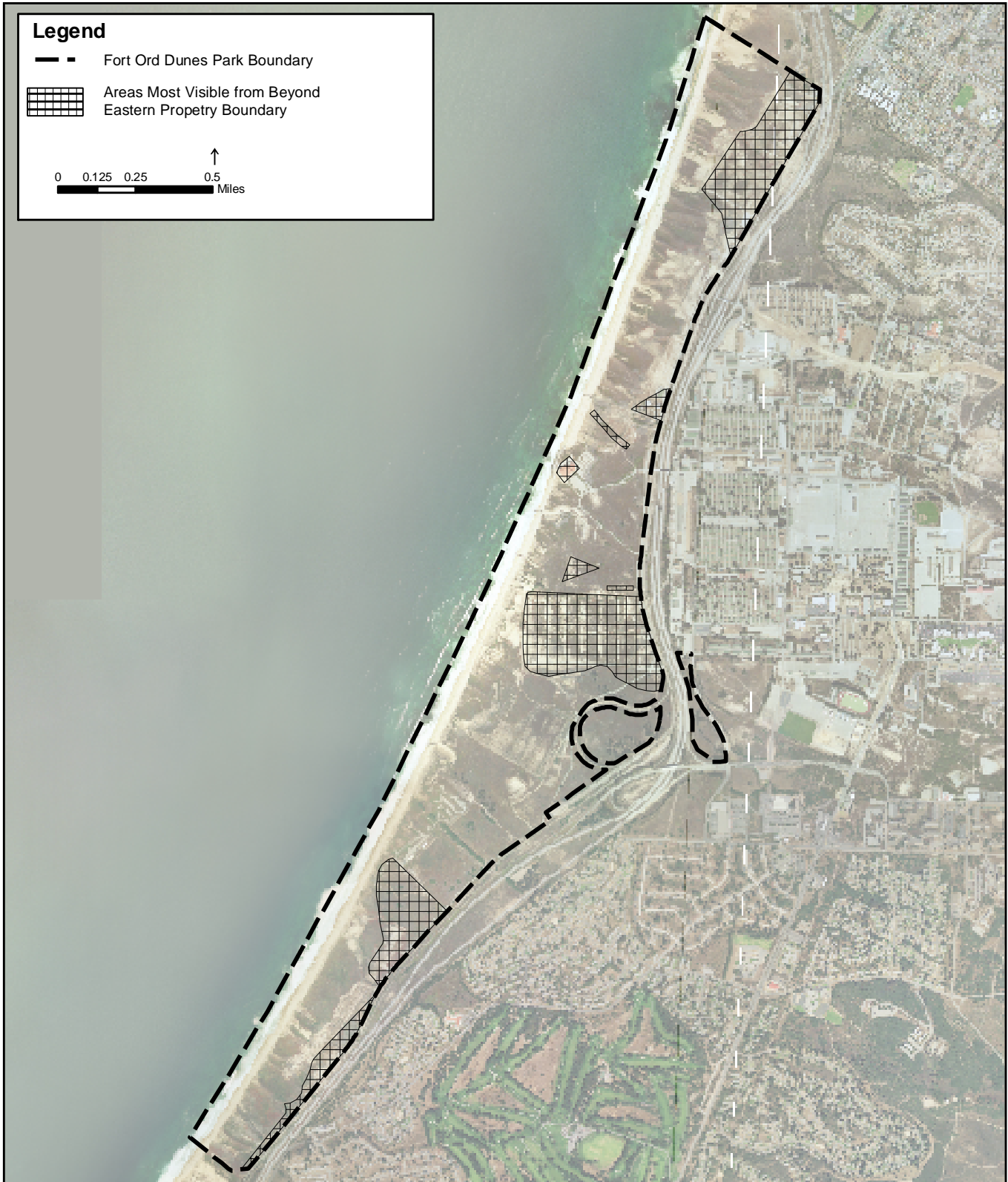
Fort Ord Dunes is visible from many short-range, medium-range, and long-range vantage points. Fort Ord Dunes is seen by millions of people annually as they travel along SR 1. The areas of Fort Ord Dunes most visible from beyond the eastern property boundary are indicated on Figure 2-8. The views from the highway are among the most important scenic views in the unit. The view of Fort Ord Dunes from the highway is not a pristine one and includes views of many structures (firing ranges, railroad tracks, and a wastewater treatment plant). Despite the presence of these facilities, the area appears to be relatively undeveloped as compared to an urban environment. The natural landforms of the remaining dunes still dominate the horizon. Distant open water views of the Pacific Ocean are visible from the highway in some areas, but the actual shoreline is shielded from the view by coastal bluffs and dunes (CDPR, 1994).

The former Stilwell Hall, removed under emergency order in Fall 2003, was the largest and most visible structure on the property. Its massive red tiled roof was seen from SR 1 and many points along the coast north and south. The structure, along with the rip-rap covered embankment below the building, was the most prominent man-made feature visible from the ocean in the area. Its adobe and concrete walls, red tiled roof, and French doors created a dramatic, historic symbol of Fort Ord (CDPR, 1994).

NEGATIVE VISUAL FEATURES AND CHARACTERISTICS

Extensive mats of ice plant are the dominant vegetative cover. Although attractive to some, knowledge that the ice plant is displacing dune vegetation with potential wildflower displays makes its presence a negative aesthetic feature. As described under Biotic Resources, an extensive dune restoration and revegetation program is underway.

Prior to 1997, views from the internal Fort Ord Dunes road system were dominated by abandoned Army structures and facilities. While part of the military history of Fort Ord Dunes, the many small buildings associated with the firing ranges and bunkers constituted intrusions on the natural landscape. Berms and pads graded to construct the firing ranges were clearly visible. In 1997, the Department undertook a building removal project to restore the scenic character



SOURCE: CDPR, 2003a; ESA, 2003

Fort Ord Dunes State Park / 202318 ■

Figure 2-8
Areas Most Visible Beyond
Eastern Property Boundary

of the property in anticipation of use of the property as a State Park. Fifty-seven buildings were removed, along with utility lines and poles. In addition, the U.S. Army Corps of Engineers made significant efforts to restore natural dune formations in association with lead remediation activities. Most of the former range sites were graded to restore natural appearing landforms. The open, undeveloped dunes are a major component of the experience that residents and visitors take in as they drive along SR 1.

DESIGNATED SCENIC AREAS OR ROUTES

No officially designated scenic areas or routes occur within or in close proximity of Fort Ord Dunes. SR 1 within Monterey County, north of SR 68, including the portion of SR 1 adjacent to Fort Ord Dunes, is eligible for designation as a state scenic highway, but is not officially designated as such.

RECREATION RESOURCES

There are no existing recreation facilities within Fort Ord Dunes. The Army restricted access to the entire base and the general public has not had access to the area. Army personnel and dependents could access the beach at Fort Ord Dunes, but no facilities were provided. The beaches were posted by the Army prohibiting swimming, wading, surfing, scuba diving, waterskiing, or aquaplaning. During periods when the ranges were being used, the beach and dune area was closed to public use for safety reasons. In addition, vessel traffic was prohibited offshore (CDPR, 1994).

Former Stilwell Hall, which was removed in 2003, provided a variety of indoor recreation opportunities. The hall included a bar, dance hall, stage, and several rooms that could serve as a library, reading room, card room, etc. Stilwell Hall served as a Soldiers Club from 1943 to 1959, a Non-commissioned Officers Club from 1962 to 1965, a skating rink from 1965 to 1966, an Enlisted Men and Women's Club from 1971 to 1973, and a Recreation Services Offices and Community Center from 1974 to 1994. Many social events and ceremonies have been held at the hall over time. As noted above, Stilwell Hall was removed in Fall 2003.

CIRCULATION

Fort Ord Dunes occupies the western area of what was the Fort Ord military reservation. The Army restricted access to the entire base, and the general public has not had access to the Fort Ord Dunes area. The roadway network that provides access to Fort Ord Dunes is limited; a SR 1 overpass at 8th Street is currently the only vehicle access to Beach Range Road, which runs parallel to SR 1. Access to Beach Range Road on 8th Street is controlled by a locked gate.

There is also a SR 1 underpass at 1st Street into Fort Ord Dunes that is currently blocked by large concrete barriers. SR 1, a four- to six-lane freeway that forms the eastern boundary of Fort Ord Dunes, has an interchange at 12th Street, which connects to 8th Street via 1st Avenue.

Access to SR 1 from adjacent jurisdictions is from ramp connections with Del Monte Boulevard (the City of Marina to the north), and with Fremont Boulevard (the cities of Sand City and Seaside).

EXISTING PUBLIC TRAILS

As stated above, the general public has not had access to this area of the former military reservation. There is a public recreational trail adjacent to the west side of SR 1, within the California Department of Transportation right of way. The path allows for recreational and commuter pedestrian and bicycle use between Marina and Seaside.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

SR 1 has six travel lanes in the immediate project area. The average daily traffic volumes on this regional highway are about 80,000 to 90,000 vehicles near the 12th Street/Imjin Parkway interchange, about 40,000 vehicles north of Del Monte Boulevard, and about 70,000 to 75,000 vehicles south of Fremont Boulevard (Caltrans, 2003). Weekday peak-hour traffic volumes are about ten percent of average daily traffic volumes. Truck traffic represents about four percent of total traffic.

The operation of a roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and long delays). LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are considered to be unacceptable. The existing peak-hour level of service on SR 1 near the 12th Street/Imjin Parkway interchange is LOS C.¹⁰

¹⁰ Level of service conditions were evaluated using the *Highway Capacity Manual* operations methodology (as updated in 2000).

PUBLIC TRANSIT SERVICE

Monterey-Salinas Transit provides public transit service in nearby communities of Marina, Seaside, and Sand City, as well as for the California State University Monterey Bay campus, but there is no existing transit service to the project area.

EXISTING OPERATIONS AND FACILITIES

The built existing facilities within Fort Ord Dunes include:

- Firing range buildings and/or foundations
- Portions of the former Stilwell Hall parking area
- Wastewater treatment plant
- Sewage pumping station
- Stormwater percolation basins and gabion-enforced headwalls
- Ammunition storage bunkers
- Interior park roads
- Railroad Balloon Spur

See Figure 1-2 for the location of existing facilities. Some of the existing buildings and facilities are empty and are not in use, such as the wastewater treatment plant, while others are being utilized for storage. The bunkers have been cleared of ammunition materials, are dry, and can still be secured. Some of the bunkers are empty and some are currently being utilized for storage. Existing operations at Fort Ord Dunes consist of ongoing revegetation efforts by the Department and hazardous materials cleanup efforts and stormwater facilities construction and maintenance being undertaken by U.S. Army Corps of Engineers and the Fort Ord Reuse Authority.

EMERGENCY AND PUBLIC SERVICES

WASTEWATER TREATMENT SERVICES

A large diameter wastewater force main extends the entire length of Fort Ord Dunes, from north to south, conveying wastewater from the Monterey Peninsula to a regional wastewater treatment plant located north of the City of Marina. The force main, and an associated pump station located in the northeast portion of Fort Ord Dunes, are owned and operated by the Monterey Regional Water Pollution Control Agency. A wastewater treatment facility is located within Fort Ord Dunes, near Beach Range Road and 8th Street. The plant is not in operation, nor could it be returned to operation in its current condition; however, the connection between the local wastewater collection system serving the former Fort Ord military reservation and the regional force main is within the site. The Marina Coast Water District has an easement for future use of the plant site,

for a potential sea water desalination plant that would produce potable water. All the local water and wastewater systems at Fort Ord Dunes property are now owned by the Marina Coast Water District (MCWD, 2003).

STORMWATER FACILITIES

Historic development of the former Fort Ord military reservation included construction of a stormwater drainage system which conveyed stormwater flows generated within the military reservation and areas east of SR 1 to outfalls that emptied into Monterey Bay. Six stormwater outfalls were located within Fort Ord Dunes, as shown on Figure 1-2. Four failing outfall structures were removed and stormwater percolation basins were installed in the Fall of 2003. Stormwater generated within the former military reservation will be released to the basins until on site stormwater detention facilities are installed east of SR 1 in association with planned redevelopment activities (see also Hydrology, above).

WATER SUPPLY

Water supply to the former Fort Ord Dunes was generated from groundwater sources. Large portions of the water supply piping network are in disrepair and/or have been removed. Shallow groundwater from some of the aquifers underlying the region are contaminated by salt water and can no longer be used for drinking water due to its high salinity. The Marina Coast Water District supplies water to the City of Marina and the former Fort Ord military reservation with groundwater from deeper wells that draw water from the Salinas Groundwater Basin (MCWD, 2003). The District's headquarters are located on Reservation Road just north of Marina State Beach. The Fort Ord Reuse Authority has allocated water to existing and proposed developments and jurisdictions of the former Fort Ord military reservation. An annual allocation of 45 acre-feet has been designated for Fort Ord Dunes State Park (FORA, 1997).

SOLID WASTE DISPOSAL

Fort Ord Dunes is within the boundaries of the Monterey Peninsula Waste Management District. Their landfill facility is located north of the City of Marina.

POLICE PROTECTION SERVICES

Department Rangers and Lifeguards will have the primary public safety and law enforcement responsibility for the park property and the Monterey County Sheriff Department will have concurrent jurisdiction. The Seaside Police Department will have concurrent jurisdiction on the portion of the park that is east of SR 1 and within the City of Seaside. Support law enforcement and public safety agencies include Marina Public Safety, Seaside Police Department, Sand City Police Department, California State University Monterey Bay Police, Presidio of

Monterey Federal Police, Bureau of Land Management, U.S. Coast Guard Station Monterey, California Highway Patrol, and CDFG. State Park Peace Officers are occasionally called upon to assist or back up a deputy sheriff, warden, California Highway Patrol, or local police officer. Arrests in the Fort Ord Dunes unit will be booked at County facilities in Salinas (FORA, 1997).

FIRE PROTECTION AND EMERGENCY SERVICES

The California Department of Forestry and Fire Protection has the primary responsibility for fire protection and suppression in all State Park System units with wildland vegetation. The Forestry and Fire Protection facility at Carmel Hill would respond to fires at Fort Ord Dunes. Cooperative relationships may develop between adjacent jurisdictions such as California State University, the U.S. Army, Seaside Fire Department, and Marina Public Safety Department.

Ambulance service is provided by Peninsula Medics (Seaside). Rescue and Air Ambulance helicopters are also available for the less accessible areas of Fort Ord Dunes through U.S. Coast Guard, U.S. Navy - Naval Air Station (Lemoore), California Highway Patrol, Life Flight (Stanford University), and CALSTAR Operations.

The Department coordinates with the CDFG Oil Spill Prevention and Response unit and the U.S. Coast Guard for oil spill response in the event of a spill accident within a Monterey District coast unit. The Prevention and Response unit is the lead agency and would contract with a private company for clean-up. The Department has agreed to provide access through each state park property to the shore along routes that would create the fewest resource impacts.

The Department of Parks and Recreation - Monterey District is a signatory member of the Monterey County Coastal Incident Response Plan in cooperation with federal, state, and county Public Safety agencies and volunteer organizations. This is a cooperative approach designed to assure the most effective response of every available resource to coastal incidents (cliffside, surf, and open ocean) along the Monterey County coastline.

The Fort Ord Dunes property extends to the mean high tide line. The State Lands Commission's jurisdiction starts from the mean high tide line as does the jurisdiction of the Monterey Bay National Marine Sanctuary. The marine environment off Fort Ord Dunes is within the Monterey Bay National Marine Sanctuary, which is managed by the National Oceanic and Atmospheric Administration. DPR will cooperate with the National Oceanic and Atmospheric Administration, CDFG, and the U.S. Coast Guard in handling marine incidents along the Fort Ord Dunes. Preliminary discussion is underway with the U.S. Coast Guard and National Oceanic and Atmospheric Administration regarding

collaboration on enforcement and education activities within the Monterey Bay National Marine Sanctuary (FORA, 1997).

EXISTING COMMUNITY INFRASTRUCTURE

There are over 20 schools in the neighboring cities of Seaside and Marina, including public and private elementary, middle, and high schools. Approximately 3,000 students attend California State University Monterey Bay, which is located in the cities of Seaside and Marina. Golden Gate University's Monterey Bay campus is located north of the California State University campus in the City of Marina and enrolls approximately 325 students.

There are over 50 religious institutions in the cities of Marina and Seaside and each city has one public library. Business and city service organizations in the planning area include the Marina Chamber of Commerce, Marina Business Association, Seaside-Sand City Chamber of Commerce, and Monterey County African-American Chamber of Commerce in Seaside. The local governments of Marina and Seaside also host a variety of city service departments.

HAZARDS AND HAZARDOUS MATERIALS

The Army founded Fort Ord in 1917 as a training and staging facility for infantry troops. Beginning in 1942, the majority of the area now encompassed by Fort Ord Dunes was used for small arms training.

Preliminary investigations into potential soil or groundwater impacts resulting from Army operations began in 1984. The former Fort Ord military reservation was placed on the National Priority List for designation as a federal Superfund Site due to the discovered extent of groundwater contamination in 1990. Following selection for base closure in 1991, troops were moved from the base in 1993, and the Fort Ord Army Base officially ceased operations in 1994. Following base closure, the Army has focused on remediation of soil and groundwater in anticipation of future real estate dispersal. The Army, California Department of Toxic Substances Control, and the Department are preparing management and monitoring guidelines for on-site residual contaminants within Fort Ord Dunes. Following property transfer, the Army will continue to be responsible for management of hazardous materials resulting from Army operations, including any potential contaminants that were previously undiscovered.

BACKGROUND AND CURRENT SITE CONDITIONS

Site 3 (Former Artillery Training Ranges)

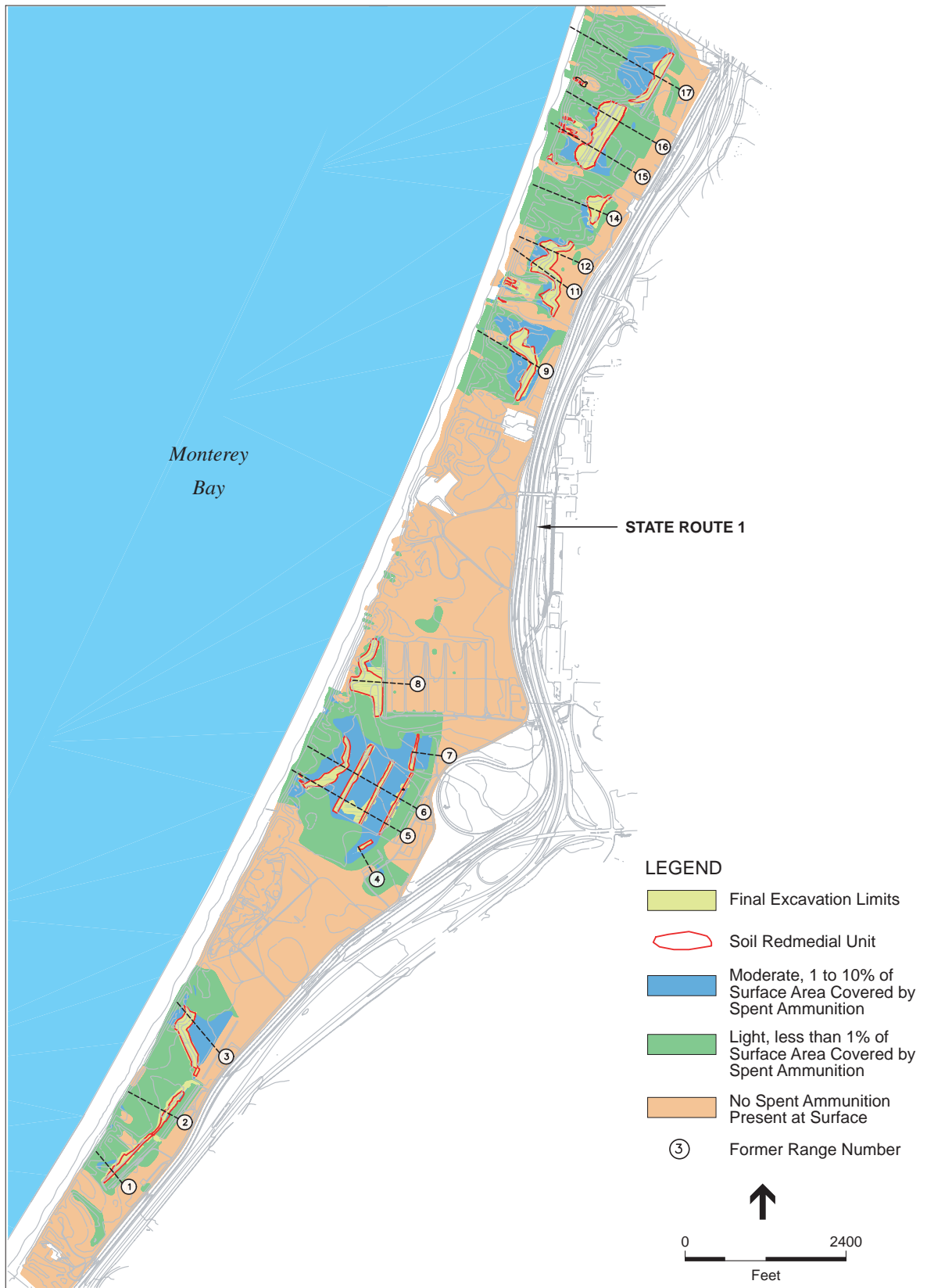
Soil Conditions

Decades of use as a firing range resulted in spent ammunition and elevated levels of heavy metals (particularly lead) in soil throughout Fort Ord Dunes. Remediation undertaken in 1997 and 1998 included excavation of approximately 162,800 cubic yards of soil and vegetation in areas with over 10% percent area coverage of spent ammunition or soil containing more than 1,860 milligrams per kilogram (ml/kg) lead concentrations, which is the health-based clean up level established for Fort Ord lead remedial activities based upon expected exposure of park rangers, nearby residents, and visitors to lead-impacted soils. At this level, blood-lead levels are not expected to exceed 10 micrograms per deciliter (see Figure 2-9). Approximately 719,000 pounds of spent ammunition was recovered during remediation activities by separating bullets from excavated soil. The excavated lead-impacted soil was disposed at the Fort Ord OU2 Landfill located east of SR 1 (USACOE, 2002).

Remediation activities included the collection of 3,645 soil samples for lead analysis, including 1,862 samples collected following the completion of excavation activities at the firing ranges, and 819 samples from stockpiles, decontamination areas, and haul roads used during remedial activities. Average lead concentrations in firing range soils following excavation was 161 mg/kg, and average lead concentrations in other areas was 148 mg/kg, (IT Corporation, 2000).

Average lead concentrations are below the health-based clean up level established for Fort Ord lead remedial activities described above, which is the most relevant requirement, and are also below the California Department of Health Services guidelines and California Code of Regulations requirements (see Hazardous Materials Regulatory Setting, below). Average concentrations at firing ranges are slightly above the Environmental Protection Agencies California-modified preliminary remediation goal for residential soils, and are slightly below the goal elsewhere.

Following completion of remediation activities, a human health risk assessment was conducted to determine potential health risks to future workers and visitors to Fort Ord Dunes associated with lead, copper, and antimony concentrations in remaining soils. Potential receptors evaluated in the Preliminary Remediation Health Risk Assessment included all potential land uses, such as park rangers, habitat management workers, construction workers, youth recreational visitors, and adult and child residents. This human health risk assessment utilized soil samples results collected in firing ranges following the completion of excavation activities and soil samples collected from areas used during the remedial



SOURCE: IT Corporation, 2000

Fort Ord / 202318 ■

Figure 2-9
Soil Remediation Areas
at Fort Ord Dunes

activities, as referenced above. Based on soil samples results, the assessment determined that future human health risks and hazards associated with lead, copper, and antimony concentrations in soils were considered unlikely based upon standards established in the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) (IT Corporation, 2000).¹¹

Existing Army Structures

Although many buildings were removed from Fort Ord Dunes, structures originally constructed by the Army still remain. These structures include the wastewater treatment plant, and other smaller buildings associated with firing range training operations, as shown on Figure 1-2. A survey to determine the potential presence of asbestos within former army buildings indicated that asbestos is present in many of these structures. Asbestos is a fibrous material used as a fireproofing and insulating agent in building construction before such uses were banned by the Environmental Protection Agency in the 1970s. Due to the age of these structures, it is assumed that buildings within Fort Ord Dunes also contain lead-based paint. Lead-based paint was commonly applied on interior and exterior structural surfaces prior to being banned by the Environmental Protection Agency in 1978. Detailed assessment of the potential presence of lead-based paint has not been conducted at Fort Ord Dunes.

Southern Pacific Railroad Spur

Fort Ord Dunes includes land within a looped rail right of way, located west of SR 1. The railroad facilities were used by the Army for transporting troops and supplies. Cleanup of oil and petroleum-impacted soil along the rail lines in this area has been completed (USACOE, 2002).

Groundwater

Multiple groundwater aquifers underlie Fort Ord Dunes (see Hydrology, above). Depth to groundwater varies significantly through Fort Ord Dunes, and is brackish due to historic overpumping, which has resulted in saltwater intrusion from Monterey Bay. Shallow groundwater underlying the Fort Ord Dunes is no longer used for drinking water due to its high salinity.

Shallow groundwater within the Salinas groundwater basin underlying Fort Ord Dunes has been impacted by former Army operations. Specifically, concentrations of dissolved volatile organic compounds, including tetrachloride, 1,2-dichloroethane, dichloroethene, and tetrachloroethene are present in the Salinas groundwater basin 180-foot aquifer. A plume of contaminated groundwater underlies a portion of Fort Ord Dunes in the vicinity of the

¹¹ A person exposed to a chemical at a 'no significant cancer risk level' for 70 years has no more than a 1 in 100,000 chance of developing cancer as a result of that exposure (California Office of Environmental Health Hazard Assessment, 2003).

wastewater treatment plant site. A groundwater collection, treatment, and reinjection system was constructed to remediate volatile organic compounds concentrations; it began operation in 1994. The system consists of groundwater extraction and treatment components, in addition to groundwater re-injection components which return pumped, treated groundwater to the aquifer. The system presently includes eight groundwater extraction wells, an aqueous phase carbon adsorption treatment unit consisting of two 10,000-pound carbon vessels located east of SR 1, and five recharge structures (two re-injection wells and three infiltration galleries). Groundwater extraction wells associated with this system are located within Fort Ord Dunes. Treatment of volatile organic compounds-impacted groundwater underlying Fort Ord Dunes is anticipated to be in operation for 30 years in order to reach water quality cleanup objectives (USACOE, 2002).

PLANNING INFLUENCES

SYSTEM-WIDE PLANNING

The Department performs planning that addresses issues that cross both park and regional boundaries. Any system-wide plans developed in the future that contain specific recommendations pertaining to the use, operation, or management of the State Park System may also effect future planning decisions at Fort Ord Dunes. The following are existing statewide or system-wide planning influences that may affect planning decisions at Fort Ord Dunes.

- Public Resources Code
- California Code of Regulations
- California Environmental Quality Act
- Policies, Rules, Regulations, and Orders of the California State Park and Recreation
- Commission and California Department of Parks and Recreation
- California Department of Parks and Recreation Operation Manual
- California Department of Parks and Recreation Administration Manual
- California State Park System Plan
- California State Park Mission Statement
- California State Parks Access to Parks Guidelines
- Resource Management Directives for the California Department of Parks and Recreation. These directives amplify the legal codes contained in the Public Resources Code, the California Code of Regulations, and the California State Park and Recreation Commission's Statements of Policy

and Rules of Order. The following directives are particularly pertinent to existing or potential issues at Fort Ord Dunes State Park:

- Directive Number 5 State Park Development
- Directive Number 9 Natural Preserve Integrity
- Directive Number 26 Consideration of Ecological Factors
- Directive Number 27 Natural Preserve Establishment
- Directive Number 28 Visitor Use Impacts
- Directive Number 29 Vegetation Management
- Directive Number 34 Exotic Plant Elimination
- Directive Number 35 Wildlife Habitat
- Directive Number 36 Wildlife Population Balance
- Directive Number 37 Erosion Control
- Directive Number 43 Water Quality Control
- Directive Number 46 Environmental Quality
- Directive Number 63 Cultural Resource Management Plan
- Directive Number 74 Recreation Development/Use

REGIONAL PLANNING

Consideration of regional context is important in any discussion about the land use and facilities at Fort Ord Dunes. When planning for Fort Ord Dunes, it is important to understand the intrinsic values within the park as well as the relationship with the surrounding areas. The following summarizes the current public lands management agencies and land uses surrounding the park.

This general plan incorporates by reference the 1993 U.S. Army Corps of Engineers authored *Fort Ord Disposal and Reuse Environmental Impact Statement*, and the 1997 Fort Ord Reuse Authority *Fort Ord Reuse Plan*, among others.

REGIONAL PLANS AND POLICIES

Monterey County General Plan Designation

The Preliminary Draft Monterey County General Plan (2003) represents county-wide policies and goals for the County. The Greater Monterey Peninsula Area Plan is one of the eight area plans that addresses local issues, and includes the boundaries of the former Fort Ord. The Greater Monterey Peninsula Area includes seven incorporated cities and constitutes 15% of the total acreage of Monterey County. They are Marina, Seaside, Sand City, Del Rey Oaks, Monterey, Pacific Grove, and Carmel. The former Fort Ord military reservation represents 27,954 acres of the total Greater Monterey Peninsula Area Plan area (Monterey County, 2003).

The Preliminary Draft Monterey County General Plan designates the area that includes Fort Ord Dunes as a Public/Quasi-Public zone. This category applies to a variety of existing and proposed uses that are either operated by a public agency or serve the public at large. Public quasi-public uses include parks, recreation areas, and natural reserves.

City of Seaside General Plan Designation

The City of Seaside is currently updating their general plan to comprehensively address future planning for both Seaside “proper” and the former Fort Ord military reservation portion of Seaside, which includes the 11 acre Fort Ord Dunes parcel located to the east of SR 1 (see Figure 2-1). While local zoning designations do not apply to state properties, the general plan designates the 11 acre parcel as Community Commercial, which includes areas intended for retail and service oriented business activities primarily serving the local community or neighborhood (City of Seaside, 2003).

City of Marina General Plan Designation

Fort Ord Dunes is located beyond City of Marina land use boundaries (see Figure 2-1). However, the City of Marina is located adjacent to Fort Ord Dunes along the northern and eastern boundaries. City of Marina parcels to the north of Fort Ord Dunes are designated as Habitat Reserve and Other Open Space and Public Facilities. City of Marina parcels east of Fort Ord Dunes, along SR 1, include Visitor-serving Commercial, Multiple Use Commercial, Retail/Service Commercial, Habitat Reserve and Other Open Space, and Public Facilities (City of Marina, 2001).

California Coastal Commission

The California Coastal Commission is responsible for administering the state’s coastal management program. While the coastal portion of Fort Ord Dunes is within Monterey County, the county does not have a local coastal plan that applies to the Fort Ord Dunes region. Therefore, the state’s coastal management program applies to the Fort Ord Dunes area. Under the Coastal Act of 1976 (California Public Resources Code, 30000 et seq.), the Commission makes coastal development permit decisions and reviews local coastal programs prepared by local governments and submitted for Commission approval. Development activities at Fort Ord Dunes, including (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, will generally require a coastal permit from the Coastal Commission.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is responsible for environmental planning and compliance at the former Fort Ord military installation and prepared the 1993 *Fort Ord Disposal and Reuse Environmental Impact Statement*, which described the actions required for disposal and reuse of the former Fort Ord, including hazardous materials remediation requirements. The Environmental Impact Statement identifies the request made by the Department for conveyance of Fort Ord Dunes and indicated that Army land use designations for the Fort Ord Dunes area are intended to support habitat preservation and public recreation. Future use of the former Fort Ord military reservation was further detailed in the Fort Ord Reuse Authority *Fort Ord Reuse Plan* described below.

As described above, the U.S. Army Corps of Engineers continues to manage ongoing hazardous materials remediation and stormwater drainage systems at Fort Ord Dunes. In addition, The U.S. Army Corps of Engineers is responsible for overall planning and implementation of installation-wide habitat management, as described below.

Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California

The *Fort Ord Disposal and Reuse Environmental Impact Statement* identified the need to develop and implement a multispecies HMP as a mitigation measure for impacts on vegetation and wildlife resources resulting from pre-disposal, disposal, and reuse actions, such as hazardous materials remediation. The 1997 installation-wide HMP addresses those potential impacts and promotes preservation, enhancement, and restoration of habitat and populations of HMP species, while allowing development on selected properties.

The HMP indicated that portions of Fort Ord Dunes would be used for the preservation of restored coastal dune habitat, with public access limited to hiking trails and beach access in more sensitive dune areas and with additional visitor service facilities in disturbed areas. The HMP indicated that the beach would provide a prime public recreation opportunity. The HMP identified sand gilia, Monterey spineflower, Smith's blue butterfly, Western snowy plover, black legless lizard, and coast wallflower as species requiring habitat management, and identified measures to protect the species and their habitat, such as design requirements and operational guidelines. The HMP also indicated that the Department would be responsible for implementing management requirements after Army lead removal and restoration requirements are complete and the property has been conveyed.

The HMP indicated that all disturbed and degraded sites that are not developed with recreation, access, or support facilities would be maintained as open space and restored to native habitat. The habitat area in the park would total

approximately 700 acres including Beaches, Bluffs, and Blowouts and Coastal Dune Zones. The HMP calls for the enhancement of the dunes through removal of ice plant and other invasive species.

Fort Ord Reuse Authority

The Fort Ord Reuse Authority was formally established on May 20, 1994 as a corporation of the State of California. Its purpose is to prepare, adopt, finance, and implement a plan for the land formerly occupied by Fort Ord, including the development of strategies for land use, transportation, conservation, and a five-year capital improvement program (FORA, 1997). The Fort Ord Reuse Authority Act provides for the independent actions of the California State University, the University of California, and the California Department of Parks and Recreation. Pursuant to California Government Code 67678, California Department of Parks and Recreation is exempt from the requirement to use property transferred from the federal government in a manner consistent with the plan for future use and development of the former Fort Ord military reservation.

Fort Ord Dunes State Park is designated as a Monterey County Planning Area within the framework of the Fort Ord Reuse Plan. The Reuse Plan (1997: 170) asserts:

The State is a responsible agency for habitat management and restoration of sensitive coastal environments under the HMP. The DPR is also planning for visitor-serving uses in the coastal area including hiking, camping, day use activities, and resort accommodations. The State Park will also include basewide infrastructure facilities.

The Reuse Plan (1997: 172) has outlined a number of land uses and objectives for the future planning of the State Park:

Open Space Land Use. 803 acres are reserved for park and open space which will be managed for habitat restoration and limited visitor-serving activities.

Visitor-serving Land Use. 59 acres are reserved for use as a limited service resort facility accommodating 40 rooms.

Public Facilities Land Use. 23 acres are reserved for use to accommodate a future desalination plant.

General Development Character and Design Objectives - To achieve the community design vision, the California DPR shall implement the following:

1. Enhance the visual character of the State Highway 1 Scenic Corridor with detailed siting, grading and design plans and landscaping

programs that minimize the visual intrusion of buildings and large paved areas for overnight RV vehicles and campground parking.

2. Work with the City of Marina to incorporate a visitor center and gateway function into the 8th street Visitor/Cultural Center within Marina's Town Center Planning Area. Establish the 8th Street bridge as a major access point to the state park.
3. Manage the traffic impacts of the potential queuing of RV vehicles arriving at the Main Gate Intersection.

These potential land uses and objectives were based on land uses included in the Department's 1996 Preliminary General Plan. The current planning process supercedes the prior Preliminary General Plan. The current General Plan considers the land uses and objectives included in the Fort Ord Reuse Plan, however changed conditions since 1996 may result in General Unit Management Goals and Guidelines that differ from those included in the Reuse Plan.

Draft HCP Supplement to the Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California

The Fort Ord Reuse Authority is preparing a supplement to the HMP described above to enable the HMP to qualify as a Habitat Conservation Plan in compliance with the federal Endangered Species Act. The USFWS recommended that all non-federal entities acquiring lands at the former Fort Ord military reservation apply for section 10(a)(1)(B) incidental take permits for all species covered in the HMP. While the HMP contained many of the required elements of the permit, it did not include all elements that would constitute a HCP. The HCP supplement and the HMP would serve as a programmatic HCP and a Natural Communities Conservation Plan that would address a group of actions at the former Fort Ord military reservation as a whole, rather than require individual HCPs for each non-federal entity. The HCP and Natural Communities Conservation Plan would support the issuance of take authorizations from the CDFG under Section 2835 of the California Fish and Game Code, allowing for incidental take of covered species in compliance with the programmatic HCP and providing assurances to local jurisdictions that no further mitigation for impacts to those species or their habitats would be required except as provided in applicable federal and state laws and regulations.

The Draft HCP supplement indicates that the Department would be required to monitor the success of the Fort Ord Dunes restoration program, primarily by gathering percent cover data for native and non-native plant species, consistent with HCP monitoring requirements and protocol.

Bureau of Land Management

Approximately 7,200 acres of the former Fort Ord military reservation have been transferred to the Bureau of Land Management for use as public lands, according to guidelines outlined in the HMP. The Bureau of Land Management could eventually acquire up to approximately 15,000 acres and form a Natural Resource Management Area at the former military reservation. Land transferred to the Bureau is located in the eastern portion of the former military reservation, in upland areas that lie southeast of the main garrison area. The Bureau land includes more than 50 miles of public trails, 12 habitat types, areas of concern such as riparian forest, perennial grasslands, and vernal pools, and 35 species of special-status plants and animals and their native coastal habitats.

Air Quality Regulatory Context

Air quality within the North Central Coast Air Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the air basin are discussed below.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency is responsible for enforcing the 1990 amendments to the Federal Clean Air Act and the Federal ambient air quality standards that it establishes. These standards identify levels of air quality for six “criteria” pollutants which are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The six criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, and lead.

In response to its enforcement responsibilities, the U.S. Environmental Protection Agency requires each state to prepare and submit a State Implementation Plan that describes how the state will achieve the Federal ambient air quality standards by specified dates, depending on the severity of the air quality within the state or air basin.

The North Central Coast Air Basin was previously a nonattainment area for the federal ozone standard, but was designated as an ozone Federal Maintenance Area on March 18, 1997, requiring continued implementation of measures from the State Implementation Plan to maintain the ambient pollutant levels below federal standards. With the exception of a violation of the federal PM10 standard in Davenport in 1995, there have been no recorded violations of federal standards for any other pollutants within the air basin. The air basin is designated as attainment or unclassified with respect to the federal ambient air

quality standards for the other criteria air pollutants. Table 2-8 summarizes the air basin attainment status with respect to the federal and state ambient air quality standards.

**TABLE 2-8
AIR BASIN ATTAINMENT/NONATTAINMENT DESIGNATIONS**

Pollutant	National	State
Ozone ^a	Attainment	Moderate Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
PM10	Attainment	Nonattainment
Lead	Unclassified/Attainment	Unclassified/Attainment

^a Current designations for the national ozone standard apply to the 1-hour-average standard. U.S. EPA has not yet designated areas for the recently established national 8-hour-average ozone standard, but is likely to designate the North Central Coast Air Basin as nonattainment for the 8-hour national ozone standard based on existing monitoring data (California Environmental Protection Agency, Air Resources Board, 2000a).

Source: California Environmental Protection Agency, Air Resources Board, 2003b

The following describes the six criteria pollutants.

Ozone. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions. Reactive organic gases and nitrogen oxides, which are emitted directly to the atmosphere, are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursor presence for approximately three hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production.

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. Carbon monoxide is formed by the incomplete combustion of carbon-containing material. Because it is directly emitted from combustion engines, carbon monoxide can have adverse localized impacts, primarily in areas of heavy traffic congestion. Because it is emitted directly and has limited dispersion characteristics, carbon monoxide is considered a localized pollutant (MBUAPCD, 2002). Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and

temporal distributions of vehicular traffic. Carbon monoxide concentrations are also influenced by wind speed and atmospheric mixing.

When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

Carbon monoxide concentrations are expected to continue to decline in the North Central Coast Air Basin into the future due to existing controls and programs as well as the continued retirement of older, more polluting vehicles from the mix of vehicles on the road network (MBUAPCD, 2000).

Suspended Particulate Matter (PM10 and PM2.5). PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. One common source of PM2.5 is diesel emissions. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Particulates also can damage materials and reduce visibility.

Nitrogen Dioxide. Nitrogen dioxide is the “whiskey brown” colored gas readily visible during periods of heavy air pollution. The major sources of nitrogen dioxide are vehicular, residential, and industrial combustion. Excessive nitrogen dioxide exposure can cause airway constriction for asthmatics and can cause sore throats, breathing difficulties, and respiratory infections.

Sulfur Dioxide. The major source of sulfur dioxide in the air basin is combustion of high sulfur fuels. Excessive sulfur dioxide exposure can cause airway constriction for asthmatics and can cause sore throats, breathing difficulties, and respiratory infections.

Lead. Gasoline powered automobile engines used to be the major source of airborne lead in urban areas. Excessive exposure to lead concentrations can lead to gastrointestinal disturbances, anemia, kidney disease, and in severe cases neuromuscular and neurologic dysfunction. The use of lead additives in fuel has been eliminated in California, and lead concentrations have subsequently declined substantially.

California Air Resources Board

The California Air Resources Board, a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act, responding to the Federal Clean Air Act requirements, and for regulating emissions from motor vehicles and consumer products within the State.

Like the U.S. Environmental Protection Agency, the California Air Resources Board has established ambient air quality standards for the state (state standards) for the same six criteria pollutants as the federal Clean Air Act. The state standards are more stringent than the federal air quality standards. The amendments to the California Clean Air Act require air pollution control districts to achieve the state standards by the earliest practicable date.

The North Central Coast Air Basin is classified as a moderate nonattainment area for ozone. Levels of PM10 also exceed state standards throughout the air basin and, therefore, it has been classified as a nonattainment area. The air basin is in attainment of the state and federal standards for carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

Monterey Bay Unified Air Pollution Control District

The management of air quality in the North Central Coast Air Basin is the responsibility of the Monterey Bay Unified Air Pollution Control District. The Air Pollution Control District is responsible for bringing and/or maintaining air quality in the air basin within federal and state air quality standards. Specifically, the District has the responsibility to monitor ambient air pollutant levels throughout the air basin and to develop and implement attainment strategies to ensure that future emissions will be within federal and state standards.

Air Quality Management Plan. As discussed previously, the federal and state Clean Air Acts require the preparation of plans to reduce air pollution to healthful levels. The Air Pollution Control District has responded to this requirement by preparing a series of Air Quality Management Plans, the most recent and rigorous of which was approved by the Governing Board of the District in May 2001. The District expects to publish and update of the Air Quality Management Plan in early 2004 (Brennan, 2003).

The 2000 Air Quality Management Plan was designed to address attainment of the state standards for ozone. At this time, the air basin continues to exceed the state ozone standard. Because it has not violated the state ozone standard more than three times at any monitoring location within the district during the calendar year of 2000, the district is designated “nonattainment-transitional” for ozone by operation of law. Ozone concentrations exceeded state standards once during

the 1997-2001 period. The nonattainment of the state standards is reflective of the impact of the transport of emissions from the San Francisco Bay Area, uncertainties related to emission reduction estimates, and local meteorological conditions.

Modeling conducted by Air Pollution Control District shows that the area within the air basin exceeding the state ozone standard will be smaller by 2010, but that some areas of the basin may still not achieve the standard with current control measures in place. Transport from the San Francisco Bay Area and the San Joaquin Valley will also continue to influence the attainment status (California Environmental Protection Agency, Air Resources Board, 2000b). Results indicate that 50 percent of exceedances are the result of transport from the Bay Area.

In order to address the attainment of the State standards for PM10, the Air Pollution Control District prepared the 1998 Report of Attainment of the California Fine Particulates Standard in the Monterey Bay Region. This report found that existing controls on sources of nitrogen oxides emission, which serve as precursors to PM10, may lead to attainment and maintenance of the state PM10 standard through 2010.

Monterey Bay Unified Air Pollution Control District Rules and Regulations.

The Air Pollution Control District is responsible for limiting the amount of emissions that can be generated throughout the air basin by various stationary and mobile sources. Specific rules and regulations have been adopted by the Governing Board which limit the emissions that can be generated by various uses and/or activities, and identify specific pollution reduction measures which must be implemented in association with various uses and activities. These rules not only regulate the emissions of the six criteria pollutants, but also toxic emissions and acutely hazardous materials. They are also subject to ongoing refinement by the District. Emissions sources subject to these rules are regulated through the District's permitting process and associated monitoring.

CEQA Air Quality Guidelines. In September 2001, the Air Pollution Control District prepared its CEQA Air Quality Guidelines as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The CEQA Air Quality Guidelines is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that the District uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

This environmental analysis of the proposed general plan was prepared following the recommendations of the CEQA Air Quality Guidelines.

Water Quality Regulatory Background

Regulatory authorities exist on both the state and federal levels for the control of water quality in California. The major federal legislation governing the water quality aspects of the project is the Clean Water Act, as amended by the Water Quality Act of 1987. The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The State of California’s Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The State Water Resources Control Board administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Boards conduct planning, permitting, and enforcement activities.

State and Regional Water Quality Control Board

The primary responsibility for the protection and enhancement of water quality in California has been assigned by the California legislature to the State Water Resources Control Board and the nine Regional Water Quality Control Boards. The state board provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal laws and regulations. The regional boards adopt and implement water quality control plans (basin plans) that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems.

The project area lies within the jurisdiction of the Central Coast Regional Water Quality Control Board. The Central Coast Board has set water quality objectives for oceanic waters, including Monterey Bay, with respect to temperature dissolved oxygen, pH, and radioactivity. Designated beneficial uses of coastal waters within Monterey Bay are described in the Basin Plan and include recreational use, industrial service supply, sport fishing, shellfish harvesting, navigation, marine habitat, wildlife habitat, rare, threatened, and endangered species, and an area of special biological significance (Central Coast RWQCB, 1994).

Construction Activity Permitting. The Central Coast Board monitors and enforces the National Pollutant Discharge Elimination System stormwater permitting for the region. The State Board administers the National Pollutant Discharge Elimination System Permit Program through its General National Pollutant Discharge Elimination System Permit. Construction activities of one acre or more are subject to the permitting requirements of the National

Pollutant Discharge Elimination System General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The project sponsor must submit a Notice of Intent to the state board in order to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a stormwater pollution prevention plan, which must be prepared before construction begins. Components of stormwater pollution prevention plans typically include specifications for best management practices to be implemented during project construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. In addition, a stormwater pollution prevention plan includes measures to minimize the amount of pollutants in runoff after construction is completed, and identifies a plan to inspect and maintain project best management practices and facilities.

Monterey Bay National Marine Sanctuary

The Monterey Bay National Marine Sanctuary was designated by Congress in accordance with the National Marine Sanctuary Act. The National Oceanic and Atmospheric Administration has been assigned responsibility for managing the Nation's thirteen National Marine Sanctuaries and has developed regulations uniquely suited to protect the resources at each sanctuary. The Monterey Bay National Marine Sanctuary incorporates over 276 miles of shoreline and 5,322 square miles of ocean, encompassing a region from Marin County south to Cambria (NOAA, 2003b). The National Marine Sanctuary Program is currently updating the joint management plan for the Monterey Bay, Cordell Bank, and Gulf of the Farallones Sanctuaries.

Geology and Soils Regulatory Background

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zones Act), signed into law in December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). Surface fault rupture is not necessarily restricted to the area within a Fault Rupture Hazard Zone, as designated under the Alquist-Priolo Act. The project site is not located within such a zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by California Geological Survey Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards (CGS, 1997c). The project site has not been investigated for possible designation as a Seismic Hazard Zone by the California Geological Survey.

California Building Code

The California Building Code is another name for the body of regulations known as the California Code of Regulations, Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988).

Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The California Building Code incorporates the Uniform Building Code by reference and includes necessary California amendments. These amendments include criteria for seismic design. About one-third of the text within the California Building Code has been tailored for California earthquake conditions (ICBO, 1997). The 1997 Uniform Building Code, the code currently adopted by Monterey County, requires extensive geotechnical analysis and engineering for grading, foundations, retaining walls, and structures within zones. The project site is located within Zone 4, which, of the four seismic zones designated in the United States, is expected to experience the greatest effects from earthquake ground shaking and therefore has the most stringent requirements for seismic design.

Noise Regulations, Plans, and Policies

Noise is regulated in the project area through implementation of local general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth specific standards and procedures for addressing particular noise sources and activities.

Monterey County

The Monterey County General Plan (1996) describes the County as having no major or large scale noise problems. The County is characterized by large expanses of undeveloped lands with few noise sources. The population density in the unincorporated areas is generally limited to the point of having few residential areas, schools, hospitals, or other noise sensitive facilities located in areas experiencing levels in excess of 60 decibels¹² (dBA) Ldn¹³ (County of Monterey, 1996).

The noise element of the Monterey County General Plan identifies goals, objectives, and policies related to noise. The County uses the land use compatibility guidelines presented in Table 2-9 to guide planning in the County. The table identifies noise zones for each land use and rates them as normally acceptable, conditionally acceptable, normally unacceptable, or clearly unacceptable.

City of Seaside

The Noise Element of the *Seaside Draft General Plan* (2003) describes noise from transportation activity as the primary component of the noise environment in Seaside, particularly along transportation corridors that traverse the community, including SR 1. It also describes noise sensitive land uses as including recreation areas, as well as residences, schools, hospitals, and religious meeting places, because excessive noise can diminish enjoyment of parks and open space (City of Seaside, 2003). The City of Seaside has established land use compatibility guidelines for noise, which are summarized in Table 2-10.

Hazardous Materials Regulatory Setting

Definitions

Hazardous Materials. Hazardous materials are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gases).¹⁴

¹² A decibel is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called “sound level”) measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

¹³ Day-Night Average Sound Level (Ldn) is the average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

¹⁴ Title 22 of the California Code of Regulations, Division 4.5, Chapter 11, Article 3.

**TABLE 2-9
MONTEREY COUNTY LAND USE COMPATIBILITY FOR EXTERIOR COMMUNITY NOISE**

Land Use Category	Levels of Acceptability (dBA, Ldn) ^a			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Passively used open spaces	50	50 to 55	55 to 70	more than 70
Actively used open spaces – Playgrounds, Neighborhood Parks	50 to 67	--	67 to 73	more than 73
Residential – Low Density Single Family, Duplex, Mobile Homes	50 to 55	55 to 70	70 to 75	more than 75
Residential – Multi Family	50 to 60	60 to 70	70 to 75	more than 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 to 60	60 to 70	70 to 80	more than 80
Transient Lodging – Motels, Hotels	50 to 60	60 to 70	70 to 80	more than 80
Auditoriums, Concert Halls, Amphitheaters	45 to 50	50 to 65	65 to 70	more than 70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 to 70	--	70 to 80	more than 80
Office Buildings, Business Commercial and Professional	50 to 67	67 to 75	more than 75	--
Industrial, Manufacturing, Utilities, Agriculture	50 to 70	70 to 75	more than 75	--

^a Levels of Acceptability are defined as follows:

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development clearly should not be undertaken.

Note: Noise ranges are applicable at the Fort Ord Dunes boundary.

Source: Monterey County Planning Department, 1982

**TABLE 2-10
CITY OF SEASIDE NOISE/LAND USE COMPATIBILITY STANDARDS**

	Community Noise Equivalent Level (dBA)					
	55	60	65	70	75	80
Residential – Single Family, Multifamily, Duplex	A	B	B	C	--	--
Residential – Mobile Homes	A	B	C	C	--	--
Transient Lodging – Motels, Hotels	A	B	B	C	C	--
Schools, Libraries, Churches, Hospitals, Nursing Homes	A	B	C	C	--	--
Auditoriums, Concert Halls, Amphitheaters	B	C	C	--	--	--
Sports Arenas, Outdoor Spectator Sports, Amusement Parks	A	A	B	B	--	--
Playgrounds, Neighborhood Parks	A	A	B	C	--	--
Golf Courses, Riding Stables, Cemeteries	A	A	A	B	C	C
Office and Professional Buildings	A	A	B	B	C	--
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Agriculture	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A

A = Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

B = Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

C = Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

-- = Clearly Unacceptable: New construction or development clearly should not be undertaken.

Note: Noise ranges are applicable at the Fort Ord Dunes boundary.

Source: City of Seaside, 2003

Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications, as well as in residential areas to a limited extent.

The Environmental Protection Agencies California-modified preliminary remediation goal for lead in residential soils is 150 milligrams per kilogram, which serves as a guideline for clean-up standards, but is not a required standard. The California-modified goal is lower than the general residential preliminary remediation goal for Environmental Protection Agency Region 9 of 400 mg/kg, and was developed using California Environmental Protection Agency toxicity standards.

There are multiple California standards for lead. The California Department of Health Services guidelines and California Code of Regulations state that lead levels above 400 mg/kg in bare soil where children will be playing is hazardous, and above 1,000 mg/kg elsewhere is considered hazardous.

Hazardous Waste. A hazardous waste is any hazardous material that is discarded, abandoned, or is to be recycled. The criteria that render a material hazardous also make a waste hazardous.¹⁵ Hazardous materials and wastes can result in public health hazards if released to the soil, groundwater, or air.

The California Environmental Protection Agency, Department of Toxic Substances Control regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. Total lead levels below 1,000 mg/kg are considered non-hazardous waste, and may be considered hazardous over 500 mg/kg, depending on soluble lead levels; soluble lead levels in soil above 5 micrograms per liter are considered hazardous waste.

As a former military establishment, investigation and remediation activities at Fort Ord are overseen by the U.S. Environmental Protection Agency, in coordination with Central Coast Regional Water Quality Control Board, and the National Oceanic and Atmospheric Administration. Monterey Bay is a federally designated marine sanctuary, and therefore all former Fort Ord Dunes and future Fort Ord Dunes State Park activities that may impact the Bay, such as stormwater discharge, are overseen by National Oceanic and Atmospheric Administration.

¹⁵ California Health and Safety Code, Section 25151.

Worker Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health and the federal Occupational Safety and Health Administration are the agencies responsible for assuring worker safety in the workplace. The California Division of Occupational Safety and Health assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices.

Other Relevant Regional Plans and Policies

Additional regional plans may influence the unit that represent adjoining jurisdictions or geographic areas, such as:

- Monterey County Local Coastal Program, North County Land Use Plan (City of Marina to Pajaro River)
- Programmatic Agreement with the Advisory Council on Historic Preservation
- Transportation Agency for Monterey County Plans

ZONE OF PRIMARY INTEREST

State Park's concern for any environmental changes or ongoing impacts outside the unit that could jeopardize or degrade State Park System values are thought of as zone(s) of primary interest. At Fort Ord Dunes, the Department is generally concerned with the following:

- This area is adjacent to SR 1 freeway where traffic noise impacts the unit and is adjacent to the former Fort Ord military reservation main garrison area, where storm drains collect runoff and discharge it into the unit
- The zone also includes the littoral zone north and south where sand mining or the construction of structures on the beach could disrupt the littoral sand supply, resulting in a permanent or progressive loss of beach sand

In addition, the Department is concerned about activities on all lands, no matter how far from the unit, that can, through their development and use, adversely affect the resources and features within the unit. Air pollution generated by automobile traffic, hazardous material spills into either the Bay or within the coastal drainage area, construction visible from the unit, and unregulated access routes to the unit all potentially could affect Fort Ord Dunes. The Department officials should be aware of these potential threats and take action whenever possible to minimize them.

DEMOGRAPHIC PROFILE

The jurisdictions adjacent to Fort Ord Dunes encompasses a range of ethnic and income levels (see Table 2-11). The Cities of Marina and Seaside have a median age and ethnic representation that is very similar to the County representation, while the City of Sand City's small population has an older median age and is less diverse. The Cities of Marina and Seaside have family household, non-family household, and average household percentages similar to that of the County, while the City of Sand City has a greater number of non-family households and a smaller average household size. All three cities and the County have a similar average family size. Household income for the three cities tends to be lower than for the County, particularly for Sand City.

**TABLE 2-11
FORT ORD DUNES AREA DEMOGRAPHICS CHARACTERISTICS**

	City of Marina	City of Seaside	City of Sand City	Monterey County
Total Population	25,101	31,696	261	401,762
Median Age	32.3 years	29.5 years	37.7 years	31.7 years
Race				
White	43.7%	49.2%	71.3%	59.4%
Black or African American	14.3%	12.6%	5.0%	4.1%
American Indian or Alaska Native	0.7%	1.0%	3.1%	1.0%
Asian	16.3%	10.1%	1.5%	6.6%
Native Hawaiian and Other Pacific Islander	2.1%	1.3%	0.0%	0.4%
Other	14.8%	18.4%	14.6%	24.6%
Two or more	8.0%	7.3%	4.6%	4.0%
Hispanic or Latino (or any race)	23.2%	34.5%	27.6%	40.8%
Not Hispanic or Latino	76.8%	65.5%	72.4%	59.2%
Households / Housing				
Family Households	71.3%	75.2%	41.3%	72.5%
Nonfamily Households	28.7%	24.8%	58.8%	27.5%
Average Household Size	2.79 persons	3.21 persons	2.46 persons	3.14 persons
Average Family Size	3.25 persons	3.59 persons	3.42 persons	3.65 persons
Household Income in 1999				
Less than \$10,000	7.3%	6.4%	10.5%	6.4%
\$10,000 to \$24,999	19.0%	19.3%	35.5%	16.1%
\$25,000 to \$49,999	32.4%	34.8%	29.0%	29.3%
\$50,000 to \$74,999	20.4%	22.0%	13.2%	20.9%
\$75,000 to \$99,000	10.8%	9.8%	5.3%	11.9%
\$100,000 or more	10.2%	7.8%	6.5%	15.2%
Median Household Income	\$43,000	\$41,393	\$34,353	\$48,305

Source: U.S. Census Bureau, 2000

It is anticipated that, as California's population grows, assuming no major national or statewide economic issues, use of the park will also continue to increase. Tables 2-12 and 2-13 demonstrate statewide and local population and race projections. While it is expected that the state and county populations will increase by approximately 30% between the years 2000 and 2020, population in the local communities is expected to grow at a much higher rate: approximately 125% in the City of Marina, approximately 55% in the City of Seaside, and nearly 400 percent in the City of Sand City (AMBAG, 1997; State of California Department of Finance, 1998). The increase in the local population is significant for the future of Fort Ord Dunes State Park as the increased population would likely result in a corresponding demand for nearby recreation opportunities. The ethnic representation projected within the County for the year 2020 will be similar to existing representation; however, statewide projections indicate a much Hispanic percentage representation and a lower white percentage representation (State of California Department of Finance, 1998). The population of Americans aged 55 or older is expected to be the fastest growing demographic and is expected to increase from approximately 19% to 26% of California's population between 2000 and 2020. The growth of this segment of the population within Monterey County is not expected to be somewhat slower and is projected to increase from approximately 17% to 22% (State of California Department of Finance, 1998). The increase of this segment of the population is significant for the future of Fort Ord Dunes State Park, as older Americans generally have more leisure time and the ability to buy expensive recreational equipment.

SITE CONSTRAINTS AND OPPORTUNITIES

Site constraints and opportunities were determined on the basis of the physiographic, natural, cultural, and social resources of the proposed park along with issues and opportunities identified by agencies and the public. These factors were used to formulate the opportunities and constraints to public uses, programs, facilities, and park operations.

SITE CONSTRAINTS AND LIMITATIONS

LAND USE

Areas to the east of Fort Ord Dunes are slated for redevelopment, following the guidelines of the Fort Ord Reuse Authority, the cities of Marina and Seaside, and Monterey County. Planned development includes residential, commercial retail, and public/institutional land uses. Fort Ord Dunes development may be constrained by these land uses, if adjacent land uses are incompatible with, or limit, recreation use or if adjacent land use limits potential park access.

**TABLE 2-12
POPULATION PROJECTIONS**

	2000	2005	2010	2015	2020
California	34,653,395	--	39,957,616	--	45,448,627
Monterey County	400,907	435,453	472,562	503,669	536,609
City of Marina	20,618	27,941	34,026	42,467	46,607
City of Seaside	29,832	34,624	39,078	42,435	45,791
City of Sand City	243	682	941	1,031	1,207

Source: AMBAG, 1997; State of California Department of Finance, 1998

**TABLE 2-13
RACE/ETHNICITY PROJECTIONS FOR MONTEREY COUNTY AND CALIFORNIA, 2020**

	Monterey County ^a		California	
	Population	%	Population	%
White	149,824	26.1%	18,123,325	39.9%
Hispanic	357,095	62.1%	17,778,492	39.1%
Asian or Pacific Islander	36,966	6.4%	6,474,153	14.2%
Black	28,700	5.0%	2,806,398	6.2%
American Indian	2,517	0.4%	266,259	0.6%
Total	575,102		45,448,627	

^a Note that State of California Department of Finance projections differs slightly from Association of Monterey Bay Area Governments projections reported on Table 2-12.

Source: State of California Department of Finance, 1998

GEOLOGY AND SOILS

The steeply sloping, easily eroded sand dunes within Fort Ord Dunes are highly susceptible to erosion and slope failure, especially when vegetation is removed or nonexistent, as described under Geologic Hazards, above. Much of the California coast is actively eroding due to a number of complex factors, but principally due to oceanographic and human activities. Coastal erosion along the Central California is estimated at 1.5 feet to 7 feet per year, depending upon the severity of winter storms (USACOE, 1983). Fort Ord Dunes is emblematic of the coastal erosion that has taken place statewide. In addition, the Coastal Beach

and Dune Land soils that underlie Fort Ord Dunes are also highly susceptible to wind erosion.

The California Coastal Act (Public Resources Code, Section 30000 et seq.) requires that new development minimize risks to life and property in areas of high geologic, flood, and fire hazard, assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs (Public Resources Code, Section 30253).

Strong ground movement and associated liquefaction from a major earthquake could affect Fort Ord Dunes in the near future, as described under Geologic Hazards, above. Earthquakes on the active faults in the vicinity of Fort Ord Dunes are expected to produce a range of ground shaking intensities at the project site, which may be intensified by the unconsolidated alluvial material that underlies the dunes. Development of facilities at Fort Ord Dunes would need to comply with the most stringent Uniform Building Code requirements for seismic design.

Fort Ord Dunes is located in an area subject to tsunamis with a maximum wave height of 11 feet in Monterey Harbor, as described under Geologic Hazards, above.

NOISE

Traffic noise from vehicles traveling SR 1 and other nearby roadways may be considered negative from a recreational standpoint and may constrain recreational development in some areas of the dunes property.

BIOTIC RESOURCES

Dune landforms, where vegetation cover is typically thin and the surface variable, are not able to withstand extensive human disturbance without impacts to their stability. However, many native plants have adapted to the severe wind, exposure, salt spray, and sand blowing conditions that are associated with dune landforms. Fort Ord Dunes includes several sensitive coastal dune communities, and special-status plant and animal species, as described under Biotic Resources, above.

Special-status plant species present include: Monterey spineflower, Yaden's wallflower, sand gilia, coast wallflower, Monterey ceanothus, and, sandmat manzanita. These species are primarily found within coastal dune communities. Fort Ord Dunes includes Critical Habitat (Unit C) as designated by USFWS for Monterey spineflower.

Special-status animal species present include: Smith's blue butterfly, Western snowy plover, globose dune beetle, and black legless lizard. In addition, special-status bird species protected by the Migratory Bird Treaty Act and special-status bat species may be present at the dunes. Fort Ord Dunes includes Critical Habitat (CA-7 Monterey Bay Beaches, Unit 5 Fort Ord/Seaside Beaches) as designated by USFWS for Western snowy plover.

Further, the Department is currently restoring habitat for special-status plant and animal species covered in the HMP and Draft HCP, including Monterey spineflower, sand gilia, coast wallflower, and Smith's blue butterfly. As these habitats recover, human activities in their vicinity would need to be minimized due to the sensitivity of these habitats to perturbation.

AESTHETIC RESOURCES

Views from Fort Ord Dunes to the east include SR 1 and development east of the highway. Views of these features may be considered negative from a recreational standpoint and may constrain recreational development in some areas of the dunes property.

Fort Ord Dunes is visible from many short-range, medium-range, and long-range vantage points. Fort Ord Dunes is seen by millions of people annually as they travel along SR 1, and from former Fort Ord military reservation lands east of SR 1. The views from the highway are an important scenic resource in the unit that could be diminished by development in some areas of the dunes.

RECREATION RESOURCES

In addition to the other constraints described in this section, the heavy surf, strong rip currents, strong winds, and cold water temperatures present offshore of Fort Ord Dunes limit the type of water activities that can be enjoyed at Fort Ord Dunes. Moreover, the lack of trees for use as wind and sun protection may also be a constraint to some forms of recreation.

OPERATIONS AND FACILITIES

The existing abandoned wastewater treatment plant and sewage pumping station and a possible future desalination plant may limit recreation use in the vicinity of these facilities over the long-term. In addition, stormwater percolation basins may limit recreation use in the vicinity of the stormwater facilities during the lifespan of these facilities (future redevelopment of former Fort Ord military reservation will include percolation basins east of SR 1, to ultimately replace the basins within Fort Ord Dunes).

CIRCULATION

The existing roadway network that provides access to Fort Ord Dunes is limited; 8th Street is currently the only vehicle access to the dunes. There is also a SR 1 underpass at 1st Street into Fort Ord Dunes that is currently closed by large concrete blocks. Access to the dunes from either 8th Street or 1st Street would require passage through City of Marina and/or City of Seaside streets, contributing to traffic levels on those roadways.

EMERGENCY AND PUBLIC SERVICES

Law enforcement and emergency medical response services within the park are the responsibility of Department Park Rangers and Lifeguards. Fire suppression services within State Parks are the responsibility of the California Department of Forestry and Fire Protection. Local police and fire agencies typically provide emergency services to State Park lands through mutual aid or similar agreements.

Fort Ord Dunes does not currently include functioning wastewater, water, and electrical services. Remnant portions of Army water, wastewater, gas and electric infrastructure facilities exist within the park and may be suitable for reactivation. However, abandoned infrastructure facilities at the former Fort Ord military reservation have generally been found to be in poor condition and do not meet current code requirements. The Marina Coast Water District has the responsibility to provide water and wastewater services to the former Fort Ord military reservation, through an agreement with the Fort Ord Reuse Authority. Pacific Gas and Electric provides natural gas and electricity services.

HAZARDOUS MATERIALS

Remediation activities were conducted in the backstop areas of former Army small arms firing ranges within Fort Ord Dunes. Soil was removed to a depth of 2 feet from sites considered to have a high concentration of lead contamination. High concentration areas were defined as those with over 10% percent area coverage of spent ammunition visible on the surface. As described above under Hazardous Materials, following completion of remediation activities, a human health risk assessment was conducted to determine potential health risks to future workers and visitors to Fort Ord Dunes associated with lead, copper, and antimony concentrations in remaining soils. Potential receptors evaluated in the Preliminary Remediation Health Risk Assessment included all potential land uses, such as park rangers, habitat management workers, construction workers, youth recreational visitors, and adult and child residents. Based on soil samples results, the assessment determined that future human health risks and hazards associated with lead, copper, and antimony concentrations in soils were considered unlikely. However, continued concern regarding human health risks

and hazards has been raised. Further, existing facilities and structures at Fort Ord Dunes may contain lead based paint and asbestos. In addition, a contaminated plume of groundwater underlies portions of the park.

SITE OPPORTUNITIES AND POTENTIAL

LAND USE

While existing and future development of lands to the east of Fort Ord Dunes may constrain use and access to the dunes, lands to the east of the dunes may also provide opportunities for regional connectivity to public use areas and attractions, and for interagency co-located facilities, such as park operations facilities.

The former ammunition storage bunkers have been cleared of ammunition materials, are water and moisture resistant, and can still be secured. The bunkers provide an opportunity for the Department to evaluate the possibilities of adaptive reuse for such uses as storage of maintenance supplies or interpretive facilities.

BIOTIC RESOURCES

One of the greatest assets of Fort Ord Dunes is the opportunity for future park users to experience high quality natural habitat areas in close proximity to densely urbanized areas. Dune landforms represent one of California's most degraded communities, with few naturally functioning systems left in the state. Most have been displaced by non-native plants and urban development. An additional potential opportunity is to continue restoration of functional dune ecosystems, including removal of non-native plant species, while allowing public access and beach activities in an area heretofore inaccessible to the public. The extent and quality of biotic resources at Fort Ord Dunes provides opportunities for bird watching, plant identification, and nature study.

Fort Ord Dunes also provides opportunities for connectivity to the Monterey Bay marine environment adjacent to Fort Ord Dunes, which is part of the Monterey Bay National Marine Sanctuary, and its values.

COLLECTIONS

As noted above, the former ammunition storage bunkers have been cleared of ammunition materials, are water and moisture resistant, and can still be secured. The bunkers provide an opportunity for Department collections storage.

INTERPRETIVE AND EDUCATIONAL RESOURCES

Fort Ord Dunes provides extensive interpretation and education opportunities, including:

- Geologic history of the Monterey Bay coastline, including dune formations, coastal erosion, and regional seismicity
- Sensitive plant species and communities, sensitive animal species and their habitat, and restoration activities
- Monterey Bay National Marine Sanctuary
- Historical background, including Spanish explorations, the Mexican period, and the early American period
- The development of the Fort Ord military installation beginning in 1917, the major construction period prior to and during World War II, and the role Fort Ord played in American conflicts, including the Korean War, Vietnam, and the Gulf War
- Base closure, cleanup, and restoration activities at Fort Ord Dunes

AESTHETIC RESOURCES

The gradual return of native vegetation and landforms to the dunes associated with ongoing restoration activities could enhance views from within the dunes and from adjacent areas. In addition to providing locations for interpretive and educational resources, the panoramic viewpoints of Fort Ord Dunes provide opportunity for sightseeing, birdwatching, photography, and enhancement of other passive recreation uses, such as hiking/walking; further, panoramic viewpoints provide unique locations for presentation of interpretive and educational resources.

RECREATION

Recreation activities currently occurring in nearby State Beaches (see Existing Land Uses, above) offer examples of the potential uses at Fort Ord Dunes, including but not limited to surf fishing, bird watching, picnicking, and sunbathing along the beach; photography, nature study, and walking in the dunes; and hang gliding, paragliding, radio controlled glider flying, and kite flying over the dunes and beaches. The water offers opportunities for swimming, surfing, and wading but the heavy surf, strong rip currents, and cold water temperatures limit these activities to the most experienced, best equipped, and/or most physically fit. The Fort Ord Dunes coast offers potential use for these activities when appropriate access and facilities are provided. In addition, the Fort Ord Dunes inland areas

provide opportunities for campground development and for other facilities, such as interpretive displays, trails, picnic facilities, and beach access—recreation opportunities that are in short supply in the region.

Fort Ord Dunes provides opportunities for connectivity to adjacent recreational uses, including Marina State Beach to the north, the SR 1 recreational trail, and potential future connections to nearby coastal trails. Trails within the park may become part of the proposed Monterey Bay National Marine Sanctuary Trail linking the Monterey Peninsula and Santa Cruz, as well as become portions of the California Coastal Trail.

OPERATIONS AND FACILITIES

Existing military era facilities, including bunkers and buildings, provide opportunities for adaptive reuse or restoration, for interpretation use, park support facilities and administrative functions, and storage. Facilities not needed for park purposes may be removed to enhance the visual setting of the park and to remove potentially hazardous building components. In addition, there is potential for cooperative agreements to be developed with other land management agencies to provide for operations facilities east of SR 1.

CIRCULATION

Development of Fort Ord Dunes includes opportunities to enhance and encourage use of public transit or other group transportation modes. An opportunity also exists for development of an internal circulation system that emphasizes non-vehicular travel, where appropriate. A focus on public transit and non-vehicular access may also support the local economy.

ISSUES AND ANALYSIS

The Fort Ord Dunes State Park General Plan will help to guide future management in a number of arenas. Among these are resource management, recreation planning, interpretation, and ongoing coordination with other agencies in the vicinity of the park. The following summarizes the major and primary issues that the General Planning Team identified through the planning process. Discussion of goals and guidelines relating to the issues follows in The Plan section.

BALANCE OF PUBLIC USE AND RESOURCE PROTECTION

The coastal dune communities and dune landforms that represent Fort Ord Dunes constitute an increasingly scarce resource along the California coast. The ever-present winds in the project region tend to shape the curving ridges of coastal sand dunes, making them among the most mutable and fragile

landforms. Over time, the contours shift and meander until pioneering plants take hold and stabilize the dunes. Dunes are highly susceptible to change due to high waves and wind—or the traffic of human activity.

Although California's dunes were formed over thousands of years, dune erosion is surpassing sand deposition, which has been hampered by upstream damming that prevents river sediments from reaching the shore. Coastal development and human activity has disturbed dunes at many points along the coast through the use of off-road vehicles and foot traffic, which can damage dune plants by loosening the sand around them, leaving them vulnerable to wind erosion. In the case of Fort Ord Dunes, extensive use by the military, along with the intrusion of non-native species has adversely affected the native pioneering plant communities. Moreover, special-status animal species, e.g. Smith's blue butterfly, Western snowy plover, globose dune beetle, and black legless lizard, are present although their numbers have declined due to habitat loss.

Local and statewide public recreation demand demonstrates the need and desire for additional recreation opportunities, particularly those providing coastal access and camping. Further, provision of recreational opportunities allows for development of an appreciation of natural and cultural resources and for improvement of quality of life, and mental and physical health. Fort Ord Dunes is uniquely positioned to provide for both use types, as well as to provide for regional trail connections. Consequently, balancing the need to protect these valuable resources with a need for public access and recreation is the fundamental question facing Fort Ord Dunes State Park. The installation of public facilities can introduce potential impacts to not only biological communities, but also to the visual quality of the dunes. Some public comments have emphasized the desire for fewer infrastructures and/or a muted expression of facilities in the park and the rehabilitation and preservation of natural landscapes. Because, at times, public use is correlated with impacts to sensitive habitats, the need to coordinate the most compatible public use with habitat needs is paramount. In order to achieve this, certain questions need to be addressed during the siting of facilities. Does public use adversely affect natural resources and, if so, how? Which types of use affect which resources? Can public uses be provided near habitats of sensitive species? If so, how should access be sited, designed, constructed, and managed to avoid or minimize habitat degradation and impacts to the species (BCDC, 2001)?

POTENTIAL HAZARDS

The potential hazards associated with allowing unprecedented levels of public access to the area comprising the Park boundaries is a concern for this general plan. The use of small arms firing ranges within Fort Ord Dunes resulted in lead contamination of the Dunes, and though lead remediation has been implemented,

lead levels in some areas may be unacceptable for public uses. Further, existing dunes facilities may include hazardous materials, such as asbestos and lead-based paint. In addition, the offshore surf and ocean conditions, and high winds that are associated with the dunes and beach zones, can also be a potential hazard to the public.

ACCESS WITHIN AND TO THE PARK

The ability to provide access within the dunes and beach areas is a topic of concern for this general plan. Some public comments have stated that the Park should be devoid of public access by vehicles or other non-pedestrian modes of transit, in an effort to eliminate any possible ecological damage. Conversely, some public comments have indicated that public access by vehicles is desirable, particularly to provide for recreation opportunities that meet the needs of the elderly and those with disabilities. Further, the State is responsible for providing universal access to its citizens and statewide users. By providing varied and rewarding public access opportunities, the creation of informal access routes may be reduced, which, in turn, may decrease human-wildlife encounters, habitat fragmentation, vegetation trampling, and erosion.

In addition to issues associated with the development of access routes within the park, the methods of accessing the park from nearby cities and freeways needs to be addressed. Currently, the roadway network that provides access to Fort Ord Dunes is limited; 8th Street is the only vehicle access to the dunes. There is also a SR 1 underpass at 1st Street into Fort Ord Dunes that is currently closed by large concrete blocks. Access to the dunes from either 8th Street or 1st Street would require passage through City of Marina and/or City of Seaside streets, contributing to traffic on those roadways. The potential traffic congestion and reductions in levels of service to city streets that may result from park users is a concern for nearby communities.

Recommendations to explore opportunities for the development of a circulation system that emphasizes non-vehicular travel, where appropriate, are a part of this general plan.

INTERPRETIVE THEMES

Public access allows the public to experience and appreciate natural and cultural resources and can engender public support for resource protection. Given the history of military use and, before now, limited public access to the area, Fort Ord Dunes provides extensive interpretation and education opportunities. These opportunities can span a variety of topics, from historical land use to biological and ecological succession. For instance, themes could revolve around the geologic history of the Monterey Bay coastline, including dune formations, coastal

erosion, and regional seismicity. In addition, interpretation could revolve around sensitive plant species and communities, sensitive animal species and their habitat, and restoration activities.

The park can serve as a vantage point to provide insight to the public regarding the cultural change that has taken place in the region since the early 16th Century—from the initial Spanish explorations, the Mexican Period, and the early American Period. The development of the Fort Ord military installation, which began in 1917, and the role Fort Ord played in American conflicts, including the Korean War, Vietnam and the Gulf War, is now inextricably inked to the area and the dunes themselves, making it an obvious theme for interpretation. Interpretation at this park should avoid unnecessary duplication of interpretation found or planned at other locations within the former Fort Ord military reservation, Monterey State Historic Park, the Monterey Bay Aquarium, and other interpretive facilities.

COORDINATION WITH OTHER AGENCIES AND PREVIOUS PLANNING EFFORTS

The planning efforts of other agencies and jurisdictions, including but not limited to the Fort Ord Reuse Authority, the cities of Seaside, Marina, and Sand City, and Monterey County, are tied to the process of creating a sustainable general plan and the future parks' compatibility with city and county planning policies is essential. In addition, coordinated planning is necessary for successful redevelopment of the former Fort Ord military reservation and for ongoing management of the Monterey Bay Coastline and regional recreational opportunities. To this end, a review of the applicable plans and policies was conducted. As mentioned in the Regional Planning section above, the future park would consider a number of plans, including the HMP, the Draft HCP, the Monterey County General Plan, the California Coastal Act, and the National Marine Sanctuary Act, when siting and developing park facilities and public access. Compliance with Fort Ord Reuse Authority development plans would be reviewed and considered, but is not required (California Government Code 67678).

CHAPTER 3

The Plan



CHAPTER 3

THE PLAN

INTRODUCTION

The purpose of The Plan section is to describe the desired resource conditions of the new park unit, the goals for recreation facility development, and the desired visitor experiences that will be available in the park, and to provide goals and guidelines that will direct future management efforts toward achieving those desires. The General Plan, by necessity, is visionary in nature, with much of its content driven by current issues. The General Plan does not designate detailed facilities with specific size, design, or locations. During the expected life of this General Plan, it is recognized that new technologies, different recreational needs, and new opportunities may arise that could not be foreseen at the writing of this document. Therefore, different methods can be used in the future to achieve the desired conditions within the parameters provided by this General Plan. The Plan section includes the Declaration of Purpose and Unit Vision, which set the purpose for park management and the image(s) of what it could ultimately be like in the future.

Parkwide and area goals and guidelines are prescribed, which state the management intentions and provide general guidance supportive of the park's natural, cultural, scenic, and recreational resources. A further discussion of Management Zones is also provided, including their significant values and constraints, management approaches, and management objectives. Collectively, the contents of The Plan section will provide the vision and direction for the future management, development, and use of the park.

The following Plan is designed to direct future Department-managed activities on lands conveyed to the Department by the Federal Government. No portion of this Plan is intended to dictate or direct management of private or other public properties in close proximity to the park.

UNIT PURPOSE AND VISION

The park lands continue to reflect impacts from its former intensive use by the military and the prevalence of non-native invasive plant species. Despite these factors, the park includes scenic vistas, open space, and remnant and restored natural areas. Protection and preservation are necessary to sustain and

enhance the park's natural state and its enjoyment by visitors. Adoption and implementation of this Plan will ensure that the park retains its unique character, damaged resources are restored, and the site is made available for appropriate recreation uses.

In order for the Department to facilitate public use and accomplish habitat restoration goals, management actions will address potential future visitor impacts to natural, cultural, and social resources. In addressing these potential impacts, the park will be managed to provide for visitor experiences consistent with preservation of the resources. Interpretation and education efforts will encourage public support for preservation and protection of park resources. New facilities will be sited and designed to be unobtrusive, and respectful of the scenic characteristics and resource values of the park and surrounding area.

DECLARATION OF PURPOSE

A Declaration of Purpose is required by Public Resources Code Section 5002.2(b), "setting forth specific long-range management objectives for the park consistent with the park's classification..." The Declaration of Purpose is the "mission statement" for each unit of the State Parks system and describes the purpose of the park. It is the broadest statement of management goals designed to fulfill the vision for the park and provides direction for the development of the General Plan.

The purpose of Fort Ord Dunes State Park is to preserve and make available for public use, inspiration, aesthetic enjoyment, and education, an area along the Monterey Bay shoreline of unique natural beauty and scientific significance including sandy beaches, coastal dunes, and remnants of the site's military history. All scenic, natural, cultural, and recreational resources shall be managed as a whole, preserving and restoring the natural and cultural character of the park.

The purpose will be accomplished through the management and restoration of park resources in order to ensure the perpetuation of its environmental complexes, scenic values, and history; to interpret them effectively; and to provide, consistent with resource protection, recreation facilities, educational programs, and support services as are necessary for the public's enjoyment of the unit.

UNIT VISION

The park vision provides guiding images of what the park should be like in the future, following implementation of the General Plan:

The park will retain its relatively undeveloped character and spectacular natural and scenic beauty. The undeveloped beach environment will be preserved, the coastal dune vegetation communities will continue to be restored and maintained, and sensitive plants, animals, and habitats will be protected, preserved, and expanded, resulting in a natural area unencumbered by visual intrusions to allow visitors to experience relaxation, rejuvenation, recreation, and inspiration in the park's natural environment.

The military history of the site will be remembered. Interpretation and education programs will also emphasize dune ecology and the adjacent marine sanctuary. Facilities will be developed to facilitate diverse appropriate visitor experiences in harmony with the environment, and promote preservation, appreciation, and stewardship of cultural and natural resources. The park will offer visitors of all ages, backgrounds, and abilities the opportunity to experience and discover its distinctive plant and animal life, explore the military history of the area, and enjoy the coastal environment during all seasons and times of day.

Access to the beach and other points of interest will be provided, and will emphasize the many scenic vista points from which all of Monterey Bay can be viewed. Interpretive information will be established at significant points of interest, providing visitors with a heightened awareness of the significance of the dune ecosystem. Regional trail connections and other unique regional recreation opportunities will be enhanced and established. Opportunities for partnerships, interpretation, and research will be encouraged, including cooperation with regional educational institutions and Monterey Bay area jurisdictions.

GENERAL UNIT MANAGEMENT GOALS AND GUIDELINES

DEPARTMENT MISSION

Management of Fort Ord Dunes State Park is directed by a hierarchy of mandates. The most general is the Department's Mission, which 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.

UNIT CLASSIFICATION

Classification establishes broad management guidelines and direction for public use. It provides certain resource protections under the California Public Resources Code (PRC 5019.50), California Parks and Recreation Commission Policies, and resource management directives of the Department. The park was classified as a State Park January 27, 1995. The following definition of a State Park, as described in the Public Resources Code, Section 5019.53, follows:

State parks consist of relatively spacious areas of outstanding scenic or natural character, oftentimes also containing significant historical, archaeological, ecological, geological, or other similar values. The purpose of state parks shall be to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of ecological regions of California, such as the Sierra Nevada, northeast volcanic, great valley, coastal strip, Klamath-Siskiyou Mountains, southwest mountains and valleys, redwoods, foothills and low coastal mountains, and desert and desert mountains.

Each state park shall be managed as a composite whole in order to restore, protect, and maintain its native environmental complexes to the extent compatible with the primary purpose for which the park was established.

Improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Improvements may be undertaken to provide for recreational activities including, but not limited to, camping, picnicking, sightseeing, nature study, hiking, and horseback riding, so long as those improvements involve no major modification of lands, Forests, or waters. Improvements that do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource, which are attractions in themselves, or which are otherwise available to the public within a reasonable distance outside the park, shall not be undertaken within state parks.

State parks may be established in the terrestrial or nonmarine aquatic (lake or stream) environments of the state.

The Monterey Bay State Seashore was established in 1994 by the State Legislature and approved by the governor. The State Seashore is composed of 13 state park units between Natural Bridges and Point Joe, encompassing 23 miles of shoreline and over 2,500 acres. Fort Ord Dunes State Park is a major component of the Seashore, including 4 miles of shoreline and 990 acres of property. Fort Ord Dunes State Park was added to the Monterey Bay State

Seashore by action of the State Park and Recreation Commission on January 27, 1995. The Public Resources Code defines State Seashores as follows:

5019.62. State Seashores. *State Seashores consists of relatively spacious coastline areas with frontage on the ocean, or on bays open to the ocean, including water areas seasonally connected to the ocean, possessing outstanding scenic or natural character and significant recreational, historical, archeological, or geological values. State seashores may include underwater areas within them but may not be established solely in the underwater environment.*

The purpose of state seashores shall be to preserve outstanding natural, scenic, cultural, ecological, and recreational values of the California coastline as an ecological region and to make possible the enjoyment of coastline and related recreational activities which are consistent with the preservation of the principal values and which contribute to public enjoyment, appreciation and understanding of those values.

Improvements undertaken with state seashores shall be for the purpose of making the areas available for public enjoyment, recreation, and education in a manner consistent with the perpetuation of their natural, scenic, cultural, ecological, and recreational value. Improvements which do not directly enhance the public enjoyment of the natural, scenic, cultural, ecological, or recreational values of the seashore, or which are attractions in themselves, shall not be undertaken.

GENERAL PARKWIDE MANAGEMENT GOALS AND GUIDELINES

This section presents parkwide goals and guidelines relating to resource management and visitor use and development, visitor services, interpretation, and operations. These goals and guidelines were developed in response to an evaluation of existing conditions and are intended to address existing issues and provide ongoing guidance for the incremental actions that will be taken over time to realize the long-term vision for the park. These goals and guidelines are intended to implement the purpose and vision for Fort Ord Dunes State Park on a parkwide basis, to the extent feasible, given the availability of adequate funding. The park's resources will be managed by balancing the needs for recreation with the protection and restoration of its natural resources.

The parkwide goals and guidelines apply to all geographic areas of the park. More detailed, area-specific guidelines for each management zone are described following the parkwide goals and guidelines.

A GIS database of park resources was created to analyze and map the patterns of resources within the park. While it is important to examine each resource need, it is equally important to understand the various resources collectively in order to evaluate the complete ecological system within Fort Ord Dunes. Department staff resource specialists and planners evaluated the environmental opportunities and constraints within the park when developing this General Plan. This General Plan and the GIS database will be important tools for making future management decisions and implementing area- and site-specific projects for the protection of park resources and long-term ecological health. The GIS database should be updated as more information and data is developed for park resources during area- and site-specific planning.

The goals and guidelines discussed below create a management framework that will address the Department's mission by protecting existing natural and cultural resources while establishing needed visitor use facilities and enhancing the park's resources values.

The goals and guidelines are grouped by resource topic. Some guidelines include measures to address resource agency and CEQA environmental review requirements for protection of resources during area- or site-specific project planning and implementation. Other guidelines include programs and day-to-day operational prescriptions in order to protect and restore specific natural resource values within the park.

LAND USE AND PARK RESOURCES

Resource Protection

This General Plan has been designed to protect significant natural and social resources, including but not limited to existing native vegetation and sensitive plant communities, sensitive wildlife species, geologic resources, and aesthetic resources and the relationships that bind resources into one system.

Goal: Identify, protect, preserve, and interpret significant park resources when designing, constructing, and operating area- and site-specific projects.

Guidelines

LU-1 Survey and review areas of potential impacts as part of the planning and design process for area- and site-specific projects and management plans. Employ appropriate personnel and responsible agencies, in accordance with CEQA prior to site-specific development. Follow all relevant laws and regulations, as appropriate. Project-level environmental review may tier off of the EIR prepared for the General Plan.

- LU-2 Site and design new facilities to consider together all significant resources and potential development constraints; avoiding degradation of parkwide sensitive habitat and areas of known special-status species, scenic resources, and other park resources, and avoiding placement of facilities in areas with potential hazardous materials contamination, areas with potential for erosional impact, etc.
- LU-3 Utilize GIS developed during the general planning process to continue to evaluate relationships between different resource systems, track resource management activities, evaluate progress towards individual resource goals, and provide a baseline for educational purposes.
- LU-4 To the extent feasible, maintain a cumulative list and GIS database of biological species and other resources in the park. Update the resources inventory provided in the Existing Conditions chapter of the General Plan, and associated GIS database with species observed and other park resources during surveys conducted for area- or site-specific planning or other observations by park personnel or other qualified observers over time.
- LU-5 To the extent feasible, conduct additional surveys to inventory resources in areas of the park that have not been surveyed.

Buffers

Buffers, such as dedicated open space, are areas that lie between the park's boundary and adjacent developments and serve to protect the park's resources. Land uses outside park boundaries can negatively impact parklands with visual and audible intrusions, exotic plant infestations, excessive and destructive winds, chemical pollution, competition and predation from exotic pets, wildfire, artificial light, noise, and loss of foraging or nesting habitat.

Goal: Establish, maintain, and preserve buffers around existing significant park resources.

Guidelines

- LU-6 Establish and maintain cooperative working relationships with local jurisdictions responsible for zoning and land use management of adjacent properties.
- LU-7 Seek cooperative agreements or conservation easements with adjacent landowners, neighbors, and local jurisdictions to provide for needed buffers adjacent to existing park resources.

PHYSICAL RESOURCES

Meteorology and Air Quality

Given its coastal location, air quality at Fort Ord Dunes is generally good. Motor vehicles, particularly those traveling along SR 1, are the primary sources of air pollutant emissions in and near Fort Ord Dunes. As a whole, Fort Ord Dunes is considered a sensitive receptor to air quality because it provides recreation opportunities. This General Plan has been designed to protect the good air quality at Fort Ord Dunes.

Goal: Incorporate principles and practices of protecting the park’s air quality into the park’s design, construction practices, and maintenance and operations.

Guidelines

- AIR-1 Encourage public transit service to the park by Monterey-Salinas Transit (bus service), the Transportation Agency for Monterey County (potential future railway service), and other existing and future transit service providers. Design all new permanent parking and road facilities to accommodate and encourage possible public transit service to interior park locations. Consider providing shelters at future bus stops in the park.
- AIR-2 Establish reasonable public access for pedestrians, bicyclists, and other forms of nonvehicular transportation. Consider providing bicycle racks at trail heads and public transportation nodes.
- AIR-3 Prohibit campfires on designated “No Burn Days” and inform the public when campfires are not allowed. Burn day information is available from the California Air Resources Board.

Hydrology

Fort Ord Dunes includes an underlying groundwater basin that has been compromised by saltwater intrusion and hazardous materials contamination. Fort Ord Dunes includes minimal surface water features, with the exception of newly installed percolation basins and reconditioned stormwater headwalls (see Existing Conditions and Issues). Water quality within the percolation basins and the underlying groundwater basin could be affected by construction of new facilities and impervious surfaces both within and outside the park, park operations, and visitor activities. This General Plan incorporates methods to reduce erosion potential and protect water quality.

Goal: Protect and restore water quality in the Fort Ord Dunes area.

Guidelines

- HYD-1 To the extent feasible, identify existing and potential sources of pollution/sedimentation in the park and take appropriate, source-specific abatement actions and implement best management practices. Monitor and evaluate the effectiveness of the actions and make any necessary changes based on the evaluation.
- HYD-2 Minimize deposition and discharge of sediment, debris, waste, and other pollutants into surface water runoff, drainage systems, surface water bodies (percolation basins), and groundwater.
- HYD-3 To minimize potential degradation of groundwater and Monterey Bay water quality, efforts should be made to discourage park visitors from entering percolation basin areas.
- HYD-4 During the planning and design of area- and site-specific projects, incorporate appropriate setbacks from percolation basins and storm drain headwalls and incorporate stormwater management measures, such as planting native vegetation to slow runoff before entering these features, when feasible.
- HYD-5 During the planning and design of area- and site-specific projects, minimize native vegetation removal in areas near the percolation basins and the storm drain headwalls to the extent feasible.
- HYD-6 Use water effectively and reduce water demand by:
- Considering water conserving design and equipment in new facilities
 - Encouraging water conserving landscaping and other conservation measures
 - Encouraging water conserving devices
 - Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible
 - Limiting impervious surfaces to minimize runoff; consider the use of permeable materials during the design of new or expanded roadways, parking lots, and trails
- HYD-7 Design, construct, and maintain buildings, roads, drainages, and other facilities using best management practices for erosion control and surface runoff to minimize sediment and other pollutants in stormwater flows, as required by the State Water Resources Control Board.

Develop appropriate National Pollutant Discharge Elimination System permits and other environmental compliance, providing the environmental evaluation and mitigation measures necessary to avoid, reduce, or minimize potentially significant impacts to water quality.

- HYD-8 Minimize operational use of oils and lubricants and other chemicals/hazardous materials to the extent feasible. Minimize the amount of chemical pesticides used for restoration activities, without requiring the addition of other more environmentally damaging restoration processes. Minimize the amount of chemicals/hazardous materials stored on site to the extent feasible and ensure that all storage containers meet state and federal regulatory requirements.
- HYD-9 Encourage and work with entities that discharge stormwater runoff into park percolation basins and potentially to the ocean through the remaining outfalls to minimize potential sources of sediment and pollutants from existing or new development outside of the park.

Geology and Soils

Geologic Hazards

The park is underlain by unstable dune formations, most of which are highly mobile and are subject to landslides and erosion. Steep slopes and wave action contribute to high rates of erosion. The many geologic faults in the region hold the potential for seismic impacts throughout the park. The unconsolidated, sandy soils that underlie Fort Ord Dunes could be subject to liquefaction hazards through saturation of subsurface sediments, such as those associated with stormwater percolation basins. This General Plan strives to protect the delicate and sometimes unstable geologic features of Fort Ord Dunes.

Goal: Identify potential management actions to minimize potential damage to park resources from erosion, seismic activity, or other potential adverse impacts associated with the park's geologic setting.

Guidelines

- GEO-1 Exclude construction of new facilities and permanent structures in areas expected to be subject to coastal erosion within 100 years of construction (a maximum of approximately 700 feet), based on California Coastal Commission recommendation (California Coastal Commission, 1996). Exceptions may be allowed for roads, trails, and other facilities that may be considered expendable. Existing facilities may remain in use subject to periodic health and safety inspections.

- GEO-2 Monitor and document the seismic and geologic processes affecting the park and its resources, including seacliff retreat, landslides, beach elevation, and beach width, to the extent feasible. Revise area and site-specific facility and use plans as necessary and appropriate (i.e., work towards relocating facilities planned in areas that may be threatened by coastal erosion, based on monitored rates of seacliff retreat).
- GEO-3 Undertake structural protective measures only if nonstructural measures (i.e., facility relocation, setback, redesign, biotechnical stabilization, or beach replenishment) are not feasible. If a protective structure is constructed (riprap, rock revetment, seawall, etc.), do not:
- Significantly reduce or restrict beach access
 - Adversely affect shoreline processes or sand supply
 - Significantly increase erosion on adjacent properties
 - Cause harmful impacts on vegetation, wildlife, or fish habitats
 - Place further than necessary from the structure requiring protection
 - Create a significant visual intrusion
- GEO-4 Coordinate with the various agencies studying storm damage and beach erosion problems of Monterey Bay to develop regional nonstructural solutions to beach erosion problems. If supplemental protection is required, consider utilizing beach replenishment as an ongoing, nondestructive solution that also results in a more substantial recreational land base.
- GEO-5 Consider development of an emergency services system/warnings for tsunami hazard alerts and evacuation.
- GEO-6 Restore landforms along the Fort Ord coast to natural contours to the maximum extent feasible consistent with preservation of natural and social resource values and accommodating land uses approved in this plan.

Geotechnical Investigations

Potential geological and natural hazards will be considered when planning new buildings, campsites, roads, or trails within the park, or adaptive reuse of existing facilities/structures. Site-specific investigations will be conducted in any areas where development is planned. The investigations may consist of reconnaissance geologic mapping, aerial photo surveys, and geotechnical investigations. These investigations are important to protect manmade structures, public safety, and to reduce impacts to the natural environment.

Goal: Conduct geotechnical investigations as appropriate during area- and site-specific planning to appropriately design manmade structures, protect public safety, and to reduce impacts to the natural environment.

Guidelines

- GEO-7 Include professional evaluations for the siting and design of permanent structures to mitigate potential damage from seismic groundshaking. Prepare specific geotechnical recommendations for seismic hazard mitigation, including effects of liquefaction, placement of new fill, and placement of slope protection measures.
- GEO-8 Require all new facilities to conform to the seismic design requirements of the currently accepted building code and zoning designation. If appropriate, existing facilities being adaptively reused as park facilities to be upgraded to meet Uniform Building Code Zone 4 requirements.
- GEO-9 Consider site-specific surface conditions during the conceptual design phase to evaluate the potential for soil loss by erosion, and develop means (by grading, structural measures, and/or other improvements) to control site erosion.
- GEO-10 Perform site-specific geotechnical investigations for siting and design of permanent structures, campsites, roads, and trails, as necessary, to mitigate potential damage from unstable soil, landslides, flooding, earthquake-induced damage, and potential soil or groundwater contamination.

Noise Environment

Existing noise within Fort Ord Dunes results from motor vehicles, mechanical devices associated with building operations, generators, aircraft flying overhead, and from human activities such as talking and yelling. Parks and recreational areas are considered sensitive receptors because excessive noise (in duration or intensity) detracts from the visitor experience at recreational areas. Natural sounds within Fort Ord Dunes — such as ocean surf, wind, rustling trees, birds, and animals — are not considered to be noise. This General Plan has been designed to protect the ability for visitors to hear natural sounds at Fort Ord Dunes, and reduce the occurrence and intensity of human-made sounds.

Goal: Incorporate principles and practices of protecting the park's noise environment into the park's design, construction practices, and maintenance and operations.

Guidelines

- NOI-1 Setback overnight uses and uses that are 'reflective' in nature (i.e., scenic overlooks and campsites) from SR 1 at an appropriate distance to minimize potential noise impacts from traffic noise.
- NOI-2 To the extent feasible, make efforts to reduce human-generated noise in the park that may reduce the visitor experience in the natural setting, including but not limited to:
- Site new campsites using topography and vegetation to maximize noise attenuation between the campsites and other use areas
 - As appropriate, plant additional native vegetation and create berms between campsites and other facilities to provide screening and reduce noise between sites
 - Enforce nighttime quiet hours
- NOI-3 Develop noise abatement measures as part of the planning and design process for area-specific projects, to minimize disturbance to park visitors, neighbors, and sensitive wildlife identified as occurring in the area during construction. The following construction measures should be considered:
- Restrict construction activities to daytime hours, where feasible
 - Use best available noise control techniques wherever feasible, including those for vehicles and construction equipment
 - Use hydraulically or electrically powered impact tools when feasible
 - Locate stationary noise sources as far from sensitive receptors as feasible
 - To the extent feasible, avoid construction during the nesting/ breeding seasons of sensitive wildlife known to occur in the project vicinity.

BIOTIC RESOURCES**Special-Status Species**

This General Plan has been designed to protect existing plant and animal special-status species. Most coastal dune areas of California have lost their natural qualities due to urban developments, non-native plant species, and intensive recreation use. Fort Ord Dunes includes areas that provide habitat for

many plant and animal species that are specifically adapted to and dependent upon coastal dune environments. The limited extent of the remaining habitat is why many of these species are rare, threatened, or endangered.

Four special-status animal species are known to breed, or have historically bred, within the boundaries of Fort Ord Dunes. These species include two federal or state listed species, Smith's blue butterfly and Western snowy plover; and two federal species of concern, globose dune beetle and black legless lizard. Six special-status plant species are known to occur within the Fort Ord Dunes boundaries, including Monterey spineflower, Yaden's wallflower, sand gilia, coast wallflower, Monterey ceanothus, and sandmat manzanita.

Goal: Preserve, maintain, restore, and interpret the dunes special-status species and communities.

Guidelines

- BIO-1 To the extent feasible, compile and map information on special-status, native, and non-native plant and animal species located in the park into the park's GIS database.
- BIO-2 To the extent feasible, site active recreation uses and facilities beyond the limits of direct and indirect effects for known existing special-status plant populations, and known existing special-status wildlife habitat. Limit public use of dune habitat areas to designated trails and public use areas.
- BIO-3 Establish a **Western Snowy Plover Management Program** to monitor and protect nesting areas and activities, and to establish appropriate levels of public access to these areas. When determined necessary, implement appropriate supplemental measures, such as erection of exclosures, and predator control, in accordance with the Department's "Western Snowy Plover Systemwide Management Guidelines," and as necessary through consultation with regulatory agencies and local experts.
- BIO-4 Establish measures to protect and expand hostplants in appropriate locations to benefit Smith's blue butterfly populations. Consider research efforts to assess butterfly population trends.

Native Habitat Restoration

In 1998, the Department implemented a large-scale native dune restoration project and non-native plant control project at lead remediation and recontoured sites (i.e., former rifle-firing ranges) in accordance with protocols established in the basewide HMP and the Draft HCP. As part of the restoration effort, the

Department is restoring habitat for special-status plant and animal species covered in the HMP and Draft HCP. The HMP and Draft HCP also set forth prescriptions for development and operational activities.

Goal: Continue native dune restoration and non-native plant control to reach the ultimate goal of maintaining a minimum of 700 acres of existing and restored habitat, as set forth in the HMP and the Draft HCP.

Guidelines

- BIO-5 Review all area- and site-specific planning for consistency with the basewide HMP and Draft HCP, including but not limited to: specific mitigation and monitoring actions for sand gilia, Monterey spineflower, coast wallflower, Smith's blue butterfly, black legless lizard, and Western snowy plover; and resource conservation and management measures applicable within the Coastal Dune and Invasive Species Dominant vegetation zones.
- BIO-6 Identify and maintain a minimum of 700 acres of park property that will be designated for habitat preservation and restoration. Restore natural landforms and native plant communities within this area. Restore plant communities to the conditions that prevailed in the area prior to Euro-American influences, to the maximum extent practical.
- BIO-7 Prepare a long-term **Vegetation Management Plan** that addresses restoring native dune habitats. The Vegetation Management Plan should consider incorporation of science-based management of natural and restored habitat to the maximum extent feasible, and address ecosystem processes. The Vegetation Management Plan should include specific goals and guidelines and could address the following topics, but is not limited to:
- Continuing restoration of natural processes, topography, native dune vegetation restoration, and exotic plant management.
 - Re-establishing habitat corridors
 - Developing and managing non-native plant species and replacing with native plants; priority given to most invasive and conspicuous species within the park
 - Controlling non-native predators, such as feral cats and dogs
 - Reintroducing key animal species where feasible
 - Creating buffers between habitats and high use areas

- Continuing ongoing biological monitoring
- Educating the public about natural plant and animal communities

BIO-8 Preserve large areas of coastal dune habitat. Restore land that is in degraded condition, but includes some remaining native species, and is located adjacent to intact areas of coastal dune habitat in order to create large areas of connected, viable habitat of native plants and animals. Areas that serve to connect existing and potentially restored habitat areas should be considered as a very high priority, as these corridors will re-connect remnant habitats, creating what could become an extensive network of natural habitats within the park.

BIO-9 To the extent feasible, conduct ongoing inventories to contribute to an updated comprehensive plant list for the park and to identify special-status plants, to monitor the condition of special-status plant populations, to develop partnerships with other research entities, and to provide public education to park visitors about respecting plant resources. Include specific methods for implementing these programs in the future Vegetation Management Plan.

BIO-10 Seedlings and saplings used in habitat restoration projects should originate from seed collected from native plant taxa within park boundaries or from a nearby area.

BIO-11 Coordinate with Fort Ord Reuse Authority to revegetate basins consistent with management of the basins for their intended purpose. Restore stormwater percolation basins to native dune habitat at the end of their period of use (approximately 20 years).

Native Plant and Animal Species

This General Plan has been designed to protect existing native vegetation and plant communities. The central coast floristic region, particularly at Monterey Bay, is notable for its endemic plant species. The native dune vegetation at Fort Ord Dunes is mostly absent or degraded due to intensive human use and a variety of invasive non-native plant species. Portions of Fort Ord Dunes that support native vegetation are often fragmented and have been degraded by the invasion of introduced plant species.

Numerous species of birds have been observed along the beach ranges of Fort Ord Dunes. The presence of feral animals, such as cats and dogs, and red foxes at Fort Ord Dunes, and uncontrolled domestic pets can seriously threaten native wildlife.

Goal: Rehabilitate, protect, and ensure perpetuation of park plant and wildlife species populations.

Guidelines

- BIO-12 Recognize biocorridors when there is enough information to indicate the importance or necessity of these connections to the exchange of plants and animals between the park and other wildland areas. Monitor the adequacy and effectiveness of these habitat linkages by documentation of the presence, distribution, movement, and habitat associations of the representative species using them, and where necessary, mitigated or remedied.
- BIO-13 To the extent feasible, identify the park's wildlife population trends, habitat requirements and migration routes within the park and their linkages to surrounding areas outside the park's boundary to determine potential future habitat linkage needs.
- BIO-14 Include biocorridor protection as a criterion to be used during evaluation of potential future acquisition or conservation easements from willing sources.
- BIO-15 Coordinate efforts to preserve and manage interconnecting biocorridors at a regional level, with federal, state, and local jurisdictions, regulatory agencies, and private landowners input.
- BIO-16 Work with local jurisdictions, appropriate organizations, and adjacent property owners to ensure long-term protection of park resources and ecosystems. Review and comment on all projects proposed on lands adjacent to the park to determine if they could have a detrimental effect on park lands.
- BIO-17 Minimize and, where feasible, prohibit operational activities that further the spread of non-native plant species or undesired animals. If it is necessary to regulate animal populations, use methods based on sound principles of ecosystem management that are consistent with Department Resource Management Directives.
- BIO-18 Control domestic dogs accompanying visitors to the park in accordance with the terms of California Code of Regulations Title 14, Division 3, Section 4312 (Control of Animals) or as otherwise permitted by the Department.
- BIO-19 Require landscaping, if any, to utilize only plants native to coastal Monterey Bay.

CULTURAL RESOURCES

The active dunes of Fort Ord Dunes are not considered to contain pronounced archaeological deposits due to the scant marine resources and retreating shoreline—making it an unattractive locale for early history settlement or food acquisition. Consequently, no known archeological or significant historic resources have been identified within Fort Ord Dunes. Nevertheless, previously unidentified cultural resources may be revealed during park development and use. Fort Ord Dunes does contain a rich history of use, including military use, which provides opportunities for education and interpretation, as discussed below under Interpretive and Educational Resources. Moreover, the older, stabilized dunes that represent the upland portions of the former Fort Ord military reservation should be recognized for its prehistoric land use.

Goal: Identify, protect, and interpret all significant cultural resources and features, including archaeological and historical use, within Fort Ord Dunes.

Guidelines

- CUL-1 Manage the park for the protection of cultural resources. Before implementation of surface-disturbing projects, inventory and evaluate the proposed project's area of potential effects for cultural resources by qualified personnel prior to undertaking any restoration, reconstruction or development activity. Conduct consultation with the State Historic Preservation Officer, the Native American Heritage Commission and individual Native American representatives, and the Advisory Council on Historic Preservation, as deemed necessary.
- CUL-2 Alteration, reuse, or removal of any historic or archaeological features will be subject to Public Resources Code Section 5024.5 review requirements. All construction, maintenance, or improvements of historic structures will be in conformance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* and the California Historical Building Code.
- CUL-3 In the event that a new cultural resource discovery is made at Fort Ord Dunes, immediately report the incident to the appropriate Department staff person who will determine the validity and significance of the discovery and will recommend appropriate protective or stabilization action. If a new cultural resource discovery is made and is determined to be significant, develop specific management programs, if the resource is threatened.

SOCIAL RESOURCE

Interpretive and Educational Resources

Interpretation and education are based on the premise that knowledge deepens the park experience and provides lasting benefits, not only to individuals but also to society in general. Interpretive themes define the point of view given to the presentation of the park's natural, cultural, aesthetic, and recreational resources. Interpretation and education assist in the preservation of these valuable resources by educating visitors to the impacts they have on resources and on park operations.

The park contains significant natural and military history features. This General Plan calls for sustaining native wildlife and plant habitat; thereby preserving the natural character of the area, which provides important environmental educational opportunities. The park will provide an opportunity to work closely with all levels of education providers to enhance curricula in science and history-social science frameworks as well as other frameworks. The park is in close proximity to a number of educational facilities and it will be imperative to develop communication with the education providers to ensure that interpretive and educational programming directly reflects the curriculums of local school children and the needs of other park visitors.

Specific areas of the park will have distinct and unique learning opportunities. The themes of the park will be used as a starting point to identify the rich interpretive values contained within the park.

The following presents the major interpretive themes created to help communicate resource information to the public and the interpretive goals and related guidelines for the park and its natural resources and past history. If this approach is successful, individuals will have an enriched park experience and, in turn, may be encouraged to help preserve and protect the varied resources found within the park.

Interpretive Period

The primary interpretive period for the park is from late pre-history to the present with emphasis on the past use of the land (in particular by the military) and the future use of the land. The secondary interpretive period is from geologic times to the present – the natural story.

Interpretive Themes

Interpretation relies on themes to describe the significant natural and cultural resources in personally meaningful ways. Themes help connect the various pieces of the park so that relationships between plants, animals, topography,

climate, geology, and other elements and forces can be better understood. More importantly, thematic interpretation helps the park visitor understand the role humans have played and continue to play in interacting with and modifying these resources. The unifying and primary themes that would be interpreted at Fort Ord Dunes are listed as follows.

Unifying Theme: Many cultures have left their imprints on the landscape.

Primary Themes:

- People have utilized the dunes and impacted the sensitive dune ecosystem since the Spanish Period
- The park and offshore areas are impacted by the hazardous materials and other pollutants
- The military has left the greatest imprint on the land and the community
- Volunteers and visitors are an important part of park management

Unifying Theme: The coast is a dynamic and changing place. At Fort Ord Dunes State Park we will balance the need to protect the valuable resources of the park with the need of providing public access and recreation.

Primary Themes:

- Dunes, and the vegetation and wildlife that inhabit it, represent a rare and rapidly disappearing feature of the California coast
- Protecting and restoring native plant communities is a priority at Fort Ord Dunes State Park
- The ocean view and a “sense of remoteness” are important aesthetic resources of the park
- Recreation will be an important component of the park experience

The following sections further describe topics that will be interpreted at Fort Ord Dunes for each of the unifying and primary themes listed above.

Unifying Theme: Many cultures have left their imprints on the landscape.

Primary Theme: People have utilized the dunes and impacted the sensitive dune ecosystem since the Spanish Period.

- *Territory of the Rumsen.* Interpretation will focus on the lands around the park that were once part of the territory of the Ohlone/Rumsen Indians—mostly in the upland regions of Fort Ord. The Rumsen tribelet of the Ohlone

Indians were the people most closely associated with the Fort Ord coastal area. These groups had minimal impact on the dune ecosystem.

- *Lands of the Ranchos.* The lands were once part of Rancho Rincon de las Salinas. Prior to 1877, wealthy Monterey County loan broker David Jacks acquired Tract III, a 28,000-acre area which incorporated approximately 10 miles of beachfront below the southern boundary of Rancho Rincon de las Salinas. This vast tract included the present-day Fort Ord Dunes State Park, Marina State Beach, and Monterey State Beach. Interpretation will feature maps that illustrate how current lands were once part of the ranchos.
- *Cattle grazing – impacts on the land.* Interpretation will discuss how the area was used during the Spanish and Mexican era of occupation as an area of cattle grazing and how this affected the native plants of the area.
- *The land and agriculture.* During the latter part of the 19th and early part of the 20th centuries, the area east of the Fort Ord beachfront was devoted to agriculture. Interpretation will discuss what was grown in the area and the affect on the land.
- *Military use of the dunes.* Interpretation will discuss how the natural topography and land use of the dunes has been extensively modified by the Army during construction of the fifteen firing ranges, use of the Dunes for military training and recreation (primarily former Stilwell Hall).
- *The aggressive non-natives.* The native dune vegetation at Fort Ord is mostly absent or degraded because of the aggressive growth of ice plant and other non-native species. Many of these species were planted by the Army to stabilize the dunes following construction of the firing ranges, ammunition supply point, and other facilities along the Fort Ord coast. Interpretation will describe the affect of these species on native habitats.
- *The causes of erosion.* Interpretation will discuss the many causes of erosion. People walking on the dunes and other activities that destroy vegetative cover contribute to erosion. Occasional fierce winter storms drive waves across the beaches eroding and steepening the ocean facing bluffs.
- *Sand mines – the connection to coastal erosion.* Interpretation will illustrate that sand mines that operated north and south of Fort Ord may have removed up to 300,000 cubic yards of sand per year from the littoral zone and been responsible for extensive annual coastal erosion.
- *Working together – habitat restoration.* Habitat restoration is an important resource management tool and involves members of the community. Interpretation will highlight the works of the community.

Primary Theme: The park and offshore areas are impacted by the hazardous materials and other pollutants.

- *Lead – legacy of the Army.* Interpretation will discuss how the use of firing ranges resulted in elevated lead levels, and discuss cleanup efforts undertaken by the Army and resultant lead levels. The potential impact of the lead on human health and native plants and animals will be discussed.
- *Watershed and land activities.* Interpretation will discuss how the Army and associated activities had an impact on the watershed of the area. The potential impacts of future land uses outside the park will also be discussed.
- *Coastal water quality.* Urban stormwater runoff that may be discharged from storm drains during periods of excessive stormwater flow may locally impair coastal water quality. Interpretation will discuss the impacts of stormwater run-off on coastal water quality and on park resources.
- *Connections to the Monterey Bay National Marine Sanctuary.* Most storm drain waters eventually end up in the bay which is now a part of the Monterey Bay National Marine Sanctuary. Interpretation will discuss this impact and the impact of other land use activities on the marine resources the sanctuary is trying to protect. The beaches that are a significant part of Fort Ord Dunes State Park physically connect the park to the sanctuary and park users will be advised as to their potential impact on the sanctuary during their visit to the park. One marine resource, the California brown pelican, a state and federally listed endangered species, is often observed foraging offshore at Fort Ord Dunes. Other birds include a number of inshore birds, including western grebe, surf scoter, Caspian tern, and gulls. Marine mammals that live in Monterey Bay include harbor seals, California sea lions, dolphins, whales, and the federally-listed threatened southern sea otter. Interpretation will highlight the variety of wildlife of Monterey Bay and the impact of human activity on these wildlife species.

Primary Theme: The military has left the greatest imprint on the land and the community.

- *Growth of the Army in the 1900's.* In 1917, the War Department first began acquisition in this area with a 200 acre area called Camp Clayton. The Gigling Field Artillery Target Range parcel was acquired next. In 1940, the Army began acquiring more land, including portions of Noche Bueno, Rincon de las Salinas, Rancho El Chamisal, Rancho El Toro, and Rancho Laguna. The total land area with some later deacquisitions and acquisitions was 28,044 acres.
- *Camp Ord.* The 11th Cavalry Regiment used the area in early years for counter-insurgency training. In 1933, the installation was named Camp Ord

after Major General Ortho Cresap Ord, who achieved fame in the Civil War. Interpretation will inform visitors about Ord's life.

- *A landmark – Fort Ord.* In 1940, the 7th Division was activated at Camp Ord with General Stilwell in command. During August 1940, the installation was renamed Fort Ord and became a permanent army installation. Interpretation will explain why Fort Ord has become a landmark, thus the justification for the name – Fort Ord Dunes State Park.
- *Stilwell Hall, an interface between soldiers and the local citizenry.* General Joseph W. Stilwell drew up the plans for the former Stilwell Hall with the help of men in his command. The Mission Revival style building included a bar, dance hall, and stage where many social events and ceremonies were held over the years, and created a dramatic, historic symbol of Fort Ord.
- *The legacy of the military personnel.* Many young men and women trained at Fort Ord during their military careers from World War II through more recent wars such as the Panama Conflict and Persian Gulf War. Interpretation will focus on the training, social events such as USO dances, and the sacrifices of the military men and women.
- *Fort Ord – transformation to a State Park.* The process of turning a former Army base into a State Park is a complex process involving legislation, the General Plan process, community involvement, and financial and infrastructure planning.

Primary Theme: Volunteers and visitors are important parts of park management.

- *Habitat restoration as a management tool.* Resource management is a primary goal in the operation of the park and a key controlling document is the basewide HMP. The HMP requires that 700 acres of the Fort Ord Coast be maintained as open space and restored to native northern foredune and dune scrub habitat; this will be an important interpretive subject.
- *Protecting these coastal lands is your responsibility.* The future environmental quality of the coastal lands lies with each visitor. Interpretation will stress how each visitor can contribute to environmental quality by making the proper life choices as far as recycling, driving habits, and resource consumption.

Unifying Theme: The coast is a dynamic and changing place. At Fort Ord Dunes State Park we will balance the need to protect the valuable resources of the park with the need of providing public access and recreation.

Primary Theme: Dunes, and the vegetation and wildlife that inhabit it, represent a rare and rapidly disappearing feature of the California Coast.

- *Coastal dunes, part of a dune system.* Interpretation will illustrate how the Fort Ord coastal dunes are part of an extensive dune system adjacent to southern Monterey Bay and the geohistory of the dune system.
- *How does a dune migrate?* Dune “blowouts” occur when the loose drifting mounds of sand move with the wind. They occur on dunes without vegetative cover. In the areas where dune blowouts exist, the prevailing winds are slowly moving the dune mass eastward. Interpretation will explain this unique process.
- *Winds of spring and summer.* Interpretation will examine the strong offshore winds that are very common during the spring and summer months.
- *The subtle microclimate of the dunes.* The large sand dunes along the Fort Ord coast produce a number of subtle microclimatic effects. The large expanses of bare sand are a heat sink, absorbing heat during sunny periods and radiating heat during foggy or cloudy periods and at night. Leeward swales between the dunes are protected from the almost constant wind and sheltered from the wind-borne salt spray. These subtle effects will be examined.
- *How dunes grow.* As wind blows sand off the beaches the sand is trapped by the vegetation causing the dunes to build, increasing in height. Without vegetation, the coastal dunes are unstable and are constantly reshaped and blown inland by the prevailing onshore winds.
- *Beaches – the interface of the land and the sea.* Coastal beach land occurs at the ocean and land interface. Portions of the beaches are covered with water during the high tides, and exposed during low tide. Drainage is excessive to very poor. Interpretation will show the connections.
- *The black legless lizard.* Interpretation will feature the black legless lizard, a state species of concern found on dune habitats supporting native vegetation and where maritime chaparral and coastal scrub occur on loose sandy soils. Interpretation will discuss why the black legless lizard is losing habitat.
- *Protecting Western snowy plover.* Western snowy plover, a federally listed threatened species and state species of concern, use beach and bare dunes areas. Biodiversity will be a component of the interpretation. Interpretation will be important especially during the Western snowy plover breeding and nesting season (March through September).

- *Butterflies and buckwheat.* Interpretation will explain why the federally listed endangered Smith's blue butterfly is completely dependent on buckwheat for oviposition and as food sources for larvae and adults, and why these plants need to be protected. Interpretation will also explain what is being done to increase Smith's blue butterfly habitat within Fort Ord Dunes.

Primary Theme: Protecting and restoring native plant communities is a priority at Fort Ord Dunes State Park.

- *Non-native species versus natives.* Interpretation will discuss how the native dune vegetation at Fort Ord Dunes is degraded because of the aggressive growth of ice plant and other non-native species.
- *Coastal Dune Zone.* The Coastal Dune Zone supports four plant communities: northern foredune, central dune scrub, northern coastal scrub, and maritime chaparral:
 - What is northern foredune? Interpretation will feature northern foredune vegetation which is dominated by perennial herbs such as wild buckwheat, seacliff buckwheat, sand verbena, and Monterey paintbrush.
 - What is central dune scrub (or coastal dune scrub)? Coastal dune scrub occurs along the Fort Ord coast and lies directly inland from northern foredune vegetation. Dune scrub species include silver beach lupine, deer weed, mock heather, coyote bush, and poison oak. Dune scrub was historically extensive on the coastal area of Fort Ord on what are now the Cities of Marina and Seaside and the Fort Ord main garrison. Only a few small patches now remain. Interpretation will feature these unique plant communities and how on-going restoration efforts within Fort Ord Dunes will improve the migration corridor for native wildlife, including Smith's blue butterfly.
 - What is northern coastal scrub? Interpretation will feature the northern coastal scrub community, which makes up roughly twenty acres of Fort Ord Dunes. The dominant shrub in this community is coyote brush.
 - What is maritime chaparral? Interpretation will feature the maritime chaparral community. Periodic disturbance such as vegetation removal are fire are important factors in maintaining chaparral and will be interpreted. Maritime chaparral is located in three small patches at Fort Ord Dunes, on the north and south sides of 8th Street and at the railroad balloon spur.
- *It's a harsh life.* Dune vegetation is adapted to the harsh environmental conditions resulting from salt spray, strong winds, shifting sands, and low soil

moisture. Adaptive features of dune plants include extensive root systems, low growing habit, hairy or waxy stems and leaves, and small fleshy leaves.

- *Protecting special-status plants.* Several special-status plant species are present in Fort Ord Dunes. Some plants have been listed by the state or federal governments as endangered or threatened. Interpretation will explain why they are special-status plants.

Primary Theme: The ocean view and a “sense of remoteness” are important aesthetic resources of the park.

- *What a view!* Interpretation will highlight that the ocean view is a significant aesthetic resource. The open, undeveloped shoreline is a major component of the positive experience park visitors and the expansive views of the dunes are a major component of the positive experience of residents and visitors as they drive within the park and along the Monterey Peninsula. View plaques could be used as a tool to highlight landmark distances.
- *Sense of remoteness.* Visitors can experience a “sense of remoteness” along the beach and dune areas of the park. This experience is taken into consideration in the planning of the unit and in the interpretation.

Primary Theme: Recreation will be an important component of the park experience.

- *Dunes: a field laboratory.* Interpretation will illustrate the wide variety of objects that can be studied in the dunes environment and the tools that can be used such as magnifying glasses, binoculars, spotting scopes, microscopes, and other tools.
- *Fishing for fun.* Interpretation will highlight fish commonly caught in the surf including surf perch, shiner perch, white sea perch, pacific sandab, California halibut, and sole (various species). It will include the best time to catch fish as well as fishing regulations.
- *Beaches and unique hiking experience.* Interpretation will contrast the unique experiences of hiking on the beaches versus hiking on boardwalks or trails through the dunes. Interpretation will explain the importance of boardwalks as a resource management tool to keep vegetation intact and to maintain the dunes.
- *Be safe at the beach.* Interpretation will aid visitors by explaining the formation and hazards of rip currents, sleeper waves, and backwash; methods swimmers can use to escape them; and other rescue techniques. It should also warn visitors about other dangers, such as stinging jellyfish, stingray, sunburn, and buried fires and glass.

Goal: Provide interpretive and educational opportunities for both in-park and out-of-park visitors that emphasize central themes that respond to the area’s sense of place, history, and meaning (as described above), and that will increase visitor’s knowledge and appreciation of the significant resources at the park and expand their understanding of ecological and cultural relationships. Heighten visitor awareness of and sensitivity to human impacts on these resources.

Guidelines

- INT-1 Prioritize coordinated park signage and park information for all park entrances, parking areas, park shuttle systems, public transit connections, trail connections, and all visitor use facilities. Design an identity and wayfinding program that will establish design guidelines and standards for park signage, and provide guidelines for the location and distribution of signs throughout the park.
- INT-2 Explore options for inclusion of interpretive displays along all trails.
- INT-3 Consider retaining and interpreting the existing firing range pit wall and associated lookouts as a physical reminder of the historic use of the property as a military firing range. Interpret other existing or former military structures as appropriate, i.e., former Stilwell Hall and the ammunition storage bunkers. If the presence the facilities interfere with landform restoration efforts it would be preferable to bury them with sand rather than physically destroying and removing them. The dunes covering them could be revegetated and an interpretive panel could describe the buried feature. Similarly, interpretive panels could describe facilities that have been removed, such as Stilwell Hall.
- INT-4 Where appropriate, provide “camping lightly” interpretive brochures informing campers of steps they can take to reduce their impact on park resources. Such instructions and restrictions could include prohibiting fire except in camping stoves and noise restrictions.
- INT-5 Consider development of an interpretive program that educates the public on ways to improve and maintain water quality.
- INT-6 Ensure all brochures, printed material, web sites, etc. reflect all of the park’s resources and values to the extent feasible.
- INT-7 To the extent feasible, ensure that programs and publications for school children are congruent with the California State Standards.
- INT-8 Coordinate efforts to protect and restore natural habitat with education programs whenever feasible, in conjunction with park-provided visitor interpretive programs, area schools, and other youth programs. Where

feasible, include technological links between the park and park facilities to other science facilities and educational institutions such as California State University Monterey Bay, and non-profit organizations providing environmental or science education.

- INT-9 Consider utilization of innovative technology to reach the out-of-park visitor, such as use of a digital network to deliver study programs to classrooms around the state.

Goal: Provide interpretive and educational program, exhibits, and displays that share of thoughts, ideas, and memories of former military personnel associated with Fort Ord Dunes.

Guidelines

- INT-10 Explore ways to develop an oral history program to document memories of former military personnel, including exhibits and displays that are coordinated with other interpretive materials regarding the past military history of Fort Ord Dunes.

Goal: Provide interpretive and educational opportunities through the active support of volunteers and cooperating associations.

Guidelines

- INT-11 Consider development of a Volunteer in Parks Program for Fort Ord Dunes State Park. Provide volunteer program management, training, evaluation, and support, as appropriate.

- INT-12 Consider developing cooperative associations and coordinate with resource and historical societies and organizations within the region to support the Fort Ord Dunes State Park interpretive program.

Goal: Provide interpretive and educational opportunities focusing on relationship of the Monterey Bay National Marine Sanctuary to Fort Ord Dunes.

- INT-13 Explore ways to develop collaborative exhibits and displays regarding the Monterey Bay National Marine Sanctuary and Fort Ord Dunes, through partnerships with the National Oceanic and Atmospheric Administration and other interested and applicable agencies and organizations.

- INT-14 Consider inclusion of information about the Monterey Bay National Marine Sanctuary, and its programs, within the overall Fort Ord Dunes State Park interpretive program.

AESTHETIC RESOURCES

Landscape Preservation

Landscapes viewed both in and from Fort Ord Dunes range in aesthetic appeal. Landscapes viewed from Fort Ord Dunes include the Monterey Bay shoreline, the cities of the Monterey Peninsula, and the outline of the Santa Cruz Mountains to the north. Views from Fort Ord Dunes to the east are dominated by SR 1 and urban development. Fort Ord Dunes is visible from many short-range, medium-range, and long-range vantage points and is seen by millions of people annually as they travel along SR 1. Implementation of the following goals and guidelines will improve the appearance of park facilities from within the park and from adjacent areas, and will protect viewsheds.

Goal: Identify, preserve, and perpetuate the distinctive landscape qualities of the dunes.

Guidelines

- AES-1 Limit the placement of park facilities and uses from which SR 1 would be visible to those uses that are not dependent on high quality aesthetic resources, such as vehicular travel, entrance stations, and paved trail use.
- AES-2 Develop unobstrusive park facilities to enhance and create public opportunities for viewing existing panoramic views from the dunes.
- AES-3 To the maximum extent practical preserve and restore the natural, undeveloped visual character of the Fort Ord coast as viewed from within the park, from SR 1, and from other areas beyond the park boundaries. Restore and revegetate natural landforms with native plant species to recreate a natural landscape.

Facility Development

Fort Ord Dunes provides views of spectacular landscapes and views. However, facilities within the park may not be in keeping with the extraordinary visual character and natural setting. Implementation of the following goals and guidelines will improve the appearance of facilities.

Goal: Ensure manmade facilities complement and do not detract from the park's natural setting.

Guidelines

- AES-4 Visually integrate park facilities into the environment through the use of siting techniques, building forms, scale, materials, and colors. Work

with adjoining jurisdictions regarding land use and development within the Fort Ord Dunes viewshed that may affect the park and its scenic resources.

- AES-5 Create architectural design guidelines that place a strong emphasis on the overall park vision, and that direct consistent implementation of design principles in all aspects of park management and development. Integrate guidelines into the design and siting of park components, buildings, and facilities to reflect the overall vision of the park. Design fencing, lighting, roads, signage, and other park infrastructure consistent with the overall park design guidelines.
- AES-6 Keep lighting levels (i.e., intensity/foot-candles) as low as feasible. Select light sources so that there is no light radiation above the horizontal plane. In particular, avoid floodlighting buildings and scenic areas. Focus lighting downward and prevent the splay of ambient light to other areas. Whenever feasible, use path-level or bollard-type fixtures that keep the light source closer to the ground. Use color-tinted and lower wattage lamps to help reduce lighting-related disturbance.
- AES-7 Generally restrict night lighting to the more developed areas of the park (i.e., buildings and parking lots) consistent with security and safety needs. Review lighting plans for compatibility with habitat values prior to construction.
- AES-8 Control lighting systems to minimize operating time. Employ an appropriate combination of time scheduling and photo switching controls rather than outdoor motion sensors, in consideration of wildlife.

RECREATION RESOURCES

Recreation Opportunities

Other than former Stilwell Hall, there are no existing or former recreation facilities within Fort Ord Dunes. The general public has not had access to the area. The park allows for development of a range of visitor facilities and services and assumes that local and regional population increases and planned development of the park will result in an increase in visitation rates. This General Plan provides the management framework to direct expansion of visitor services to accommodate some of the anticipated increases in visitation to the park and also to ensure that the park will be able to accommodate the increased numbers of visitors without damaging resources. While Fort Ord Dunes is well-suited to a range of recreational activities, many features, such as the dune landforms,

native vegetation, and sensitive species are not adapted to withstand extensive human disturbance. The following goals and guidelines are intended to guide the development and implementation of recreation services within Fort Ord Dunes State Park. Trail and access related guidelines are described under Circulation, below.

Goal: Provide, plan, and manage a variety of recreational opportunities that will allow California's diverse population to visit, enjoy, and better understand the significance of the dunes, while maintaining the highest levels of resource management and protection.

Guidelines

- REC-1 Develop recreational uses that consider both user needs and resource protection requirements and are compatible with other visitor experiences. Where feasible, develop facilities and recreational and operational use areas that are already developed, disturbed, or of low resource value. Also locate recreation uses where manageable by park staff or volunteers and where there is adequate safe access to the recreation activity areas.
- REC-2 Develop and operate recreational facilities to enable the public to see, enjoy, and understand the primary resources of the park.
- REC-3 Consider development of a park Visitor Center or coordinate with regional land use agencies for development of a Regional Visitor Center. Pursue opportunities to combine efforts with other agencies with similar interpretive missions to provide a single visitor serving facility.
- REC-4 Consider possibilities for private concessions to provide recreational activities that are not offered by the Department, such as bicycle rental. Concession developments, programs, and services must be consistent with the purpose(s) for which the park unit was established and classified, and must be consistent with the general plan for the unit. Concession activities should not duplicate visitor facilities or services that are adequately provided by nearby business communities.
- REC-5 Provide recreational facilities, services, and in the most efficient, effective and economical means available. Consider partnerships with appropriate government agencies, as well as the private sector and non-profit organizations, in order to find economies in budgeting, staffing, specialized expertise and facilities.

- REC-6 Plan recreation opportunities within a regional context. Recreation activities should not duplicate opportunities adequately provided in other regional recreation areas.
- REC-7 Technological innovations and recreation trends may generate interest in types of experiences and activities not currently available at Fort Ord Dunes State Park and the surrounding region (examples from the past few decades include board sailing and mountain biking). Consider accommodating such innovative recreational experiences and activities as they arise, if appropriate studies determine their compatibility with existing park and regional recreational, land use, and resource management goals.
- REC-8 Recognize the importance of recreation in the lives of Californians, in providing enjoyment, mental, and physical health, and an appreciation for the outdoor environment by encouraging recreation opportunities.

Universal Access

A significant portion of the population of California has some form of disability. This includes a wide range of mobility, hearing, vision and information processing impairments. In addition, nearly one third of the state's population is between 35 and 55 years of age. In 20 years this group will be 50% larger than the existing over 65 age group. It can be assumed that people with disabilities will increase dramatically during the life of the General Plan.

The Department envisions that universal accessibility and Americans with Disabilities Act compliance be integrated into the Department's culture and embodied in its programs, providing visitors, regardless of their abilities, with high-quality recreational opportunities while preserving the integrity of the park's resources.

Goal: Provide universal access to park facilities such as buildings, trails, campsites, and picnic sites and their contents, parking, and routes of travel where feasible.

Guidelines

- REC-9 Development of all existing and new facilities for public use, and associated signage and publications, to comply with Title 24, California Code of Regulations, Part 3, and California Building Code building construction standards. Develop public access and facilities consistent with Americans with Disabilities Act requirements.

- REC-10 Development of outdoor recreational facilities for public use, and associated signage and publications, to comply with the *Federal Guidelines of the Architectural and Transportation Board, Accessibility Guidelines for Recreation Facilities and for Outdoor Developed Areas*.
- REC-11 If accessibility can not be accomplished for outdoor recreational facilities, use alternative design and/or technologies to provide substantially equivalent or greater experience and usability of the facility as part of the same specific project.

Sustainability

Sustainable Design Practices

Sustainability is integrated as a basic concept within this General Plan, as illustrated in the management guidelines and recommendations for facility locations based on natural resource opportunity and constraints analysis. This General Plan also considers adaptive management techniques to monitor and adjust approaches to resource and visitor management with long-term benefits for each. Sustainable design practices can also be incorporated into future area- and site-specific planning. The benefits of sustainable design concepts and practices include:

- Increasing environmental benefits (conservation of natural resources and reduced waste)
- Reducing operating costs through less energy consumption
- Promoting better health for park visitors (for example, through use of fewer toxic and low-emitting materials and interior climate control)
- Increasing operations and maintenance efficiency (more durable products, less maintenance of toxic substances, lower maintenance costs from resource and energy conservation)
- Using adaptive management techniques to monitor and adjust approaches to resource and visitor management for long-term benefits to each

Goal: Incorporate principles and practices of sustainability into the park's design, improvements, and maintenance and operations, and utilize adaptive management principles.

Guidelines

- SUST-1 To the extent feasible, consider sustainable practices in site design, construction, maintenance, and operations. Sustainable principles used in design and management emphasize environmental

sensitivity in construction, the use of non-toxic materials and renewable resources, resource conservation, recycling, and energy efficiency.

SUST-2 Consult programs such as Leadership in Energy and Environmental Design¹ for development of facilities and site-related construction.

Waste Reduction

The California Public Resources Code requires state agencies and facilities to meet waste diversion and recycled product procurement goals. In addition, all state agencies are required to buy 11 different categories of recycled materials ranging from paper and plastic to paint, solvents, and lubricating oils. Waste reduction is a comprehensive approach involving waste prevention, reuse, recycling, and composting practices.

Goal: Reduce the amount of waste generated at the park and utilize appropriate technology in processing waste to protect the environment.

Guidelines

- SUST-3 Follow the Department's integrated waste management plan, as directed under Assembly Bill 75.
- SUST-4 Explore ways to meet the Department's commitment to reduce, reuse, recycle, and buy recycled products such as:
- Institute a recycling collection system and provide recycling bins at appropriate trash can locations
 - Reduce material use whenever feasible, and reuse and recycle materials whenever feasible
 - Reuse building products as feasible for other construction products; send those determined unusable to recycling centers or use for mulch (recycled building materials include iron, steel, wood, and plastic)
 - Explore ways to reduce waste produced through park operations and maintenance
 - Buy recycled goods whenever feasible

¹ Leadership in Energy and Environmental Design is a program of the U.S. Green Building Coalition.

- SUST-5 When feasible, equip all park facilities and public use areas with animal resistant recycling and trash bins. Include state-of-the-art green waste disposal that is screened from park view.

Circulation

Parkwide Circulation

The general public has not had access to Fort Ord Dunes in the past and the roadway network that provides access to the park is limited. A SR 1 overpass at 8th Street is currently the only vehicle access to Fort Ord Dunes. Access via 8th Street is controlled by a locked gate and access to the underpass at 1st Street into the park is currently blocked large concrete barriers. Access to the park from SR 1 is limited and would occur through streets operated by local jurisdictions. This General Plan has been designed to provide public access to Fort Ord Dunes for the enjoyment of its unique resources.

Goal: Establish a circulation system that establishes clear traffic patterns, conveys the park image, and minimizes traffic impacts.

Guidelines

- CIR-1 Consider Fort Ord Reuse Authority, Marina, Seaside, Monterey County, Transportation Agency for Monterey County, and Caltrans transportation and circulation goals, guidelines, and traffic levels of service with respect to potential park entrances and travel corridors approaching entrances. Develop a **Circulation and Access Management Plan** to assess circulation, access (including beach access), and parking demands, in coordination with the plans of other agencies.
- CIR-2 Include public access as a primary consideration for all park design and take into consideration coordination with public transit, on-site and off-site parking, connections to local parks, greenways, trails, and trailheads. Prioritize pedestrian and bicycle access at key public access points. Incorporate appropriate pedestrian and bicycle needs at all trails, trailheads, park entrances, park facilities, and parking areas. Provide additional trail access points to the park and work with local jurisdictions to enhance shared use trail connections from adjacent communities to the park. Maximize non-vehicular access at park visitor facilities, and emphasize safe and accessible connections to trails. A single controlled vehicle entrance to the park is preferred for effective management of the unit.

- CIR-3 Accommodate public transportation at all entrances and at visitor facilities within the park, as appropriate. Consider coordination of a park shuttle system linking vehicle and pedestrian/bicycle entrances and parking areas with public transportation systems in the area. Locate transit stops at park entrances; stops may be located within the park boundaries to provide safe passenger transfer.
- CIR-4 Improve and maintain primary visitor access roads and parking areas, and develop new facilities as appropriate, to safely accommodate expected visitor use.
- CIR-5 Consider providing and maintaining signs along all roads providing access to vehicles alerting drivers in advance to share the road with bicyclists.
- CIR-6 Establish a coordinated way-finding program that provides clear direction to visitors as to how to access the park. Such a program should address appropriate locations for directional signs related to vehicular access points from SR 1, the location of the visitor center and camping check-in area, and availability (or prohibition) of parking, etc.

Emergency Vehicle Access

Emergency vehicle access in Fort Ord Dunes is limited to the park's paved and unpaved roadway network, while emergencies could occur in all areas of the park. This General Plan has been designed to balance the need for sufficient and reliable emergency access and protection of the park's unique resources.

Goal: Ensure adequate emergency access to the park's visitor use and natural resource areas.

Guidelines

- CIR-7 Consult with the California Department of Forestry and the responsible local fire districts to assess emergency access to and within the park. This should include an assessment of alternative access routes.
- CIR-8 Update the park's GIS database with field-verified information on road and trail emergency accessibility as it becomes available.

Parking

Existing paved parking areas are currently limited at Fort Ord Dunes, though additional developed and disturbed areas may be suitable for parking. This General Plan has been designed to make parking space available in key visitor use areas that expand (and not harm) visitors' experience in the park.

Goal: Balance the need for parking with visitor experience, aesthetics, and protection of park's natural and cultural resources.

Guidelines

- CIR-9 Balance parking needs with alternate forms of transportation to accommodate public access to the park and serve park uses and facilities.
- CIR-10 Distribute parking areas strategically throughout the park to support proposed activities and facilities.
- CIR-11 Explore ways to minimize the use of parkland for the development of parking lots as part of the Circulation and Access Management Plan, including the following:
- Design and implement parking improvements (and parking access routes) in phases in order to be responsive to actual use and demand and to avoid development of too much parking
 - Base parking demand projections on typical use patterns, rather than worst-case or special event scenarios
 - Explore alternatives for accommodating special event parking conditions, such as the use of unpaved overflow parking areas, satellite parking areas (outside of the park), special event shuttle service, etc.
 - Explore shared parking arrangements with nearby landowners and/or commercial areas that may have excess capacity on weekends or other lower use periods

Trails

Trails allow visitors to view and enjoy the developed and natural areas of the park while also limiting human disturbance of habitat by providing designated routes for travel. Trail connections are needed to link management areas of the park and to provide more consistent access of all skill levels to enjoy remote locations. Shared-use trail loops of various lengths will allow visitors of all skill levels to enjoy the park through hiking and bicycling. The Department will also consider the development of trail connections between the many state and regional parks and open space areas in the region.

Goal: Provide a system of trails that link all management zones of the park into an integrated whole and consider development of trail connections to other nearby parks and open space providers.

Guidelines

- CIR-12 Develop a **Unit Trails Plan** that would create opportunities for visitors to enjoy the unique and diverse topography, geology, biotic communities, and scenic values of the park. The actual location, distance, and use of future trails would be governed by this plan. Include specifications and policies concerning trail construction and maintenance, coordinated with soil erosion and sedimentation control measures.
- CIR-13 Develop trails that provide for public access within the park and to adjacent regional trail systems, with priority for achieving unitwide resource management goals and objectives. Support regional trail objectives, coordinate with other land management agencies in the vicinity to evaluate and monitor resource conditions and share information to develop open space management programs and multiple use trail plans on a regional scale. Recognize the Monterey Bay Coastal Trail and California Coastal Trail as an important non-vehicular transportation corridor and an important means of unifying public use areas within the non-contiguous portions of Monterey Bay.
- CIR-14 Provide limited trail access to the natural resource areas of the park. Trails within these areas are intended to be a minimum width, utilizing low impact construction materials (such as raised boardwalks) and methods to protect habitat areas. Design routes to give walkers options of short loops or longer hikes providing overlook opportunities.
- CIR-15 Open as many trails and trail types as appropriate and feasible to shared use.
- CIR-16 Allow for development of a north-south connector trail for pedestrian and bicycle use. Consider ways to separate pedestrian and bicycle uses from vehicular use. When this is infeasible, use traffic management strategies to slow vehicular traffic. Provide bike lanes along roads.
- CIR-17 Provide trail information signage (per Department standards) as appropriate.
- CIR-18 Retain large stands of high quality or sensitive habitat without trails, or install trails around the perimeter of high-quality habitats.

Park Operations and Facilities

The built existing facilities within Fort Ord Dunes include the firing range buildings and/or foundations, wastewater treatment plant (not in use), a sewage pumping station, gabion enforced stormwater headwalls, percolation basins, ammunition storage bunkers (cleared or being used for storage), interior park roads, and the railroad balloon spur. Existing operations at Fort Ord Dunes consist of ongoing revegetation efforts by the Department and hazardous materials cleanup efforts and stormwater control measures being undertaken by the U.S. Army Corps of Engineers. This General Plan has been designed to utilize facilities in a manner that promotes the Department's mission. In addition, this General Plan addresses future park operations and support facility requirements.

Goal: Manage park operations and facilities to meet regulatory requirements and the Department's mission, protect sensitive resources, provide safety, and improve visitor experience through day-to-day operations by park staff.

Guidelines

- OPS-1 Consider establishment of a consistent, reliable system for collecting visitor use data. Accurate visitor use data is important for making informed decisions about future area-specific projects.
- OPS-2 When planning new facility development or property acquisitions, consider the needs for public safety personnel, equipment, and communication systems.
- OPS-3 Consider removal of existing structures not required for park purposes. The temporary and semi-permanent buildings within Fort Ord Dunes are not significant cultural resource features. They may be removed, demolished, or modified for adaptive reuse as needed to meet Department goals for landform and habitat restoration, recreational facility development, or other park purposes.
- OPS-4 Consider adaptive reuse of the 12 underground ammunition storage bunkers. Consider removal of any bunkers that become unsafe or undermined by coastal erosion.
- OPS-5 Establish appropriate buffer zones between park uses and facilities and the wastewater treatment plant, pumping stations, and stormwater percolation basins (temporary). Should these facilities be removed in the future, the sites should be restored and returned to natural conditions.
- OPS-6 Provide a centrally located administrative space and establish appropriate storage and maintenance facilities. Consider adaptive

reuse of existing buildings for use as park administration and maintenance facilities. Develop new facilities as needed and in accordance with local, state, and federal regulations.

- OPS-7 Explore options to provide appropriate staff housing within the park or at nearby facilities. Staff housing within or near the park is desirable for 24-hour immediate emergency response as well as providing an on site security presence.
- OPS-8 Place an emphasis on appropriately sized and designed maintenance facilities, location of support facilities needed for park maintenance and operation, and maintenance yards and facilities that are screened from view. Manage maintenance as an integral part of the park, with the goal of not intruding into park uses. Size service yards and garages for heavy equipment adequately and appropriately located to maximize convenience to high demand areas. Design park service roads so that maintenance vehicles and equipment can easily access all visitor-serving uses, recreation, and active use areas. Include appropriate accommodations for service vehicle parking, landscaping maintenance, and other related infrastructure maintenance in planning of all park facilities.
- OPS-9 Conduct facility maintenance in a manner appropriate to meet standards for public health and safety, maintain public and departmental expectations for cleanliness and appearances, meet security requirements, and extend the life span of facilities, tools, and equipment.
- OPS-10 Discourage unauthorized use of the park through education, site design, regulations, and enforcement. Coordinate with local, State, and Federal law enforcement agencies.

Emergency and Public Services

Park Infrastructure

There currently are no operational wastewater treatment facilities in operation within Fort Ord Dunes. All the water and wastewater systems at Fort Ord Dunes property are now owned and operated by the Marina Coast Water District. There currently is no water supply to Fort Ord Dunes and groundwater sources and infrastructure are limited. The Marina Coast Water District supplies water to the City of Marina and former Fort Ord military reservation with groundwater from the Salinas Basin and its headquarters are located just north of Fort Ord Dunes. This General Plan has been designed to ensure adequate water supply, wastewater treatment, and stormwater management.

Goal: Provide for appropriate park infrastructure.

Guidelines

- PUB-1 Identify potential water, wastewater, and electrical services providers and coordinate with service providers prior to area- and site-specific planning. Identify infrastructure requirements as part of all area- and site-specific planning, including analysis of potable water availability and wastewater capacity, as appropriate, when determining where and how utilities (e.g., sewer, water, drainage) will be provided.
- PUB-2 Maintain water and sanitation facilities/systems at a level required to provide adequate and safe water and sanitation.

Public Safety and Law Enforcement

The California Department of Forestry and Fire Protection facility at Carmel Hill would respond to fires at Fort Ord Dunes and may develop cooperative relationships with adjacent jurisdictions. Ambulance service is provided by Peninsula Medics (Seaside). Rescue and Air Ambulance helicopters are also available from other agencies. The Department coordinates with other regional agencies for emergency services and response to coastal incidents. Department Rangers and Lifeguards will have the primary public safety and law enforcement responsibility for the park property and the Monterey County Sheriff Department and Seaside Police Department will have concurrent jurisdiction with support from other law enforcement agencies.

Goal: Provide for appropriate public safety and law enforcement.

Guidelines

- PUB-3 Consider installation of call boxes for contacting public safety officials in key locations throughout the park.
- PUB-4 Coordinate public safety requirements between state park rangers and all jurisdictions serving the park. Consider entering into reciprocal agreements with adjacent jurisdictions, where determined appropriate.
- PUB-5 Manage park service roads and associated gating to allow easy and rapid access to the park by public safety personnel. Maintenance of fencing of the park perimeter and potential use of native vegetation designed to prevent public access both at the perimeter and in other key areas may be used where necessary. Fire roads and hydrants will be installed where necessary to facilitate fire protection.
- PUB-6 Include Fort Ord Dunes State Park in the Monterey County Coastal Incident Response Plan.

- PUB-7 Participate in cooperative efforts resulting in clear understanding by all law enforcement personnel of their responsibilities and jurisdiction with respect to protection of the park's prime resources.
- PUB-8 Restrict off-road vehicle use to public safety beach patrol, resource management, and cleanup activities.
- PUB-9 Provide for trained rescue personnel to address the level of aquatic safety concerns at Fort Ord Dunes. Rescue personnel should work closely with the Monterey Bay National Marine Sanctuary public safety program, including potential operation of rescue equipment.

Wildfire Protection

Wildfires can be a threat to human life and property and can also severely damage park resources. Planning for wildland fires can considerably reduce damage to park resources, not only from the fire itself but also from the activities of active fire suppression. For example, adverse impacts can be caused by the arbitrary construction of fire-control lines with bulldozers. Such lines have the potential to remove roots and upper organic soil horizons, thereby increasing erosion and slowing the re-establishment of vegetation. Damage to the resources can also occur from improper applications of chemical fire retardant.

Goal: Anticipate wildfires, plan strategies to preserve sensitive park resources, ensure human safety, and protect property.

Guidelines

- PUB-10 Coordinate with appropriate fire suppression agencies, such as the California Department of Forestry and Fire Protection and county and volunteer fire departments, to maintain a **Fire Management Plan** for the park. Include in the plan should all aspects of wildfire planning, including prevention, pre-suppression, and suppression. Identify modified fire suppression methods and ways to protect sensitive park resources in the plan.

HAZARDS AND HAZARDOUS MATERIALS

Historic Army operations included small arms practice in areas of the park resulting in elevated concentrations of lead in soil from ammunition remnants. Extensive testing and soil remediation of lead-impacted areas have been undertaken by the Army; however, elevated lead soil levels may exist in areas that require specialized handling and disposal (if these areas are to be used by the public). Existing facilities in the park may contain lead-paint or asbestos, and demolition or reuse of existing facilities could expose people and environment to hazards associated with these materials. Similar exposure risks exist in

association with future use of hazardous materials during park construction and operations. Finally, surf action or ocean currents may endanger park visitors.

Goal: Protect park visitors and staff from potential hazardous conditions, and park staff, visitors, and the environment from adverse impacts associated with hazardous materials.

Guidelines

- HAZ-1 Work closely with the Army, the California Department of Toxic Substances Control, and other responsible regulatory agencies to develop procedures that would assure that all contaminated sites within the Park are remediated and managed to appropriate State and Federal standards. Adopt measures to assure public and employee safety will be undertaken.
- HAZ-2 Perform a site-specific review of soil data, as appropriate, for proposed recreation uses and facilities to be located within identified lead-impacted areas prior to area- or site- specific development, and assure appropriate protection of people and the environment from potential impacts associated with handling and disposal of lead-impacted soils.
- HAZ-3 Perform hazardous material evaluations (lead based paint, asbestos) prior to implementation of project specific development associated with adaptive reuse or removal of existing facilities.
- HAZ-4 Comply with manufacturers' specifications and State standards for use, storage, transportation, and disposal of hazardous materials (pesticides, motor oils, etc.).
- HAZ-5 Restrict ocean and shoreline recreation or post appropriate warning signs during periods of high or dangerous surf. Develop emergency services system with emergency vehicle access to beach areas and warnings for high/dangerous surf alerts and evacuation/rescue.

REGIONAL PLANNING

The Department of Parks and Recreation, the Fort Ord Reuse Authority, and regional land use planning agencies, among others are actively coordinating regional planning efforts at the former Fort Ord military reservation to provide planning consistency, appropriate buffers, cumulative impact consideration, and siting of compatible development in adjacent areas. New acquisitions, land transfers, and operation of multi-jurisdictional facilities can provide opportunities for protection of important habitat and development of new recreational facilities. The District will need to evaluate whether potential future acquisition properties

or land transfer are of statewide significance and whether the District has the necessary resources before accepting management responsibility.

Goal: Continue coordination with local land use agencies regarding transfer and/or acquisition of additional nearby property, or other cooperative land management efforts.

Guidelines

- REG-1 Evaluate regional land use planning and encourage multi-agency planning, such as coordination with local cities, Monterey County, universities, youth hostels, and other land managers for locating park administration, operations, employee housing, and maintenance facilities, overnight lodging, an entrance station, or a visitor center on non-park lands nearby, particularly in previously developed and disturbed areas of the former Fort Ord military reservation located east of SR 1.
- REG-2 Consider existing and future Fort Ord Reuse Authority, Seaside, Marina, Monterey County, and other agency plans and proposed land uses within, adjacent to, and near Fort Ord Dunes as related to compatibility and capacity of potential Fort Ord Dunes uses. Planning and development should be carefully coordinated with other agencies to assure that all concerns are addressed, avoiding cumulative impacts to the extent feasible.
- REG-3 Review all area- and site-specific development plans for consistency with resource and land use plans, as appropriate, including but not limited to: Fort Ord Reuse Plan, HMP, Draft HCP, Monterey County General Plan, City of Seaside General Plan Coastal Act of 1976, USFWS, etc. Acquire area- and site-specific permits as necessary.
- REG-4 Consider development of a regional multi-agency visitor center. Pursue opportunities to combine efforts with other agencies with similar interpretive missions to provide a single visitor serving facility. Cooperative joint programs, information sharing, and multipurpose land use should be driving strategies for efficient operation. A multi-agency visitor center would be an effective means to orient and inform visitors to Fort Ord Dunes and the Monterey Peninsula.
- REG-5 Consider inclusion of Fort Ord Dunes in the basewide incidental take authorization planned for the former Fort Ord military reservation, as consistent with the requirements of the HMP and HCP.

- REG-6 Participate in public policy development that shapes and supports present and future parks. Fort Ord Dunes State Park, as the largest unit of the Monterey Bay State Seashore, offers an opportunity to present a high profile model for ecological sensitivity balanced with quality recreational use.
- REG-7 Consider acquisition or land transfer of properties by willing sellers if the property meets appropriate criteria, such as:
- Property would contribute to a complete and more functional ecological unit or would protect biocorridors, unique features or habitat
 - Property would contribute to water quality control protection
 - Property would contribute to improving the contiguity of parklands and would create a more logical management unit
 - Property would provide for placement of administrative, operational, or dense visitor facility development in developed or disturbed areas lacking sensitive resources
 - Property would improve visitor services by providing areas that would allow for more efficient circulation, trail network, enhanced facilities, fewer disturbances to habitat areas, etc.
- REG-8 Observe all conservation easement requirements and restrictions on properties acquired by other entities and transferred to Department ownership.

MANAGEMENT ZONES

Management Zones were designed to guide land use planning and resource management and to determine where future facilities and levels of resource protection should occur within Fort Ord Dunes State Park. Management zones help in describing the purpose of various areas within the park, as well as depict their intended use and condition. Management zones are set up based on what natural, cultural, social, and physiographic resources currently exist in a given area, while considering future goals for the area based on opportunities, constraints, and issues identified through review of the existing conditions of the park unit--in addition to state policies, statewide recreation demand, and agency and public comment.

The physical boundaries of each zone were delineated for areas that contained common features that would govern a site-specific park management strategy

that best meets the objectives and purpose of the park. Analysis of key elements posing constraints or potentials was conducted to assess optimum placement of park facilities, and other related uses through ArcGIS Spatial Analyst. Spatial Analyst derived information from the existing landform to identify slope percentages and to find suitable locations for opportunities and facilities while considering sensitive biota, natural resources, aesthetic resources, and hazardous materials, among other park resources. Typically, management zones were designed to incorporate the following, to the extent possible:

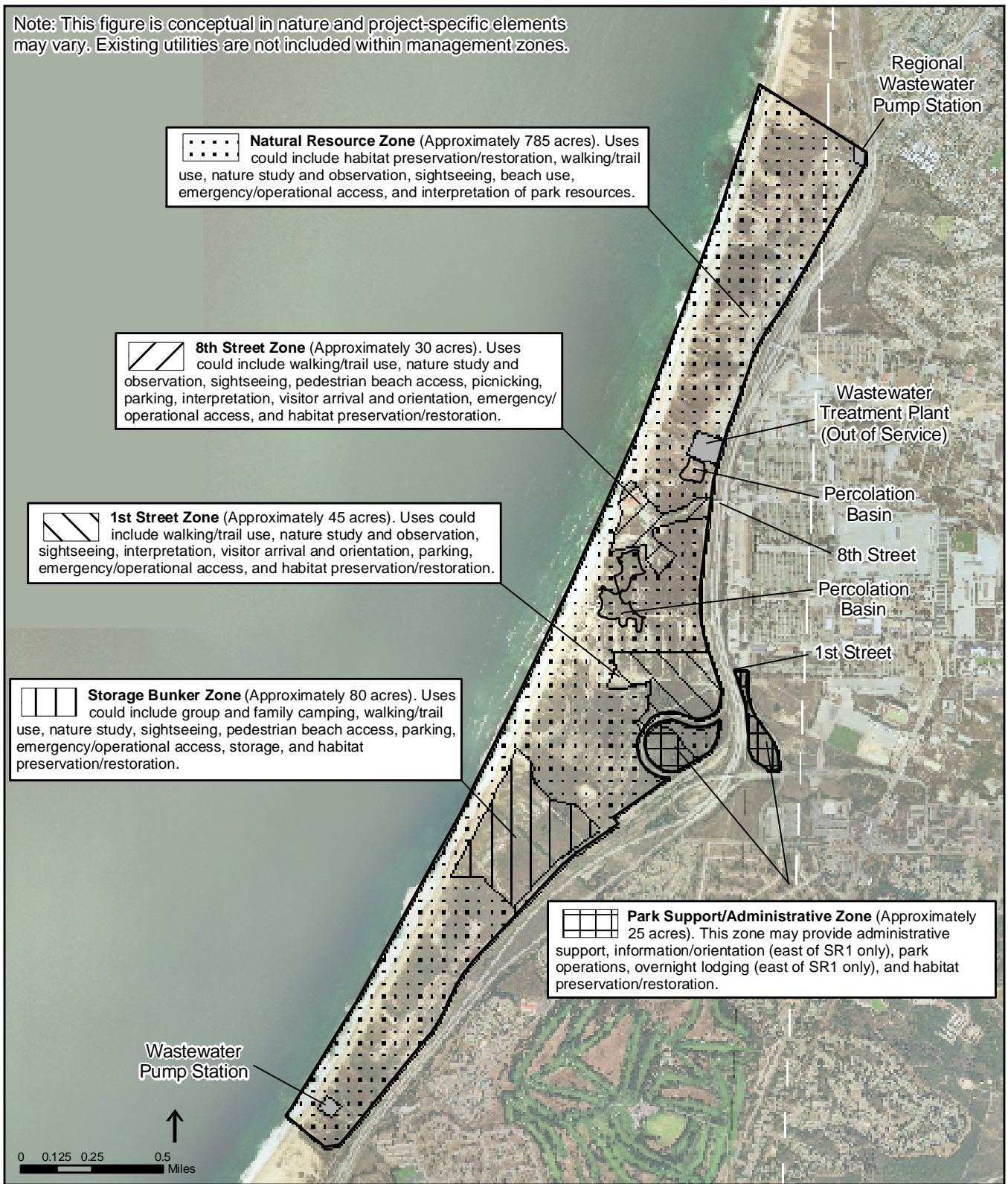
- Maximize inclusion of existing developed or disturbed areas, areas dominated by non-native vegetation, and areas with unique features such as remnant military era structures within development oriented management zones where frequent visitor use is anticipated.
- Exclude areas of biological, aesthetic, and geographic sensitivity, with appropriate buffers, from development oriented management zones where frequent visitor use is anticipated.
- Include only areas with no spent ammunition present (prior to Army remediation activities, see Figure 2-9) within development oriented management zones where frequent visitor use is anticipated.
- Maximize inclusion of known special-status species and sensitive habitat areas and other sensitive park resources within a management zone that includes minimal facilities development and low visitor use.

Five management zones were identified for Fort Ord Dunes: Natural Resource Zone (approximately 785 acres), 8th Street Zone (approximately 30 acres), 1st Street Zone (approximately 45 acres), Storage Bunker Zone (approximately 80 acres), and Administrative/Operations Zone (approximately 25 acres). Figure 3-1 summarizes the location of each management zone, as well as the desired resource conditions, desired visitor experience, and potential uses and facilities proposed for each zone.

As required by the conditions of the HMP and Draft HCP, the Department implemented a large-scale native dune restoration project and exotic plant control project at lead remediation and recontoured sites. The ultimate goal is to restore 700 acres of northern foredune coastal dune scrub habitat. Although the restored habitat will chiefly be located within the Natural Resource Zone, restored habitat may also be located in other zones.

Management zones are an adaptive mechanism to protect and enhance resources of the park. They prescribe certain uses and facilities that are allowed in an area, based on resource compatibility. In the absence of the management zones, additional development and higher-intensity uses could impact resources

Note: This figure is conceptual in nature and project-specific elements may vary. Existing utilities are not included within management zones.



SOURCE: CDPR, 2003a; ESA, 2003

Fort Ord Dunes State Park / 202318 ■

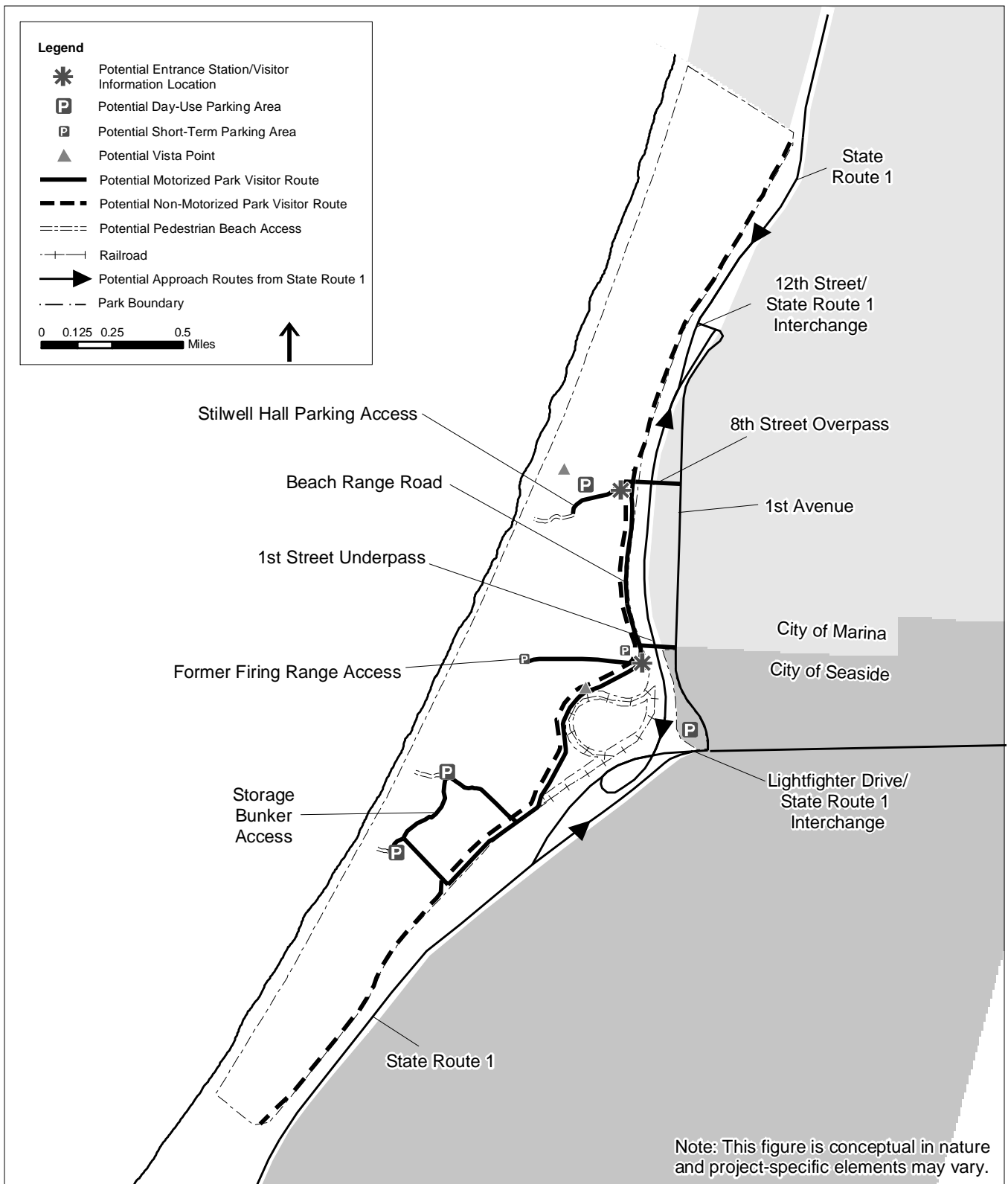
Figure 3-1
Fort Ord Dunes State Park Management Zones

over the long term. Management zones also provide opportunities for restoration of resources in areas where lower use and facility levels are prescribed. Management zones protect the spectrum of recreational opportunities by allowing for visitor access and use of facilities in more resilient locations and different intensities of use within the park. It is noted that the Management Zones do not designate specific sites for development of specific facilities or determine the number of facilities to be developed. Site-specific management zone development will be analyzed, designed, and implemented on a project specific basis.

The management zones do not include existing facilities managed by other agencies such as percolation basins, the wastewater treatment plant, and the wastewater pump stations. These areas make up approximately 25 acres of the park. Should these facilities be removed in the future, the sites should be restored and returned to natural conditions. It is likely that these areas would be included in the Natural Resource Zone.

In association with the management zones, potential circulation routes and access points have been identified based on existing resources and uses and facilities described for management zones (see Figure 3-2). The circulation routes and access points are schematic in nature and do not suggest site specific routes that would necessarily be developed under the General Plan. Rather, the schematic suggests reasonable park connections and types of routes (i.e., vehicular versus pedestrian routes) that may be appropriate given existing resource conditions, and the potential uses and facilities described for the management zones. Site-specific circulation and access development will be analyzed, designed, and implemented on a project specific basis.

It is anticipated that at full development, the park could include a maximum of one day-use parking lot within the 8th Street Management Zone, one or two day-use parking lots in the Bunker Management Zone, and one day-use and/or overnight parking lot within the portion east of SR 1 of the Park Support/Administrative Zone. It is also anticipated that at full development, the park could also include a limited number of small, short-term parking lots providing services to park facilities such as scenic lookout points and interpretation and education sites. It is anticipated that the park will include a single visitor vehicular entrance point providing for visitor orientation, sense of arrival, and gateway identity, a pedestrian and bicycle trail running north-south the length of the park, and potentially two scenic lookout points.



SOURCE: C DPR, 2003a; ESA, 2003

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Figure 3-2
Potential Circulation and Entrance Location Schematic

MANAGEMENT ZONE DESCRIPTIONS

Natural Resource Management Zone

Management Intent

The majority of the park is designated within the Natural Resource Management Zone classification (see Figure 3-1). Many of the park's most exceptional natural resources are located in this zone. It includes outstanding coastal dune habitats, and disturbed areas in need of rehabilitation. The dual management objectives of preserving natural resources while providing for high quality recreational and public access opportunities is paramount in park planning. In the case of coastal dune habitats and endemic wildlife, which represent a dynamic and fragile ecosystem, public access can result in habitat degradation and disturbance. However, by creating a large area of open space, a greater degree of compatibility between public access and resource protection can be provided without physical barriers.

Areas designated as a Natural Resource Management Zone will be managed to preserve and protect sensitive plant and animal species and their supporting habitats, as well as to protect the movement of plants and animals within the park (see Table 3-1). The natural resources will be the foremost consideration for all land use and management decisions. The Natural Resource Management Zone will be managed with low tolerance for resource degradation from visitor use, and management action could be taken to change visitor use patterns if such degradation began to occur. Visitor experience will be primarily based on hiking, walking, beach use, or nature study. The Natural Resource Management Zone will provide substantial opportunities for scientific study of natural processes in undisturbed conditions. It is anticipated that establishment of a north-south trail, and appropriate connector trails within the park, will be included within the Natural Resource Management Zone and will provide for connections with other regional trails (see Figure 3-2). This zone will include the minimum level of park operations and administration required to accommodate natural resource restoration activities and visitor use.

It is anticipated that circulation within this zone will consist of pedestrian hiking/walking on designated trails, limited bicycle routes, and emergency and park operation routes as required. Vehicular routes would likely be constrained to the existing Beach Range Road, where connectivity to other management zones is warranted (see Figure 3-2). Visitor use parking would be constrained to other management zones.

**TABLE 3-1
NATURAL RESOURCE ZONE LAND USE MATRIX**

Area Description	This zone includes approximately 785 acres of undeveloped areas, beaches, restored dune areas, and other areas determined to be sensitive to development and public use.
Desired Resource Characteristics	<ul style="list-style-type: none"> ▪ Native natural resources to dominate throughout this zone ▪ Zone to remain primarily undeveloped, with further restored native habitat
Desired Visitor Experience	<ul style="list-style-type: none"> ▪ Visitors will be able to experience solitude and a sense of refuge or escape ▪ Opportunities to learn about protected species and dune habitats will exist ▪ Zone will allow for less contact with other visitors and greater distances to park facilities
Possible Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ No motorized use by visitors (except to comply with Americans with Disabilities Act requirements); low impact walking/trail use through natural resources ▪ Beach use, nature study and observation, interpretation sightseeing ▪ Emergency/operational vehicle access
Possible Facilities	<ul style="list-style-type: none"> ▪ Limited multi-use stabilized and/or paved trails, unpaved trails, boardwalks, vista points, outdoor exhibit stations/kiosks ▪ Emergency/operational vehicle routes



The Natural Resource Zone is located adjacent to potential Transportation Agency for Monterey County regional transportation projects; including development of a multi-use trail utilizing the 5th Street underpass and development of a passenger rail platform that may be located along the existing rail line between 1st and 5th Streets. While these potential developments are not located within Fort Ord Dunes, development of these projects requires coordinated planning to ensure that the carrying capacity of these areas is not exceeded and natural resource impacts do not occur. The Transportation Agency for Monterey County projects could require reconsideration of the Natural Resource Zone boundary in the vicinity of these projects, reconsideration of appropriate uses in the vicinity of these projects, or the development of buffers near the Transportation Agency for Monterey County developments.

Guidelines

- NR-1 Consider developing limited day use visitor facilities within the Natural Resource Zone, which could include limited multi-use stabilized and/or paved trails, unpaved trails, boardwalks, vista points, and outdoor exhibit stations/ kiosks.
- NR-2 Maintain the remoteness and quiet of the area. Allow non-vehicular trail use (except where required to meet Americans with Disabilities Act requirements), such as hiking and limited bicycling.
- NR-3 Maintain and restore all features within this zone, other than required emergency/operational access, as native dune habitat.
- NR-4 Consider developing trails and trail connections, focusing on accessibility requirements to the extent feasible, while avoiding areas of resource sensitivity, utilities requiring buffers, and areas with potential lead soil contamination.
- NR-5 Minimize the amount of paved trails and roads included within the Natural Resource Zone
- NR-6 Coordinate park planning with Transportation Agency for Monterey County development in the vicinity of the Natural Resource Zone to ensure that resource impacts do not occur. Transportation Agency for Monterey County developments could require rezoning of the Natural Resource Zone boundaries, redefinition of appropriate uses within the zone, or development of buffer areas.

8th Street Management Zone

Management Intent

This zone includes some of the more developed areas of the unit, including the former Stilwell Hall area, associated parking and paved areas, and the extension of 8th Street from the SR 1 overpass into the park. In addition, the gabion enforced stormwater headwall to the south of the Stilwell Hall parking lot is included within this management zone (see Figure 3-1 and Table 3-2). The previously developed nature of this zone and its connectivity to areas east of SR 1 lends itself to park use as a visitor entrance and orientation locale, parking, trailhead access, vista point, and pedestrian beach access route. Moreover, this zone provides a clear panoramic view of the park from vehicles as they enter, providing an enjoyable initial park experience. The westernmost portions of the zone provide unique panoramic views of the entire Monterey Bay coastline. This zone also provides opportunities for interpretation of park resources, including the former Stilwell Hall.

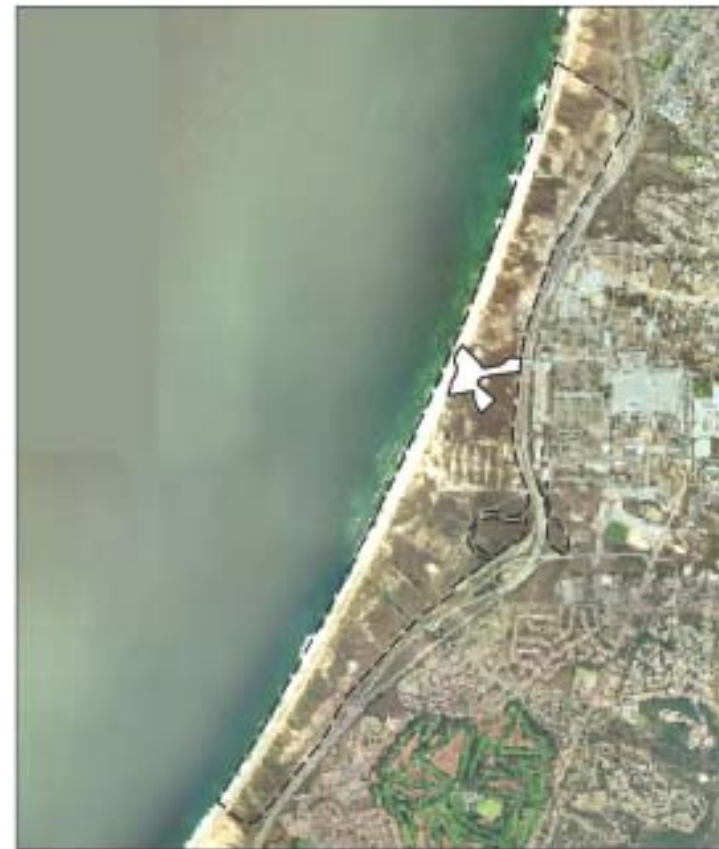
It is envisioned that this zone will include visitor arrival and orientation facilities, providing park visitors a sense of arrival and gateway identity. This zone will provide a drivable initial park experience through the 8th Street, 1st Street, and Storage Bunker Zones. In addition, the visitor parking area located within this zone will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation. Parking in this zone would likely be located within an existing paved parking lot that formerly supported Stilwell Hall. This area could accommodate up to approximately 90 to 100 parking spaces based on the amount of paved parking that currently exists; though the actual number of parking spaces that may be developed will require site specific planning and resource evaluation. Areas of this zone that are not proposed for development during site specific planning will be restored to a natural condition. It is anticipated that circulation within this zone will consist of pedestrian hiking/walking on designated trails, limited bicycle routes, limited vehicular routes, and emergency and park operation routes as required (see Figure 3-2).

Guidelines

- 8S-1 Consider providing day-use visitor facilities within the 8th Street Zone, which could include an entrance station, visitor center, trailheads, picnic sites, interpretive sites, restroom, scenic vista, parking (approximately 90 to 100 day use parking spaces may be appropriate within this zone), and a pedestrian beach access route.
- 8S-2 Consider developing appropriate interpretation and education regarding historical uses specific to the zone (i.e., Stilwell Hall).

**TABLE 3-2
8TH STREET ZONE LAND USE MATRIX**

Area Description	This zone includes approximately 30 acres, including the 8th Street overpass into the park, paved and developed areas associated with the former Stilwell Hall, and the gabion enforced stormwater headwall to the south.
Desired Resource Characteristics	<ul style="list-style-type: none"> ▪ Previously developed features to be modified to accommodate parking, information and interpretive facilities, and access roads ▪ Locations not proposed for development to be restored to natural conditions
Desired Visitor Experience	<ul style="list-style-type: none"> ▪ Visitors will initially experience the panorama of the park and ocean views ▪ This area will provide a drivable initial park experience; park facilities and park information will orient visitors and provide a sense of arrival and gateway identity ▪ Parking area will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation
Possible Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ Walking/trail use, nature study and observation, sightseeing, pedestrian beach access, picnicking, interpretation, visitor arrival and orientation ▪ Emergency/operational vehicle access
Possible Facilities	<ul style="list-style-type: none"> ▪ Entrance station, visitor center/kiosk ▪ Vista point, paved and unpaved trails, day use parking (approximately 90 to 100 day use parking spaces may be appropriate within this zone), outdoor exhibit stations, restroom/utilities infrastructure ▪ Emergency/operational vehicle routes



- 8S-3 Encourage use of day-use parking in this zone for vehicle staging and further exploration of the park by non-vehicular means.
- 8S-4 Establish and maintain the minimum number of restrooms, waste and recycling receptacles, and utilities infrastructure required to adequately serve park facilities developed within this zone.
- 8S-5 Explore options to purchase or transfer land allowing for placement of a visitor entrance station outside the park, in the vicinity of the 8th Street overpass, potentially co-located with other park and regional uses.

1st Street Management Zone

Management Intent

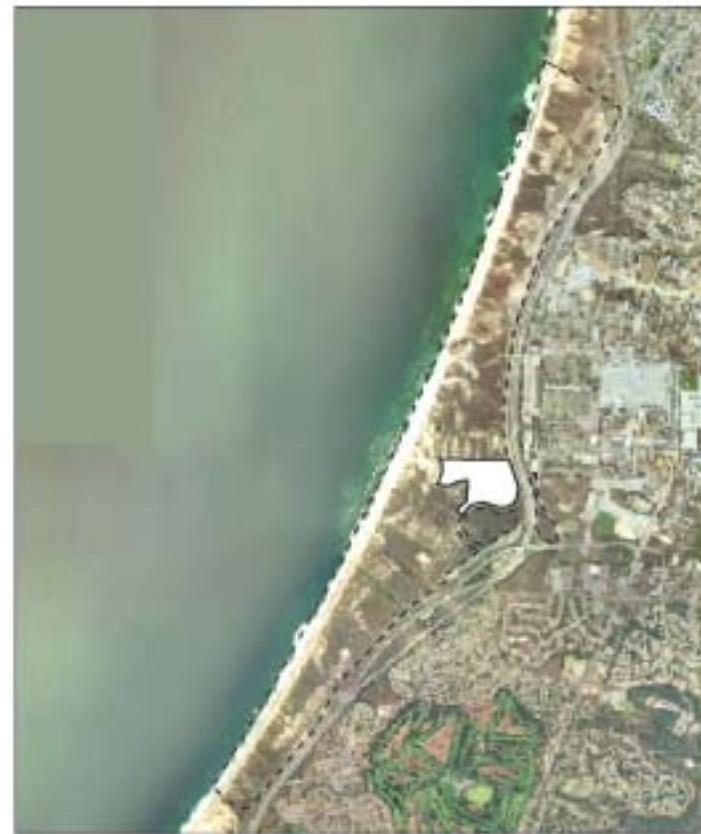
This zone represents the most intact vestiges of military use of the dunes that can be restored and reused for interpretation. It includes an adjacent area of limited natural resource value that is topographically suited to serve as a vista point. This zone also includes a corridor for park access at the 1st Street underpass, with the potential to include separate vehicular and pedestrian/bicycle tunnels. The natural and historic resources would be managed to provide visitors a sense of history and chronology of use. Areas within this zone will be managed to allow for more intensive recreational activities, such as hiking and biking. Visitors can spend significant periods of time enjoying park resources in a relatively accessible setting (see Figure 3-1 and Table 3-3).

While potential visitor entry is designated for both the 1st Street and 8th Street Management Zones, it is anticipated that only one park entrance location will be developed for vehicular visitor use (visitors will have entrances for non-vehicle use and the park may have maintenance/operations entrances). The entrance location will be designated dependent on site specific planning, and coordination with regional planning agencies. Should the entrance location be designated within the 1st Street Management Zone, it is envisioned that this zone will include visitor arrival and orientation facilities, providing park visitors a sense of arrival and gateway identity. Whether or not this zone serves as the park visitor vehicle entrance location, it is anticipated that the 1st Street pedestrian underpass could include non-motorized visitor access to the park from areas east of SR 1 and potential maintenance operations access.

This zone will provide a drivable park experience through the 1st Street and adjacent 8th Street and Storage Bunker Zones. Limited short-term visitor parking will be developed to serve access to interpretive facilities and a vista point providing views of Monterey Bay. It is anticipated that a range of approximately 10 to 15 total parking spaces may be appropriate to serve the interpretive facilities and a range of approximately 4 to 6 parking spaces may be appropriate

**TABLE 3-3
1ST STREET ZONE LAND USE MATRIX**

Area Description	This zone includes approximately 45 acres, including the former range and other areas adjacent to the 1st Street underpass.
Desired Resource Characteristics	<ul style="list-style-type: none"> ▪ This zone represents the most intact vestiges of military use that may be restored and adaptively reused for interpretation, along with other natural resources ▪ Areas within this zone not proposed for interpretation or other park facilities/infrastructure to be restored to natural conditions
Desired Visitor Experience	<ul style="list-style-type: none"> ▪ The natural and cultural resources will provide visitors a sense of history and appreciation for the chronology of use ▪ This area will provide a drivable initial park experience; park facilities and park information will orient visitors and provide a sense of arrival and gateway identity
Possible Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ Interpretation with walking/trail access and vehicular access, visitor arrival and orientation ▪ Emergency/operational vehicle access
Possible Facilities	<ul style="list-style-type: none"> ▪ Entrance station, visitor center/kiosk ▪ Paved and unpaved trails; interpretation of former firing range and military era structures with outdoor exhibit stations, vista point, limited short-term parking (approximately 15 to 20 parking spaces may be appropriate within this zone), restroom/utilities infrastructure ▪ Emergency/operational vehicle routes



to serve the vista point; though the actual number of parking spaces that may be developed will require site specific planning and resource evaluation. Areas of this zone that are not proposed for development during site specific planning will be restored to a natural condition. It is anticipated that circulation within this zone will consist of pedestrian hiking/walking on designated trails, limited bicycle routes, limited vehicular routes, and emergency and park operation routes as required (see Figure 3-2).

Guidelines

- 1S-1 Consider providing day-use visitor facilities within the 1st Street zone, which could include an entrance station, trailheads, interpretive sites, restroom, scenic vista, and short-term parking (approximately 15 to 20 parking spaces may be appropriate within this zone).
- 1S-2 Consider developing appropriate interpretation and education opportunities regarding historical uses specific to the zone (i.e., firing range wall and lookout tower).
- 1S-3 Establish and maintain the minimum number of restrooms, waste and recycling receptacles, and utilities infrastructure required to adequately serve park facilities developed within this zone.
- 1S-4 Explore options to purchase or transfer land allowing for placement of a visitor entrance station and park support facilities outside the park, in the vicinity of the 1st Street underpass, potentially co-located with other park and regional uses.

Storage Bunker Management Zone

Management Intent

This zone is comprised of the former ammunition storage bunkers, firing ranges, access roads, and adjacent areas (see Figure 3-1 and Table 3-4). Areas within this zone represent the most accessible, yet secluded area of the unit—especially along a grove of cypress, that, although not a species native to Fort Ord Dunes, provides wind shelter, shade, and evokes a visual association to the Monterey Peninsula as a whole. The land form and existing facilities further provides wind protection and shelter. In addition, this area includes scenic view opportunities and potential beach access. Existing development in this zone minimizes the potential for habitat disturbance related to development of park facilities and use. Consequently, this area is ideally suited for camping. It is anticipated that group and family campsites could be accommodated within this zone, with a potential range of approximately 50 to 110 campsites within the cypress area. The bunker zone also includes areas that would be appropriate for pedestrian beach access and day use parking, limited to specific areas.

**TABLE 3-4
STORAGE BUNKER ZONE LAND USE MATRIX**

Area Description	This zone includes approximately 80 acres, including the former ammunition storage bunkers, former firing ranges, access roads, and adjacent areas that are mostly developed or disturbed.
Desired Resource Characteristics	<ul style="list-style-type: none"> ▪ Appropriate existing structures to be preserved, restored, or reused for interpretation and storage ▪ Previously developed features to be modified to accommodate camping, interpretive facilities, parking, and access roads ▪ Locations not proposed for development to be restored to a natural condition
Desired Visitor Experience	<ul style="list-style-type: none"> ▪ This zone represents the most accessible, yet secluded area suitable for camping, allowing visitors to experience the park during night time hours; while providing appropriate areas for day use experiences ▪ Parking area(s) will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation
Possible Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ Camping, day use parking, pedestrian beach access, and interpretation ▪ Emergency/operational vehicle access (i.e., maintenance equipment, park supplies, collections/artifacts, interpretive materials), park operations, adaptive reuse of bunkers for storage
Possible Facilities	<ul style="list-style-type: none"> ▪ Family and group campgrounds (approximately 50 to 110 campsites may be appropriate within this zone), paved and unpaved trails, boardwalks, day-use parking (approximately 40 to 80 day use parking spaces may be appropriate within this zone), and outdoor exhibit stations ▪ Adaptive reuse of bunkers and existing buildings, restrooms/utilities infrastructure, emergency/operational vehicle routes



Interpretive facilities will provide learning opportunities. In addition, the day use parking area(s), with up to approximately 20 to 40 parking spaces in each area, located within this zone will allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation, on designated trails. While two day use parking and pedestrian beach access points have been identified within this area (see Figure 3-2), site specific planning and resource evaluation, and future demand for both camping and pedestrian beach access/day use in this area will determine whether a single access point/day use parking area is warranted within this zone, or whether both locations should be developed. Parking in this zone would likely be located within existing paved areas and disturbed areas. The actual number of parking spaces that may be developed will require site specific planning and resource evaluation.

The existing storage bunkers and adjacent facilities provide appropriate infrastructure useful for park storage (i.e., maintenance equipment, park supplies, collections/artifacts, interpretive materials) and operations and maintenance activities. Areas of this zone that are not proposed for development during site specific planning will be restored to a natural condition. It is anticipated that circulation within this zone will consist of pedestrian hiking/walking on designated trails, limited bicycle routes, limited vehicular routes, and emergency and park operation vehicular routes as required (see Figure 3-2).

Guidelines

- SB-1 Consider providing day-use and overnight visitor facilities within the Storage Bunker Zone, which could include family or group campsites (approximately 50 to 110 campsites may be appropriate within this zone), trailheads, picnic sites, interpretive sites, restroom, parking (approximately 40 to 80 day use parking spaces may be appropriate within this zone), and pedestrian beach access route(s).
- SB-2 Consider developing appropriate interpretation and education opportunities regarding historical uses specific to the zone (i.e., ammunition storage bunkers).
- SB-3 Consider developing park operations and support facilities, such as park storage (i.e., maintenance equipment, park supplies, collections/artifacts, interpretive materials) and a maintenance/operations yard. Ensure that bunkers and facilities are secure.
- SB-4 Encourage use of day-use parking in this zone for vehicle staging and further exploration of the park by non-vehicular means, on designated trails.

- SB-5 Establish and maintain the minimum number of restrooms, waste and recycling receptacles, and utilities infrastructure required to adequately serve park facilities developed within this zone.

Park Support/Administrative Management Zone

Management Intent

This zone encompasses an 11 acre parcel east of SR 1, bounded by 1st Street, 1st Avenue, and Lightfighter Drive and a portion of the Balloon Spur west of SR 1 (see Figure 3-1 and Table 3-5). Much of the zone is managed or disturbed, and is dominated by non-native species, and lacks significant aesthetic views. Facility development would avoid native vegetation disturbance wherever feasible. It is anticipated that the park support and administration area within the balloon spur would consist of operational uses, such as administrative facilities, a maintenance/operations yard, and employee housing. It is not anticipated that park visitor use would occur within the balloon spur. It is anticipated that administrative uses east of SR 1 would compliment and supplement those within the Balloon Spur; however, areas east of SR 1 may also appropriately include a park or multi-agency visitor center and a youth hostel, as well as visitor parking to support these facilities. The east of SR 1 parcel provides an opportunity for visitors to stage vehicles and explore outlying park resources by non-motorized modes of transportation via the 1st Street underpass. Parking in this zone would accommodate approximately up to 20 to 40 parking spaces for day use, and up to 20 to 40 parking spaces for a visitor center and/or hostel; though the actual number of parking spaces that may be developed will require site specific planning and resource evaluation. The parcel east of SR 1 zoned as Community Commercial by the City of Seaside; planning within this area would require coordination with the City and potentially a change in zoning designation by the City.

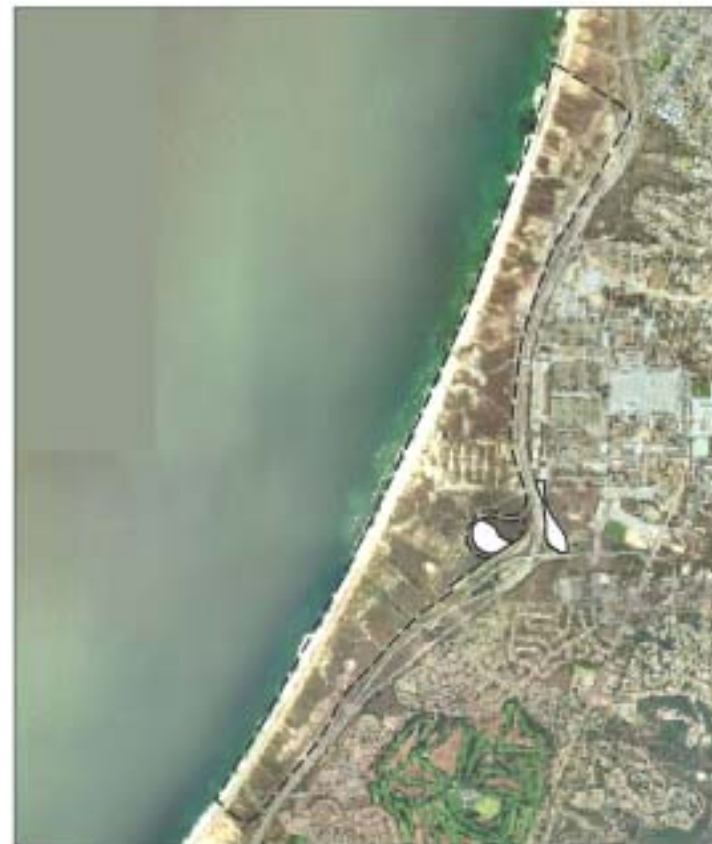
Areas of this zone that are not proposed for development during site specific planning will be restored to a natural condition. It is anticipated that circulation within this zone will consists of emergency and park operation routes as required; with the addition of visitor parking and related access east of SR 1 (see Figure 3-2).

Guidelines

- PSA-1 Consider providing park administration and support functions, such as administrative facility, maintenance/operations yard, and employee housing as appropriate. East of SR 1 consider providing a park or regional multi-agency visitor center, youth hostel, and associated parking (approximately 40 to 80 visitor serving parking spaces may be appropriate in this zone).

**TABLE 3-5
PARK SUPPORT/ADMINISTRATIVE ZONE LAND USE MATRIX**

Area Description	This zone includes approximately 25 acres and is comprised of the 11 acre parcel east of SR 1, bound by SR 1, 1st Street, 1st Avenue, and Lightfighter Drive and a portion of the Balloon Spur west of SR 1.
Desired Resource Characteristics	<ul style="list-style-type: none"> ▪ Facilities to be developed in areas with lower natural resource values (i.e., areas dominated by non-native vegetation) ▪ Locations not proposed for development to be restored to a natural condition
Desired Visitor Experience	<ul style="list-style-type: none"> ▪ Visitors will be able to experience the park during night time hours from east of SR 1 ▪ Interpretive facilities east of SR 1 will provide orientation, information, and education opportunities ▪ Parking area east of SR 1 will allow visitors to stage vehicles and explore outlying park resources by non-motorized modes of transportation
Possible Visitor and Administrative Uses	<ul style="list-style-type: none"> ▪ This zone will provide park administration and maintenance uses ▪ East of SR 1 only, this zone will also provide additional uses such as orientation and interpretation and indoor overnight uses ▪ Emergency/operational vehicle access
Possible Facilities	<ul style="list-style-type: none"> ▪ Administrative facilities, maintenance/operations yard, employee housing ▪ East of SR 1 only – park or multi-agency visitor center, youth hostel, visitor parking (approximately 40 to 80 visitor serving parking spaces may be appropriate within this zone) ▪ Emergency/operational vehicle routes



- PSA-2 Encourage use of parking east of SR 1 and the 1st Street underpass allowing further exploration of the park by non vehicular means on designated trails.
- PSA-3 Establish and maintain the minimum number of restrooms, waste and recycling receptacles, and utilities infrastructure required to adequately serve park facilities developed within this zone.
- PSA-4 Explore options for coordinated development of a regional multi-agency visitor center and a youth hostel facility.
- PSA-5 Explore options to purchase or transfer land allowing for placement of some of the uses and facilities described for this zone outside the park, potentially co-located with other park and regional uses.

VISITOR CARRYING CAPACITY

The Department's dual mission of preserving existing park resources and providing high-quality recreational experiences within the same area is a major aspect of park land use planning. Creative planning is needed to provide recreational opportunities on park lands while at the same time protecting significant and treasured natural and cultural resources. The Department has found that providing appropriate public recreation and education in areas of important park cultural and natural resources encourages public support for preservation and enhancement of those resources. The park's natural and cultural resources are key reasons for visiting a park and impairment of these resources is also impairment of recreation opportunities. This mutually-supportive relationship is recognized and supported throughout the General Plan and becomes especially significant during consideration of visitor "carrying capacity" in the park.

Public Resources Code Sections 5001.96 and 5019.5 state that the land carrying capacity shall be determined before any park development plan is adopted, and that attendance at State Park System units shall be held within the limits established by this capacity. A definition of carrying capacity by the code; however, is not provided. The carrying capacity of land is developed by evaluating the interaction between land uses and natural systems and determining how these interactions will affect, over time, the integrity and sustainability of the land. Maximum capacity is the point where land regeneration is exceeded by demands made on natural systems and there is resulting degradation or destruction of the systems. Carrying capacity not only relates to the environmental resources of an area but also the quality of the visitor experience. In terms of park and recreation planning, carrying capacity may be extended in meaning to suggest that no cumulative net losses will be permitted to occur in any of the resource values of a unit (natural, cultural, aesthetic, or

recreational) due to human use (activities or facility development). Effects have a permanent impact on resource values, however seemingly insignificant. Therefore the intent of the Public Resource Code is to avoid degradation of resource-based park systems. The great variety of factors involved in damage to natural resources and the complexity of the interactions among the factors creates difficulties in establishing a carrying capacity number. Attendance, individual or group usage, time, and types and patterns of recreational use all contribute to the impact on resource systems. To aid in impact minimization, management can regulate capacity limits, regulate land use, enact mitigation measures, educate and interpret for the public, and ensure proper design. Determination of resource location and significance allows management to create future guidelines for public use of a park and access to it.

A general plan for a state park provides broad management direction at a “goals and guidelines” level. Therefore, objectives for carrying capacity are written in the Fort Ord Dunes State Park General Plan as narrative statements within the Management Zone descriptions that define desired future resource and visitor experience conditions in a qualitative manner. The Vision Statement for Fort Ord Dunes State Park emphasizes public use and resource preservation as mutually respected values. Chapter 3, The Plan includes further qualitative descriptions in the forms of goals and guidelines for the establishment of desired visitor experiences and resource conditions to achieve and support the Vision for the park. For the purposes of this plan, the term “carrying capacity” denotes a level of visitor use that is sustainable and does not cause substantial degradation to the natural and cultural resources or visitor experience.

GENERAL PLAN AND POST-GENERAL PLAN PROCESS

During the Fort Ord Dunes State Park General Plan process, the planning team established plan proposals and guidelines through a decision-making process that relied on resource information and studies, public input, park management standards, and professional judgment. Relevant information gathered for this process included legislative and Department policy guidance; analysis of regional recreational opportunities; existing quality standards for park natural and cultural resources; potential mitigations for impacts on sensitive resources from plan proposals; significance of park visitation issues and concerns; the current type, amount and design of park facilities and infrastructure; and public opinion on issues.

There are many safeguards, considerations, and points of decision during and after the general plan process that work to promote the sustainability and compatibility of resource protection and recreational use levels. During the planning process, the planning team carefully considered and adjusted the type, scale, location, size, and timing of possible uses, facilities, and activities to avoid

or minimize impacts on sensitive resources or positive visitor experiences. Many potential recreational enhancement possibilities were dismissed by the planning team as having too many resource impacts or potential visitor conflicts before any “Planning Possibilities” were shared with the public for their comment. One of the major “checks” on the maximum level of visitor use of an area is the prevalence of sensitive habitat areas and the need to maintain a minimum of 700 acres of restored habitat within Fort Ord Dunes, pursuant to the basewide HMP and Draft HCP requirements.

Implementation of any general plan component may require further resource and visitor use studies, CEQA documentation, public review, and often permitting by regulatory agencies which all act to promote sustainable design and appropriate public use levels of a new facility. Future management studies and plans recommended in the general plan will provide more information that will allow park managers to quantify resource standards and, following project funding, construct facilities or introduce resource management programs to achieve desired resource conditions; monitor natural, cultural, and recreational resources and visitor experiences at the park; and manage public use and park resources to avoid deterioration of resources or the visitor experience.

ADAPTIVE MANAGEMENT

Adaptive management is a tool to address user capacities and is included in this plan. Adaptive management is an ongoing, iterative process of determining desired conditions, selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. The four key elements of adaptive management include: (1) determination of desired conditions; (2) selection of indicators and standards that reflect the desired conditions; (3) monitoring of the indicators and standards; and (4) implementation of management action when the desired conditions are violated or when conditions are deteriorating and preventive measures are available. Together, these elements help park managers make decisions about visitor use and resource protection.

Adaptive management is a decision-making framework which assists management’s role in decision-making; in fact, management must make crucial decisions in determining desired conditions, choosing appropriate management actions, and assessing occasional overlap between protecting park resources and providing for desired visitor experiences.

Adaptive management is a process that takes place after the General Plan is approved. It is a cyclical process that specifies on-going research, monitoring, and management to manifest the vision and goals of the Fort Ord Dunes State Park General Plan and to prevent the degradation of park resources and visitor experiences due to overuse or changing ecological or demographic conditions.

The following sections and Table 3-6 outline the potential Adaptive Management Program for the park.

Desired Conditions

Adaptive management relies on the concept of desired conditions, which are contained in the Management Zone descriptions and identify how different areas within the park will be managed. Each Management Zone described above prescribes a set of desired resource conditions, desired visitor experiences, and types of uses.

Indicators and Standards

A major premise of adaptive management is that desired conditions, which are qualitative in nature, can be represented using quantitative indicators and standards. Indicators and standards reflect desired conditions and enable park management to determine whether or not the desired conditions are being realized. “Indicators,” which are variables, are determined first; “standards” are the acceptable measurements (i.e., values) for the indicators. Specific indicators and standards are developed for the desired conditions for each combination of management emphasis and ecological type. Resource indicators measure impacts to the cultural, biological, and/or physical resources from visitor use. Social indicators measure impacts to the visitor experience caused by interactions with other visitors. Indicators should be specific, objective, quantifiable, reliable, related, responsive, nondestructive, and sensitive to visitor use. Standards should be quantitative, measurable, and feasible.

Monitoring

Monitoring protocols are developed for each standard to ensure accurate, valid data. Monitoring begins when a standard is selected and a monitoring protocol is developed.

Management Actions

If monitoring revealed that a standard associated with an indicator were being violated, then desired conditions would not have been realized and management action would be initiated. Management action could determine that the violation of the standard was caused by natural variation and that the standard needed to be adjusted, or a new indicator and standard selected, to better reflect desired conditions. Actions to manage or limit visitor use would be implemented when the standard was violated due to impacts associated with visitor use.

Management actions could include, but are not limited to, the following:

- Site management (e.g., facility design, barriers, site hardening, area/facility closure, redirection of visitors to suitable sites);

**TABLE 3-6
THE ADAPTIVE MANAGEMENT PROCESS**

General Plan Phase				Future Park Research, Monitoring and Management Actions		
Examples of General Plan Issues	Examples of Desired Condition or Outcome	Examples of General Plan Guidelines	Examples of Recommended Studies	Typical Monitoring Standards	Typical Monitoring Indicators	Typical Management Actions
Geology and Soils						
The sand dunes within Fort Ord Dunes are highly susceptible to erosion and slope failure.	Minimized potential damage to park resources and facilities from erosion, seismic activity or other adverse geologic impacts.	GEO-1 Exclude construction of new facilities and permanent structures in areas expected to be subject to coastal erosion within 100 years of construction (a maximum of approximately 700 feet).	GEO-2 Monitor and document the seismic and geologic processes affecting the park and its resources.	Erosion occurring at the park's dunes should not exceed rates established by the U. S. Geological Survey, U.S. Army Corps of Engineers, California Department of Boating and Waterways, and the University of California	Monitoring of the park's dune sites indicates erosion in excess of standards	Identify and reduce source of erosion to meet standards; implement structural protective measures only if nonstructural measures (relocation of facility, setback, redesign, or beach replenishment) are not feasible
Biotic Resources						
Special-status plant and animal species habitats need to recover according to the HMP and draft HCP.	Preserved and restored dunes special-status species and communities.	BIO-7 Identify and maintain a minimum of 700 acres of park property that will be designated for habitat preservation and restoration. Restore natural landforms and native plant communities within this area.	BIO-1 To the extent feasible, compile and map information on special-status, native, and non-native plant and animal species located in the park into the park's GIS database. BIO-4 Establish Western snowy plover management program.	Parklands designated as restored habitat should not be less than 700 acres at any time.	Surveys indicate that the habitat for any one special-status plant or animal species has decreased.	The park implements programs to protect habitat for the affected species such as predator control or reduce public use development areas and convert to restored habitat.

**TABLE 3-6 (Continued)
THE ADAPTIVE MANAGEMENT PROCESS**

General Plan Phase				Future Park Research, Monitoring and Management Actions		
Examples of General Plan Issues	Examples of Desired Condition or Outcome	Examples of General Plan Guidelines	Examples of Recommended Studies	Typical Monitoring Standards	Typical Monitoring Indicators	Typical Management Actions
Hazards and Hazardous Materials						
Dune soils may contain lead contamination.	Park visitors, staff and environment protected from hazardous conditions and associated impacts.	HAZ-2 Perform a site-specific review of soil data for uses and facilities to be located within identified lead-impacted areas prior to development.	Conduct soil sampling as part of site-specific investigation	Lead levels below federal and state regulatory requirements prior to development of facilities.	Lead levels in excess of federal and state regulatory requirements.	Implement additional cleanup efforts or re-site facility and exclude public use of contaminated area.
Circulation						
The existing roadway network provides only limited access to the park (via 8th Street or 1st Street).	A circulation system that creates a sense of place, conveys the park image, and minimizes traffic impacts.	CIR-2 Include public access as a primary consideration for all park design and take into consideration coordination with public transit, on-site and off-site parking, connections to local parks, greenways, trails, and trailheads.	CIR-1 Develop a Circulation and Access Management Plan	Traffic at intersections in the vicinity of the park should be at LOS D or better.	Traffic counts indicate that volumes and delay at intersections in the vicinity of the park have dropped below LOS D.	The park works with the Caltrans and local jurisdictions to develop traffic operation improvements and alternate modes of accessing the park.
Regional Planning						
There is a need to provide planning consistency, appropriate buffers, cumulative impact consideration.	Coordination with local land use agencies regarding transfer and/or acquisition of additional nearby property, or other cooperative land management efforts.	REG-2 Consider existing and future Fort Ord Reuse Authority, Seaside, Marina, Monterey County, and other agency plans and proposed land uses within, adjacent to, and near Fort Ord Dunes as related to compatibility and capacity of potential Fort Ord Dunes uses.	None recommended	Cumulative impacts should not exceed thresholds established by any of the affiliated jurisdictions or applicable regulatory agencies.	Cumulative impacts in excess of thresholds established by any of the affiliated jurisdictions or applicable regulatory agencies.	Reduce allowable public use types or capacities or relocate uses

- Regulation (e.g., the number of people, the location or time of visits, permitted activities, or allowable equipment);
- Enforcement of regulations (e.g., patrols, notification, citations);
- Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups); and,
- Altering access (e.g., parking in proximity to sensitive resources, bike access, etc.).

Management action would comply with the requirements of CEQA and other applicable legislation.

What the Adaptive Management Program Is Not

It is worth noting what the adaptive management program will not do.

- The adaptive management program does not specify the total number of visitors that the park, as a whole, can accommodate at one time. Such an aggregate figure would mask problems at “hot spots” and would not provide managers with useful guidance for addressing use-related problems.
- As a framework for addressing carrying capacity, the adaptive management program is not driven by the capacity of existing infrastructure. Expanding or constructing facilities does not necessarily mitigate visitor use impacts to visitor experience or resources.
- The adaptive management program is not static. Visitor use patterns, desired visitor experiences, and resource conditions change with time. The adaptive management program is an iterative process of monitoring, evaluation, and adjustment.

CHAPTER 4

Environmental Analysis



CHAPTER 4

ENVIRONMENTAL ANALYSIS

This Draft Fort Ord Dunes State Park General Plan, with all its elements, constitutes an environmental impact report (EIR), as required by Public Resources Code Sections 5002.2 and 21000 et. seq. This EIR is for the approval of the Fort Ord Dunes State Park General Plan. The discussion of impacts is commensurate with the level of specificity of the General Plan. Site specific development and resource management projects for Fort Ord Dunes State Park will be subject to subsequent project-level CEQA compliance and to the permitting requirements and approval of other agencies, such as California Coastal Commission, CDFG, Caltrans, the State Water Resources Control Board, and others as specific projects are proposed.

The General Plan and EIR constitute the first tier of environmental review. “Tiering” in an EIR prepared as part of a General Plan allows agencies to address broad environmental issues at the general planning stage, followed by more detailed examination of actual development projects (that are consistent with the plan) in subsequent EIRs or negative declarations. Later EIRs incorporate, by reference, the general discussions from the broader EIR (the General Plan) and concentrate solely on the issues specific to the later projects (Public Resources Code Section 21093: State CEQA Guidelines, CCR Section 15152). This General Plan does not approve or commit the Department to specific projects, sites, or management plans. These items are subject to consideration and approval at a later date by Department management.

SUMMARY

The General Plan, described in Chapter 3, The Plan, proposes unit-wide management goals and guidelines which apply to physical and social resources and management activities. Some of the goals and guidelines will require further data collection, evaluation and additional specific management planning and resource impact identification prior to new construction or reconstruction. The guidelines also include the preparation of specific plans and programs, for example a Western Snowy Plover Management Program for monitoring and protection of nesting areas and for management of public access in these areas, which would reduce the potential for the introduction of inappropriate activities into prime resources areas.

Implementation of the General Plan would also apply management zoning in the park, which would delineate five areas and specified types of activities, programs and development for each, further reducing the potential for the introduction of inappropriate activities into prime resource areas. Lastly, implementation of the General Plan includes the evaluation and management of carrying capacity in the park. The program level impacts associated with the General Plan goals, guidelines, and management zoning are discussed in the following sections.

AREAS OF KNOWN CONTROVERSY

Public meetings were held on June 10, 2003 and October 13, 2003 to solicit public comments on issues. In addition, newsletters and surveys were distributed to an extensive mailing list in June and October and a formal Notice of Preparation scoping period was held from late May through June 2003. Through these comment opportunities, agencies and members of the public voiced opinions and desires regarding Fort Ord Dunes State Park General Plan development. Scoping reports summarizing comments submitted prior to the Draft General Plan/EIR publication are located in Appendix C. The main issues and concerns raised in comments were:

- Natural resource sensitivity and potential degradation due to public use of area
- Overall resource protection requirements
- Provision of a range in the type and amount of recreation opportunities, meeting public demand
- Potential conflicts between some recreation types
- Potential for illegal or undesirable uses
- Potential human health hazards associated with lead contamination
- Appropriate access types (vehicular, pedestrian, etc)
- Potential traffic congestion
- Provision of adequate public services
- Appropriate interpretive themes.

Information and input from public meetings, comment letters, and surveys submitted by agencies and the public informed the development of the General Plan.

As a first tier of planning for the park, this General Plan does not address all of these project specific comments in detail. Although the General Plan sets the overall goals for park management and provisions for public use, it does not define project level development specifics or the methods for attaining resource protection goals. These will be part of future planning steps, such as the layout and design of facilities or specific resource management plans and processes.

The objectives of the Environmental Analysis section are to identify, where possible, the significant environmental impacts of implementing the General Plan and to define generalized mitigation criteria and policy-level alternatives. Once the General Plan is approved and adopted, the Department could prepare management and area development plans as required and as staff and funding allow. These would address such issues as vegetation management and site development plans. The area development plans will provide specific information on resources and design considerations, including layout, facility configuration, capacities, and level of use within designated areas of the park.

At each planning level (whether a management plan, an area development plan, or major or minor capital outlay project), the plan or project will be subject to further, more detailed environmental review to determine if it is consistent with the General Plan and to identify any significant environmental impacts and mitigation measures that would be specific to the project. Mitigation generally requires resource specialists to evaluate the scope of work, identify the cause of the impacts, and specify measures to avoid or reduce the impacts to a less-than-significant level. More detailed environmental review will be possible at those levels of planning, where facility size, location, and capacity can be explicitly delineated, rather than at the General Plan level.

SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Implementation of the General Plan would apply management goals, guidelines, and zoning to the park that could allow the addition of new public use and maintenance facilities and public use of the park. If new public uses and facilities were to be implemented, the public access and use, operations, maintenance, and construction activities could be associated with potential impacts. At a program level, these impacts were found to be at less than significant levels or to be mitigated to a less than significant level with mitigation measures identified in the analysis. As noted above, more detailed examination of actual development projects (that are consistent with the plan) would be required at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

AESTHETIC RESOURCES

Implementation of the General Plan could allow a number of additional facilities at Fort Ord Dunes, and the aesthetic change would be significant if the site selection, facility scale, or facility design caused substantial degradation of the scenic quality of the park. Park management activities could result in vegetation disturbance, resulting in aesthetic change. Finally, public use activities could result in aesthetic resources impacts if trespassing and improper use of parklands lead to litter, disturbed vegetation, and damage to park facilities and resources. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

No impacts to scenic highways would occur.

AGRICULTURE RESOURCES

Fort Ord Dunes is not zones as farmland and no impact would occur.

AIR QUALITY

Implementation of the General Plan could allow construction projects for the provision of public use opportunities and related facilities. Construction and demolition could generate substantial amounts of fugitive dust. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program-level. Park visitation under full implementation of planned management zone prescriptions and at full capacity would result in increased vehicle emissions. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program-level.

Additional emissions resulting from implementation of the General Plan would be accounted for in the next update of the Monterey Bay Unified Air Pollution Control District's Air Quality Management Plan, which will be released in early 2004.

BIOLOGICAL RESOURCES

Implementation of the General Plan could allow construction projects for the provision of public use opportunities and related facilities. Construction and demolition could result in native species and habitats, and special-status species impacts. In addition, public access and use could result in the spread of non-native invasive species, wildlife harassment, or habitat disturbance. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

No riparian habitat or wetlands are included within Fort Ord Dunes and implementation of the proposed General Plan would not conflict with Conservation plans and biological resources policies/ordinances.

CULTURAL RESOURCES

Implementation of the General Plan could allow construction projects for the provision of public use opportunities and related facilities. Though there is a low potential for significant cultural resources to occur at Fort Ord Dunes, construction activities and use of the parklands could reveal currently unknown cultural resources, the disturbance or damage of which would be a potential impact. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

GEOLOGY AND SOILS

Implementation of the General Plan could allow the additions of new facilities and public use opportunities. Over-use by park visitors, degradation of vegetation on dune slopes, and the creation of unauthorized trails across dune slopes would increase erosion potential. Site development could also result in erosion potential. Potential installation of septic systems installed in unsuitable soils could function improperly. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

The General Plan includes management guidelines that address seismic effects and therefore the impact would be less than significant at the program level.

HAZARDS AND HAZARDOUS MATERIALS

Implementation of the General Plan could allow the addition of a number of new facilities and uses in the park. Construction activities requiring excavation or soil disturbance, and public and operational uses within areas that contain elevated concentrations of lead could result in hazardous materials impacts. Construction activities could require use of chemicals and hazardous material, which could spill, resulting in release of these materials into the environment. Sparks from potential construction activities could ignite dry brush and wood structures. Finally, demolition or adaptive reuse of existing structures could result in exposure of workers and sensitive land uses to asbestos and lead based paint. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

The General Plan includes management guidelines that address operation-related hazard effects and emergency response/evacuation plan effects and therefore the impact would be less than significant at the program level. Fort Ord

Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would expose visitors and employees to safety hazards.

HYDROLOGY AND WATER QUALITY

Implementation of the General Plan could allow for the provision of public use opportunities and related facilities. New facilities would result in increased impervious surface areas that would increase stormwater runoff. Development of facilities within the Federal Emergency Management Agency-designated 100-year flood zone could result in on site flooding. However, given the purpose and vision of this park unit as a natural setting, park related development would not substantially alter the existing drainage pattern of the area. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

The General Plan includes management guidelines that address stormwater sedimentation effects and inundation effects and therefore the impact would be less than significant at the program level. Implementation of the General Plan would not substantially deplete groundwater supplies.

LAND USE AND PLANNING

Implementation of the proposed General Plan would not result in division of established communities. The General Plan includes management guidelines that address potential conflicts with established land use plans and conservation plans and therefore the impact would be less than significant at the program level.

MINERAL RESOURCES

Implementation of the proposed General Plan would not result in permanent loss of availability of mineral resources.

NOISE ENVIRONMENT

Implementation of the General Plan could allow for the provision of public use opportunities and related facilities. Construction and demolition activities associated with potential General Plan projects could generate substantial amounts of noise within proximity of individual construction sites. Increased traffic associated with park use would result in additional noise sources. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

Fort Ord Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would expose visitors and employees to excessive noise.

PUBLIC SERVICES

Implementation of the General Plan could allow visitation to the park, which, in turn, would increase the probability of fires caused by human activity. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

The General Plan includes management guidelines that address appropriate public safety and law enforcement and provide for solid waste disposal handling and therefore the impact would be less than significant at the program level.

Implementation of the General Plan would not increase the demand for public schools, additional parks or park facilities, or other public facilities.

RECREATION

Implementation of the General Plan could allow the addition of new facilities and access to this area, the construction of which could result in adverse physical effect on the environment. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

Implementation of the General Plan would increase park and recreational opportunities in the Monterey Bay Area, rather than result in increased use of existing parks and other recreational facilities.

TRANSPORTATION / TRAFFIC

Implementation of the General Plan could increase public use and increased traffic, and could adversely affect traffic flow conditions on local and regional roadways in the park vicinity. Use of internal park roads for both motorized and non-motorized traffic could result in potential pedestrian/bicycle safety impacts. The potential mix and types of land uses and user activity that could occur in the park as a result of General Plan implementation might generate parking demand beyond the parking supply provided. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

The General Plan includes management guidelines that address appropriate emergency access and prevent conflict with alternative transportation plans and therefore the impact would be less than significant at the program level.

Fort Ord Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would result in changes in air traffic patterns.

UTILITIES AND SERVICE SYSTEMS

Implementation of the General Plan could allow facilities and uses that increase demand for utilities and service systems. Full implementation of the General Plan would result in minimal increases in demand for these services and is not expected that wastewater treatment requirements, treatment provider capacity, landfill capacity, or water supply entitlements would be exceeded. However, implementation of the General Plan could result in construction of new water, wastewater, and stormwater drainage systems, the construction of which could cause environmental impacts. Mitigation measures included in this EIR would reduce potential impacts to less than significant at the program level.

ENVIRONMENTAL ISSUES TO BE RESOLVED

There are no environmental issues to be resolved. This EIR analyzes, at a program level, the potential environmental impacts of a broad range of policies and management actions included in the Fort Ord Dunes State Park General Plan. The EIR includes mitigation measures to reduce potential impacts to less than significant at the program-level. However, the Department requires examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary. Generally, further environmental review would be necessary if new significant environmental effects beyond those identified in this EIR would occur as a result of changes in the project description (or further detail becomes known), new circumstances or information arise, or if new mitigation measures or alternatives that would reduce one or more significant effects of the project are found to be feasible but the Department declines to adopt the measure or alternative (CEQA Guidelines Section 15162).

PROJECT DESCRIPTION

The Introduction, Existing Conditions and Issues, and The Plan sections of the General Plan include proposed park development and operations, and designate appropriate land uses and resource management. Those sections include a project location map, site map, statement of plan objectives, and a description of the plan's technical, economic, and environmental characteristics. The sections constitute the project description. As described above, the Department will use this EIR in its decision-making process regarding General Plan approval and in the approval and development of subsequent project-specific proposals. If the

General Plan were fully implemented as written, the following proposals would be carried out:

- **Unit-wide Management Goals and Guidelines.** A consistent set of goals and guidelines to be applied to on-going park maintenance and operations as well as new facility development throughout the park. This includes the goal to restore existing dilapidated resource areas to healthy ecosystems.
- **Specific Area Goals and Guidelines.** Goals and guidelines to be applied to on-going park maintenance and operations as well as facility development within specific portions of the park.
- **Management Zoning.** The Plan would apply management zoning to the park to provide readily identifiable boundaries for specific types of activities, programs, and developments, reducing the potential for the introduction of inappropriate activities into prime resource areas.
- **Carrying Capacity.** The Plan would establish an adaptive management program to ensure that activities in the park do not exceed the carrying capacity of the park. Adaptive management is an ongoing, iterative process of determining desired conditions, selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized.

ENVIRONMENTAL SETTING

The section entitled “Existing Conditions” describes existing Fort Ord Dunes and adjacent land uses, topography, meteorology and air quality, hydrology, geology and soils, noise environment, plants, animals, marine life, ecology, paleontology, cultural resources and social resources.

SIGNIFICANT ENVIRONMENTAL EFFECTS AND MITIGATION

AESTHETIC RESOURCES

A project would normally result in a significant aesthetic resources impact if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

IMPACTS AND MITIGATION MEASURES

Impact Aes-1. New Facilities

Implementation of the proposed General Plan could allow a number of additional facilities at Fort Ord Dunes State Park, primarily to enhance and support public use of the park. Potential facilities could include a visitor center, trails, parking areas, a nursery, etc. (see the Chapter 3, The Plan). Installation of all potential facilities allowed by The Plan may constitute a potentially significant aesthetic change, with the degree of change dependent on project-specific details to be determined at the time projects were proposed. The aesthetic change would be significant if the site selection, facility scale, or facility design caused substantial degradation of the scenic quality of the park. Further, if lighting associated with facilities created substantial glare, the impact would be significant. Areas that are most sensitive to scenic quality degradation are those that would represent a scenic vista or those visible from long-distance and near-distance views, such as those along dune tops and inclines, areas visible from beyond park boundaries, and areas with ocean views, which are visible from long-distance and near-distance views. For instance, a very minor structure such as a kiosk located in an environmentally non-sensitive area may not result in the same level of impact or require the same level of mitigation as a structure such as a visitor center placed at the 1st Street Zone which is visible from numerous points within the park and from SR 1 or ridgelines visible from within the park, the ocean, and areas east of the park. Implementation of Guidelines AES-1 (facility siting), AES-4 through AES-8 (design guidelines), and Mitigation Measure Aes-1, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Aes-1. Potential aesthetic quality impacts associated with the addition of new facilities should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, including but not limited to:

- Implement design practices that reduce the overall aesthetic effect of new roads and trails, including, but not limited to:

- Road and trail design guidelines that require use of best management practices for road location and alignment, such as locating and designing roads and trails to follow natural topography; avoiding large cut-and-fill road designs; and minimizing excavation
- Design and site new roads and trails to minimize grading and the visibility of cut banks and fill slopes
- Overpasses, safety, and directional signs, and other road structures may protrude above a skyline only when it can be demonstrated that: the facility is necessary for public service and safety, the break in the skyline is only seen in the foreground, and the break in the skyline is a minimum necessary to provide the required service
- Screen and restore disturbed areas with an appropriate mix of native vegetation species
- Implement design practices that reduce the overall negative aesthetic effect of new facilities including, but not limited to:
 - Include screening vegetation where appropriate
 - Where grading is necessary, contour slopes and landforms to mimic the surrounding environment as much as possible
 - Incorporate architectural siting/design elements that are compatible with the applicable surroundings
 - Eliminate, wherever possible, the use of unpainted metallic surfaces and other sources that may cause increased levels of reflectivity
 - Minimize night lighting where practicable. Where night lighting is necessary, direct downward and site and shield new exterior lighting such that it is not highly visible or obtrusive
 - Maintain the silhouette of new structures below the skyline of bluffs, cliffs, or ridges
 - Conduct project-level visual simulations for any facility to be located on prominent dune ridgelines
 - Screen and restore disturbed areas with an appropriate mix of native vegetation species.

Implementation of design guidelines and vegetation protection and restoration activities, as described above, would reduce the potential program-level aesthetic quality impact associated with the implementation of the Fort Ord Dunes State

Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Aes-2. Vegetation Disturbance

If implemented as a result of the General Plan, removal of invasive exotic plant and tree species and use of mechanical vegetation treatments would result in devegetated areas. To some degree, these activities are mitigating in that the purpose of such activities is to restore native vegetation through replanting. The degree of change would depend on the size and location of the disturbed area, which would be determined prior to implementation of non-native plant removal projects. The aesthetic change may result in significant degradation of scenic views if the activities were large in scale, were conducted in areas visible to the public, and if restoration of the area did not occur.

Implementation of Guidelines BIO-6 through BIO-11 (vegetation management) and Mitigation Measure Aes-2 would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Aes-2. Potential aesthetic quality impacts associated with vegetation disturbance should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, including but not limited to:

- Develop a native species planting program prior to implementing non-native plant removal activities.
- Restore and screen disturbed areas as soon as feasible following removal activities.
- Minimize the total area and duration of soil exposure.

Implementation of these vegetation protection and restoration actions would reduce the potential program-level aesthetic impact related to vegetation disturbance associated with the implementation of the Fort Ord Dunes State Park

General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Aes-3. Potential Aesthetic Quality Impacts (Public Use)

The Fort Ord Dunes State Park General Plan would likely result in public visitation of the park, if the following were implemented: new trails, information regarding public activities available at the park (such as public use area maps and brochures) and new public activity destinations, such as a campground and a visitor center. In addition, provision of universal access improvements could result in public use of the park. Public use would not necessarily result in adverse impacts to aesthetic resources. However, trespassing and improper use of public access areas could lead to litter, disturbed vegetation, and damage to park facilities and resources, detracting from the aesthetic quality of the park. Litter, disturbed vegetation, and damage to facilities and resources may constitute a significant effect, if the degradation of aesthetic quality were substantial. Implementation of Guidelines PUB-3 through PUB-8 (public safety and law enforcement prescriptions), as well as Interpretation and Education Resources guidelines advocating public education regarding appropriate visitor use activities, and Mitigation Measure Aes-3, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Aes-3. Potential aesthetic quality impacts associated with public use should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, as appropriate, including but not limited to:

- Advocate responsible use of the park and enforcement of the rules and regulations established for use of the park by increasing public education and awareness of park resource sensitivity and would publish rules and regulations for park visitors. This information shall be provided in all areas subject to public use, including the kiosks, entrance stations, visitor centers, etc. This information should also be available through adjacent jurisdictions and public use facilities, such as those operated by the Fort Ord Reuse

Authority, Bureau of Land Management, California State University, and the cities of Marina and Seaside.

- Implement an inspection and maintenance program for facilities used by the public and inspection of perimeter fencing, access gates, and locks in order to minimize trespassing and illegal dumping. Establish coordinated enforcement of public use of the park with adjacent jurisdictions, including the Cities of Marina and Seaside and Monterey County to manage these areas.
- Include appropriate staffing to monitor public use of the park and enforcement of park rules and regulations.

Implementation of the above measures would reduce the potential program-level aesthetic impacts related to public use associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

AIR QUALITY

THRESHOLD

A significant air quality impact would be expected to occur if the General Plan would:

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

Monterey Bay Unified Air Pollution Control District Thresholds

The Monterey Bay Unified Air Pollution Control District has adopted separate quantitative air quality thresholds of significance for construction activities and project operations. The following summarizes significance criteria thresholds for construction activities.

- *Emissions of Respirable Particulates (PM10).* Construction activities (e.g., excavation, grading, on-site vehicles) which directly generate 82 pounds per day or more of PM10 (particulate matter that is 10 microns or less in diameter) would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors.
- *Emissions of Precursors of Ozone.* Construction projects using typical construction equipment such as dump trucks, scrapers, bulldozers, compactors and front-end loaders which temporarily emit precursors of ozone (i.e., volatile organic compounds or oxides of nitrogen, are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone Ambient Air Quality Standards (MBUAPCD, 2002).
- *Emissions of Toxic Air Contaminants.* Construction activity which may cause or substantially contribute to the violation of other State or national Ambient Air Quality Standards or which could emit toxic air contaminants (carcinogenic or non-carcinogenic) could result in temporary significant impacts if construction projects are concentrated in one area or occur in close proximity to sensitive receptors (i.e., residences or schools).

Table 4-1 summarizes the Monterey Bay Unified Air Pollution Control District's project-level thresholds of significance for operational impacts, by pollutant. An exceedance of any threshold would represent a significant impact on local or regional air quality. The thresholds in Table 4-1 apply to all indirect and direct emissions. According to the Monterey Bay Unified Air Pollution Control District, indirect emissions come from mobile sources that access the project site but generally emit off-site; direct emissions are emitted on-site (e.g., stationary sources, on-site mobile equipment) (MBUAPCD, 2002).

Operational emissions of volatile organic compounds, nitrogen oxides, PM10, sulfur dioxide, and carbon monoxide are calculated using the computer program URBEMIS2002, which calculates indirect source emissions for volatile organic compounds, nitrogen oxide, PM10, and carbon monoxide based on the latest emission factors established by the California Air Resources Board.

**TABLE 4-1
THRESHOLDS OF SIGNIFICANCE
FOR CRITERIA POLLUTANTS OF CONCERN OPERATIONAL IMPACTS^a**

Pollutant	Threshold(s) of Significance
volatile organic compounds	137 pounds/day (direct + indirect)
nitrogen oxides, as nitrogen dioxide	137 pounds/day (direct + indirect)
PM10	82 pounds/day (on site, direct + indirect) ^b Ambient air quality standards exceeded along unpaved roads (off-site, indirect)
carbon monoxide ^c	LOS at intersection/road segment degrades from D or better to E or F <u>or</u> volume to capacity ratio at intersection/road segment at LOS E or F increases by 0.05 or more <u>or</u> delay at intersection at LOS E or F increases by 10 seconds or more <u>or</u> reserve capacity at unsignalized intersection at LOS E or F decrease by 50 or more (direct + indirect) 550 pounds/day (direct)
sulfur oxides, as sulfur dioxide	150 pounds/day (direct) ^b

- ^a Projects that emit other criteria pollutant emissions would have a significant impact if emissions would cause or substantially contribute to the violation of state or national ambient air quality standards. Criteria pollutant emissions could also have a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations. When estimating project emissions, local or project-specific conditions should be considered.
- ^b Monterey Bay Unified Air Pollution Control District-approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emissions would not cause or substantially contribute to an exceedance of state and national ambient air quality standards.
- ^c Carbon monoxide is considered a localized pollutant that can have adverse localized impacts, primarily in areas of heavy traffic congestion (MBUAPCD, 2002). If the estimated increase in direct carbon monoxide emissions from project operations exceeds the 550 pound per day threshold, the Monterey Bay Unified Air Pollution Control District *CEQA Air Quality Guidelines* (2002) explain that dispersion modeling can be used to refute (or validate) this determination. If dispersion modeling demonstrates that the project would not cause a violation of State or federal ambient air quality standards at sensitive receptors (9 parts per million for the 8-hour average or 20 parts per million for the one-hour average), the project would not have a significant impact on air quality.

Source: Monterey Bay Unified Air Pollution Control District, 2002

- **Objectionable Odors.** Projects which would emit pollutants associated with objectionable odors in substantial concentrations could result in significant impacts if odors would cause injury, nuisance, or annoyance to a considerable number of persons or would endanger the comfort, health, or safety of the public. Because people have mixed reactions to odors, the nuisance level of an odor varies.

IMPACTS AND MITIGATION MEASURES

Impact Air-1. Construction Phase Air Quality Impacts

Implementation of the proposed General Plan would apply management zoning to the park which could allow construction projects for the provision of public use opportunities and related facilities. Facilities that could be constructed under the General Plan include entrance stations/visitor information kiosks, park roads, parking lots, trails, information and interpretation signs, observation decks, picnic grounds, campgrounds, storage and maintenance sheds, and administrative offices. In addition, a few existing structures may be demolished if not adaptively reused.

Construction and demolition conducted under the General Plan could generate substantial amounts of fugitive dust. Dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. Primary sources of fugitive dust during construction would include excavation, earth movement, grading, and wind erosion from exposed surfaces.

While most of the dust associated with the construction of various facilities would occur during the first stages of site preparation, dust would also be generated during installation of infrastructure and heavy vehicle movement over unpaved surfaces. Particularly during the initial stages of a construction project, in the absence of mitigation, construction activities may result in significant quantities of dust (more than 82 lb/day) that results in adverse impacts to local visibility and PM₁₀ concentrations on a temporary and intermittent basis. Implementation of Mitigation Measure Air-1 would reduce potential impacts to less than significant at the program level.

With respect to exhaust emissions from construction equipment (including carbon monoxide and ozone precursors), their related emissions are included in the emissions inventory that is the basis for regional air quality plans and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the North Central Coast Air Basin (MBUAPCD, 2002). Therefore, construction-related emissions, other than dust, would not be significant.

Toxic air contaminant emissions would also occur from diesel engines that would be used during construction and would be in the form of diesel particulate matter. The areas that comprise the Park Support/Administrative Zone and the Storage Bunker Zone would likely experience the most construction activity because designated uses for these areas include park operations, storage, administrative support, and overnight lodging. Toxic air contaminants emissions from construction activity in these areas would not be significant because these areas

are not located in close proximity to sensitive receptors (i.e., residences or schools).

Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Air-1. Potential construction air quality impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be considered, including but not limited to requiring construction contractors to implement a dust abatement program to reduce the contribution of project construction to local respirable particulate matter concentrations. The program may include the following specific measures:

- Water all active construction areas at least twice daily
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer)
- Pave, apply water two times daily, or apply non-toxic soil stabilizers to all unpaved access roads, parking areas, and construction staging areas
- Sweep daily with water sweepers any paved access roads, parking areas, and staging areas at construction sites
- Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets
- Limit the area of construction sites with minimal earthmoving to 8.1 acres per day and the area of construction sites with grading and/or excavation to 2.2 acres per day¹
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas previously graded areas inactive for ten days or more

¹ These limits are based on Monterey Bay Unified Air Pollution Control District's threshold of 82 pounds/day of direct PM10 emissions in the *CEQA Air Quality Guidelines*, 2002. The limits are intended for screening purposes and do not represent a definitive significance threshold.

- Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.)
- Limit traffic speeds on unpaved roads to 15 miles per hour
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways
- Replant vegetation in disturbed areas as quickly as possible
- Where applicable, phase construction projects in such a manner that minimizes the area of surface disturbance (e.g., grading, excavation) and the number of vehicle trips on unpaved surfaces

Best management practices described in Mitigation Measure Air-1 above would reduce construction-related emissions of PM10. Implementation of Mitigation Measure Air-1 would reduce temporary and localized air quality impacts from construction activities to a less than significant level at the program level. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Air-2. Operational Air Quality Impacts

Implementation of the proposed General Plan would result in public use of the park and associated vehicle trips to and from the park. The effect of campfire smoke on air quality is considered to be minor because the number of campfires that could occur in the park is expected to be relatively low. Furthermore, the breezy conditions along the coast would prevent the concentration of campfire smoke from building up over time and no sensitive receptors are located in close proximity to the Storage Bunker Zone, where campgrounds could be developed. In addition, Management Guideline AIR-3 calls for prohibition of campfires on designated “No Burn Days,” as determined by the California Air Resources Board.

Increased motor vehicle emissions associated with General Plan implementation would be the largest source of pollutants resulting from operation of the park under the General Plan. Traffic levels would increase due to visitation to the park and jobs related to the administration, operations, and maintenance of the park. Facilities or projects in the North Central Coast Air Basin with daily operation-related emissions that exceed the Monterey Bay Unified Air Pollution Control District’s thresholds, which are shown in Table 4-1 above, constitute significant

air quality impacts. Motor vehicle emission estimates can be used to account for most of the potential total daily operation-related emissions of the park associated with implementation of the General Plan.

Modeling can provide estimates of motor vehicle emissions based on average trip length and the number of new trips generated. While detailed information concerning park operations is not specified in the General Plan, it is conservatively estimated that the park will generate approximately 1,650 new vehicle trips per day with an average visitor trip length of 30 miles.² This estimate assumes that a maximum of 286 parking spaces and 110 campsites could be accommodated in the park, as described under Management Zones (Chapter 3), and that five park staff would be required on site daily. This assumes the 286 parking spaces would have a turnover rate of 2.5 on a day when the park is operating at full capacity, campsites would have a turnover rate of 1.0, and park staff would make one round trip to the park per day, resulting in a maximum total of 1,650 vehicle trips per day.

The emission levels generated by these trips are estimated using the URBEMIS2002 model, as recommended by the Monterey Bay Unified Air Pollution Control District. The model estimates emission levels based on emissions factors established by the California Air Resources Board. This analysis is considered conservative because the model assumes that all 1,650 trips associate with operation of the park represent new vehicle trips within the North Central Coast Air Basin, and does not consider whether some visitors may be visiting Fort Ord Dunes State Park instead of other regional parks they would normally go to if Fort Ord Dunes were not available to them. Table 4-2 shows emission levels that would be generated based on these conservative estimates and compares them to the Monterey Bay Unified Air Pollution Control District significance criteria thresholds.

The estimated emission levels presented in Table 4-2 account for those guidelines incorporated into the General Plan that would partly mollify air emissions from motor vehicles. These guidelines would encourage use of public transit (AIR-1), establish non-vehicular access (AIR-2), and guide circulation development (CIR-2 and CIR-3). Foremost, the General Plan emphasizes non-vehicular public access to the park via connections to pedestrian and bicycle trails and to public transit. Potential transit stops at park entrances and within the park would be located in conjunction with heavy use areas.

² The average visitor trip length was estimated based on distances to regional population centers including the San Francisco Bay Area, the City of Monterey, City of Marina, City of Seaside, and communities south of Monterey on a weekend day.

**TABLE 4-2
VEHICLE EMISSIONS (POUNDS PER DAY)**

Pollutant	Emission Levels ^a	
	Significance Threshold (lbs/day)	Park Vehicle Trips
volatile organic compounds	137 (direct + indirect)	62.14
nitrogen oxides	137(direct + indirect)	125.48
PM10	82 (on-site)	50.89
carbon monoxide	550 (direct)	772.97 ^b

^a Emission levels were calculated according to procedures established by the *Monterey Bay Unified Air Pollution Control District CEQA Air Quality Guidelines* (MBUAPCD, 2002).

^b Value represents direct *and* indirect carbon monoxide emissions during full-capacity days in winter months, when carbon monoxide emissions are highest; on peak days during summer months the amount of direct and indirect carbon monoxide emissions would be 678.81 pounds per day.

Source: Environmental Science Associates, 2003

Table 4-2 lists potential emissions increases associated with General Plan implementation and indicates that under full implementation of planned management zone prescriptions and at full capacity, the total of direct and indirect carbon monoxide emissions generated by motor vehicle trips associated with operation of the park would be 772.97 pounds per day; however, because these emissions are being generated by mobile sources that would generally emit off-site, they are considered indirect emissions of carbon monoxide as defined by the Monterey Bay Unified Air Pollution Control District. Thus, the quantity of direct carbon monoxide emissions associated with operation of the park would be minimal and well below the significance threshold.

Though Monterey Bay Unified Air Pollution Control District significance thresholds would not be exceeded, the increase in vehicle emissions could be substantial and could result in potential impacts. Implementation of Mitigation Measure AIR-2 would reduce air emissions impacts associated with General Plan implementation to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Air-2. Potential air quality impacts associated with public use should be reviewed at the project-level for specific facilities or management

plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, as appropriate, including but not limited to:

- Pave roads that will be used by motor vehicles to the extent feasible to limit fugitive dust (PM10) emissions.
- Work with local public transit agencies to offer schedules that meet park use demand and allow bikes and other recreational equipment on their routes to and from the park.
- Provide reserved and preferentially located carpool/vanpool parking spaces.

Implementation of Mitigation Measure AIR-2, as described above, would reduce the potential operational air quality impacts associated with the implementation of the General Plan to less than significant at the program level. The Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

BIOLOGICAL RESOURCES

THRESHOLD

A project would normally result in a significant biological resources impact if it would:

- Have a substantial adverse effect (such as direct take or removal), either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

- 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 Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

IMPACTS AND MITIGATIONS MEASURES

Impact Bio-1. Potential Effects to Native Habitats and Species

Implementation of the proposed General Plan could allow new land uses, new facilities and improvements to existing facilities, and could result in an effect on native habitats and species. Localized, minor, short-term, temporary effects on native vegetation could occur from construction activities (e.g., potential visitor center/kiosk, day-use and/or overnight parking lots, trail development and other new facilities). Effects would be related to heavy equipment and construction activities and could include soil compaction, dust, vegetation removal, wildlife harassment or mortality, root damage, erosion, and introduction and spread of non-native species. Construction effects on native habitats and species may be site-specific short-term and long-term negative effects. The development zones, i.e., 8th Street, 1st Street, and Storage Bunker Zones, could require removal of primarily disturbed plant communities, including disturbed dunes and ice plant dominant communities. Potential removal of these communities within development zones would not negatively affect native habitat; however, the majority of these areas will be developed and would not benefit native habitats and species.

Implementation of The Plan would provide increased protection for native habitats and species. Establishment of the Natural Resource Zone would protect natural resources while providing a diverse visitor experience. Implementation of the goals and guidelines within the Natural Resource Zone includes restoring native plant communities as part of the 700-acre on-going restoration effort in accordance with protocols established in the basewide HMP and the Draft HCP. Within the development zones, i.e., 8th Street, 1st Street, and Storage Bunker Zones, native vegetation would be restored in areas not proposed for development.

Possible future actions (e.g., construction of new facilities and trail development) that could occur under the proposed zoning would be subject to the goals and guidelines of The Plan, which would guide how the action could be implemented.

Implementation of the guidelines BIO-2 (site development away from sensitive resources), and BIO-7 (vegetation management) would reduce potential impacts of future actions on native habitats and species to less than significant levels at the program level. Implementation of these guidelines would restore native plant communities, reduce impacts on intact native plant communities, reduce the spread of non-native invasive species, minimize wildlife harassment and mortality, and root damage. Implementation of guidelines GEO-9 (site design measures to consider soil conditions) and HYD-7 (erosion control design measures) and Mitigation Measure Air-1 would reduce potential soil erosion and dust impacts at the program level.

Implementation of Mitigation Measure Bio-1 would further reduce potential impacts on native habitats and species to less than significant at the program level. Because specific implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, the Department would review specific facilities and plans at the time they are proposed for implementation to determine potential project-specific impacts and to identify appropriate project-specific mitigation measures. Implementation of the goals and guidelines along with Mitigation Measure Bio-1 would have a short- and long-term, less than significant, beneficial effect on native habitats and species at the program level due to application of management zoning.

Mitigation Measure Bio-1. Potential effects to native habitats and species should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, including but not limited to:

- Conduct construction phase vegetation and wildlife surveys as warranted.
- Implement a compliance-monitoring program in order to stay within the parameters of CEQA and other pertinent regulations. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.
- Implement a natural resource protection program. Standard measures could include biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a project related non-native invasive species abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on-site free of mud or seed-bearing material, use native seeds and straw material to the extent feasible,

identify and treat areas of non-native invasive species prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.

- Develop revegetation plans for disturbed areas, and using native species, as appropriate. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation should be used to the extent possible.

Implementation of the design measure described above would reduce the potential program-level effects to native habitats associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Bio-2. Potential Effects on Special-status Species

Implementation of the proposed General Plan could allow new land uses, new facilities and improvements to existing facilities, and could result in effects on special-status species, including Smith's Blue butterfly, globose dune beetle, black legless lizard, special-status bats and birds, Western snowy plover and several special-status plant species. The 8th Street and 1st Street Zones contain medium density and low density Monterey spineflower, respectively. Localized, minor, short-term to long-term effects on special-status species could occur from construction of potential facilities and/or actions. Effects would be related to night lighting during operations, trampling, dust, heavy equipment, and construction activities and could result in direct removal of habitat, harassment or mortality, and introduction and spread of non-native species.

Implementation of The Plan, including goals and guidelines, would protect special-status species. Within the Natural Resource Zone, habitat for special-status species could be enhanced and expanded. Implementation of guidelines protecting special-status species (BIO-1 through BIO-8) would avoid or reduce impacts related to trampling, heavy equipment and construction activities to less than significant at the program level within all management zones. Implementation of Mitigation Measure Air-1 would minimize dust. Implementation of Guideline AES-7 would minimize night lighting at the program level by generally directing lights towards developed areas.

Implementation of Mitigation Measure Bio-1 and Mitigation Measure Bio-2 would further reduce potential impacts to less than significant at the program level.

Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, the Department would review specific facilities and plans at the time they are proposed for implementation to determine potential project-specific impacts and to identify appropriate project-specific mitigation measures.

Mitigation Measure Bio-2. Potential impacts to special-status species should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, including but not limited to:

- Site and design facilities/actions to avoid adverse effects to rare, threatened, and endangered species. Consult with the appropriate resource agencies.
- As part of the planning and design process for area-specific projects, and prior to any site-specific development, commencement of heavy equipment activities, or grading or construction related to new facilities or enhancements, develop the appropriate environmental compliance documentation and evaluation. Survey affected areas for the presence of special-status plant and animal species and comply with the Endangered Species Act and applicable federal and state regulations, as warranted. Where required, minimize, reduce, or compensate potential impacts of project implementation, including but not limited to:
 - A qualified biologist to identify any special-status species or suitable habitat that potentially could occur in the affected area, and conduct appropriately timed surveys if such species may be disturbed by the proposed project
 - Avoid construction activities during a special-status species breeding season. In the event that construction activities occur during a special-status species breeding season, identify and implement appropriate measures to offset those impacts in consultation with a qualified biologist and appropriate resource agencies (as necessary)
 - If any special-status species are found within the areas that would be affected by the proposed activities, or adjacent to such areas, such activities to be planned and designed to avoid or minimize potential impacts during both the construction and post-construction periods
 - In the event that some temporary disturbance to sensitive habitat is unavoidable, disturbed habitat is to be revegetated with like habitat

In the event that some permanent disturbance to special-status species is unavoidable, appropriate measures to offset those impacts are to be

identified and implemented in consultation with a qualified biologist and appropriate resource agencies. Such measures are to be consistent with all applicable rules and regulations relating to the protection of special-status species, and necessary authorizations will be obtained from USFWS, CDFG, and any other applicable agency.

- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.

Implementation of the design measure described above would reduce the potential program-level special-status species impacts associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Bio-3. Potential Increase in Public Access and Use

Implementation of the proposed General Plan would apply management zoning to the park that could allow new public uses, facilities and improvements to existing facilities, and could result in public access and use of the park. With increased activity associated with public use of the park, non-native invasive species could be transported by visitors onto park land at a greater rate than occurs at present. Seeds of invasive species are likely to be dispersed by such vectors as the boots of hikers and the tires of cars. Invasive plant species can cause: (1) a decline in distribution and density of native plant and wildlife habitats; (2) a decrease in native plant diversity; and (3) a direct modification of the environment, such as transforming a sensitive plant community to a non-native habitat.

Establishment of a viable invasive, non-native species population in ecologically sensitive areas can also lead to alterations in the abundance, diversity, and distribution of wildlife species populations. The potential for increased density and distribution of invasive species is proportionate to the increase in the number of visitors to the park and would constitute a significant impact.

Potentially significant loss of vegetation and wildlife due to recreational activities may be caused by:

- Excessive noise, trampling, or rapid movements by joggers resulting in harassment to wildlife;

- Increased garbage, road-kills, and trash that attract corvids, resulting in nest predation; loss of species diversity; and,
- Off-trail activity resulting in habitat destruction and/or fragmentation and spread of invasive species.

Implementation of guidelines BIO-17 and BIO-18 (regulating animal populations), as well as guidelines advocating public education and enforcement of appropriate visitor use activities (INT-1, INT-2, INT-4, OPS-7, OPS-10), and guideline SUST-3 (animal resistant recycling and trash bins), would protect natural habitat from active recreation or interpretive facilities. Implementation of Mitigation Measure Bio-3 would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, the Department would review specific facilities and plans at the time they are proposed for implementation to determine potential project-specific impacts and to identify appropriate project-specific mitigation measures.

Mitigation Measure Bio-3. Potential biological resources impacts related to public access and use should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be considered, including but not limited to:

- Prepare and implement a park-specific adaptive management program to address visitor carrying capacity.
- Prohibit intentional or unintentional feeding of park wildlife, and inadvertent harassment through observation or pursuit.

Implementation of the design measure described above would reduce the potential program-level biological resources impacts related to public access and use associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

CULTURAL RESOURCES

THRESHOLD

A project would normally result in a significant cultural resources impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Section 15064.5; such as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be historically impaired.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or,
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impact Cul-1. Impacts to Currently Unknown Cultural Resources

The limited marine resources and retreating shoreline of the active dunes on the unit does not indicate that pronounced archaeological sites would occur here. In addition, cursory surveys of the active dunes of Fort Ord did not reveal archaeological deposits (Waite, 1995). Given the size of the Natural Resource Zone and the focus on a limited presence of facilities on the Park, potential impacts to cultural resources are inherently reduced. However, because the park itself has not been intensively surveyed for the purposes of this General Plan, unidentified or subsurface cultural resources may be affected by facilities construction and maintenance operations. Further, the park also may still contain potentially significant historic resources, such as structures associated with the military history of Fort Ord, which have yet to be evaluated individually. Implementation of the proposed General Plan could result in the addition of new facilities. The implementation of future action within the park, such as locations of specific facilities within the development zones, i.e., 8th Street, 1st Street, and Storage Bunker Zones, must be established before adequate mitigations may be assigned to address specific cultural resource issues. However, the evaluation of the specificity allowed at the General Plan level indicates that future actions can be mitigated to a less than significant level with the implementation of Mitigation Measure Cul-1. Because implementation information, such as

locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Cul-1. Potential archaeological and historic resources impacts should be reviewed at the project-level for specific facilities proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be considered, including but not limited to:

- Subject projects to site-specific planning and compliance in accordance with local, state, and federal cultural resource protection laws.
- In an effort to avoid impacts to traditional cultural properties, consult with Native American contacts provided by the Native American Heritage Commission, as applicable.
- Conduct a comprehensive survey for archeological sites, traditional resources, historic sites, structures, and cultural landscape resources as warranted. Surveys and reports shall be prepared in compliance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation.
- Construction, maintenance, adaptive reuse, or improvements of historic structures of assumed significance shall be conducted in conformance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR Part 68).
- In the event cultural resources are encountered on the park during the course of construction the findings shall be examined by a qualified archaeologist. If the finding is determined to be an historical or unique archaeological resource, avoidance measures or appropriate mitigation shall be implemented. Recommendations can then be made for any appropriate procedures to either further investigate or mitigate impacts to those cultural resources that have been encountered. As provided in the CEQA Guidelines, Section 15064.5(f), work could continue on other parts of the park while historical or unique archaeological resource mitigation (if necessary) takes place.

Implementation of the requirements described above would reduce the potential cultural resources impacts associated with the implementation of the actions proposed in the General Plan. However, the Department would require examination of many specific facilities at the time they are proposed for implementation to determine the nature of subsequent environmental review at a more detailed project-specific and site-specific level.

Significance After Mitigation: Less than significant at the Programmatic-level

Impact Cul-2. Paleontological Impacts

No paleontological sites have been recorded within the boundaries of Fort Ord Dunes, while a number of sites have been identified in upland areas of the former Fort Ord military reservation. Given the dynamic state of the dunes and coastal erosion, significant deposits of fossil material in Fort Ord Dunes are unlikely. Nevertheless, significant assemblages of fossil remains are possible even in areas designated as having low-potential for resources. Therefore, potential impacts to unidentified paleontological resources can be mitigated to less than significant with the implementation of Guidelines CUL-1 and CUL-2 (construction related cultural resources prescriptions) and Mitigation Measure Cul-2. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Cul-2. Potential paleontological resources impacts should be reviewed at the project-level for specific facilities proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be considered, including but not limited to:

- The Department shall notify qualified personnel of unanticipated discoveries and subsequently document the discovery as appropriate. In the event of an unanticipated discovery of a brea, true, and/or trace fossil during construction, excavations shall be temporarily halted or diverted until the discovery is examined by qualified personnel. Appropriate procedures shall be followed before construction is allowed to resume at the location of the find.

Significance After Mitigation: Less than significant at the Programmatic-level

Impact Cul-3. Disturbance of Human Remains

Human remains or funereal goods are not anticipated to occur within Fort Ord Dunes. However, this does not preclude the existence of burials of any kind from being identified on the park during construction or maintenance, should development occur as a result of General Plan implementation. Implementation of Mitigation Measure Cul-3 would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time

they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Cul-3. Potential human remains disturbance impacts should be reviewed at the project-level for specific facilities proposed under the General Plan and mitigation measures shall be considered, including but not limited to:

- In the event of discovery or recognition of any human remains on the site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of Monterey County has been contacted, per Section 7050.5 of the California Health and Safety Code. If the coroner determines that the human remains are of Native American origin, state laws relating to the disposition of Native American burials shall be implemented.

Significance After Mitigation: Less than significant at the Programmatic-level

GEOLOGY AND SOILS

THRESHOLD

A significant geology, soils, and/or seismicity impact would be expected to occur if the General Plan would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology (CDMG) Special Publication 42)
 - ii) Strong seismic ground shaking
 - iii) Seismic-related ground failure, including liquefaction
 - iv) Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

IMPACTS AND MITIGATION MEASURES

Impact Geo-1. Potential Erosion and Unstable Slope Impacts

Coastal erosion along the Central California shoreline is estimated at 1.5 feet to 7 feet per year. At Fort Ord Dunes, this erosion is caused by the reduction in sediments being transported to the ocean and loss of vegetation in shoreline dunes. Discharge of stormwater flows generated from inland areas of Fort Ord east of SR 1 has historically accelerated shoreline retreat. The Coastal Beach and Dune Land soils that underlie Fort Ord Dunes are also highly susceptible to wind erosion.

Implementation of the proposed General Plan could allow the addition of new facilities and public use. Over-use by park visitors, degradation of vegetation on dune slopes, and the creation of unauthorized trails across dune slopes by park visitors would increase erosion potential. Site development involving removal of vegetative cover and grading could also subject bare soils to erosion from rain and wind during construction activities.

Implementation of relevant Management Guidelines, specifically, GEO-1 through GEO-4 (coastal erosion measures), GEO-6 (restore landforms), and GEO-7 through GEO-10 (geotechnical investigations and design requirements), as well as Interpretation and Educational Resources guidelines advocating public education regarding appropriate visitor use activities, and implementation of Mitigation Measure Geo-1 would reduce potential construction-related erosion, coastal erosion, and slope instability impacts to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Geo-1. Potential erosion impacts should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be considered, including but not limited to:

- Final grading plans shall be designed to minimize soil erosion potential.

- Consider planting native vegetation on steep slopes to reduce erosion potential.
- The park layout shall be designed to discourage walking or biking on unimproved, steep slopes.
- Conceptual drainage plans shall be prepared to accompany grading permit applications.

Implementation of design measures and plans, as described above, would reduce the potential program-level erosion impacts associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Geo-2. Potential Soils Impacts Related to Septic Systems

There are no septic tanks or alternative waste disposal systems at Fort Ord Dunes. Implementation of the proposed General Plan could allow the addition of new facilities, reuse of certain existing facilities, and public use that may generate additional wastewater. These actions may require the installation of septic systems to accommodate wastewater generated on site in areas not connected to the Marina Coast Water District sewer system. However, septic systems installed in unsuitable soils could function improperly. Implementation of Management Guideline HYD-4 (stormwater system setbacks) and HYD-6 (water conservation and protection), and Mitigation Measure Geo-2, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Geo-2. Potential soils impacts related to septic systems should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented, including but not limited to:

- If septic systems are needed, they shall be designed, sited, constructed, and operated in compliance with design requirements of the Regional Water Quality Control Board, or designated entities.

Implementation of the design measure described above would reduce the potential program-level soil impacts related to septic systems associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and Management Plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

HAZARDS AND HAZARDOUS MATERIALS

THRESHOLD

A project would normally result in a significant hazards and hazardous impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

IMPACTS AND MITIGATION MEASURES

Impact Haz-1. Potential Impacts Associated with Hazardous Sites

Implementation of the proposed General Plan could allow the addition of a number of new facilities in the park, thereby generating construction projects. Construction of potential facilities requiring excavation, soil disturbance, and public and operational uses within areas that contain elevated concentrations of lead could result in hazardous materials impacts. As previously discussed, soil samples collected following the completion of remedial excavation activities in former firing ranges and in areas used during remediation activities contained average lead concentrations of 161 mg/kg and 148 mg/kg, respectively. Average lead concentrations are below the health-based clean up level established for Fort Ord lead remedial activities, which is the most relevant requirement, and are also below the California Department of Health Services guidelines and California Code of Regulations requirements (see Hazardous Materials Regulatory Setting, below). Average concentrations at firing ranges are slightly above the Environmental Protection Agencies California-modified preliminary remediation goal for residential soils, and are slightly below the goal elsewhere.

Former firing range areas are largely located within the Natural Resource Management Zone. Therefore, disturbance of soil in former firing ranges associated with implementation of the proposed General Plan is unlikely, with the exception of vegetation restoration and trail construction. Construction activities may disturb haul routes or other areas used during remedial operations.

As previously discussed, the health hazard assessment conducted following the completion of remedial activities determined that exposure of park rangers, habitat management workers, construction workers, and park visitors to lead-levels currently remaining in soil is not anticipated to result in a significant health risk (IT Corporation, 2000). However, park development and use may indicate previously unidentified or subsurface contaminants. Therefore, impacts associated with potential future exposure to lead-impacted soils are considered potentially significant.

Implementation of Management Guidelines HAZ-1 and HAZ-3 (site specific hazardous materials investigation and planning), and Mitigation Measure Haz-1, would reduce the potential impacts associated with lead-impacted soils to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Haz-1. Potential construction phase hazards and hazardous materials impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented, including but not limited to:

- Soils disturbed by construction activities shall be sampled in accordance with waste disposal requirements and disposed of accordingly.

Implementation of the measure described above would reduce the potential program-level construction phase soil impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Haz-2. Potential Construction Phase Hazardous Materials Release Impacts

Implementation of the proposed General Plan could allow the addition of new or expansion of existing facilities. Potential construction activities would require the use of certain potentially hazardous materials such as fuels, oils, paints, and solvents. These materials would generally be used for excavation equipment, generators, and other construction equipment and would be contained within vessels engineered for safe storage. Spills during onsite fueling of equipment or upset conditions (i.e., puncture of a fuel tank through operator error or slope instability) could result in a release of fuels or oils into the environment. Storage of large quantities of these materials at the construction sites is not anticipated. However, potential release of these materials would be a potentially significant impact. Implementation of Management Guidelines HAZ-4 (hazardous materials handling specifications) and HYD-7 (erosion and stormwater control), and Mitigation Measure Haz-2, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Haz-2. Potential construction phase hazardous materials release impacts should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan and mitigation measures shall be implemented, including but not limited to:

- The Department or its contractors shall implement as appropriate a Spill Prevention and Control Plan that requires all transport, storage, and handling of construction-related hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the Central Coast Regional Water Quality Control Board, and Monterey County.
- A spill kit shall be maintained on-site throughout the life of the project.
- The Department shall incorporate into construction contract specifications the requirement that construction staging areas be designed to contain runoff so that contaminants such as oil, grease, and fuel products do not drain towards receiving waters and soils. Heavy-duty construction equipment should not be stored overnight adjacent to a potential receiving water or high-use recreation area; however, if necessary, drip pans shall be placed beneath the machinery engine block and hydraulic systems.

Implementation of the measures described above would reduce the potential program-level construction phase hazardous materials release impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Haz-3. Potential Fire Hazard Impacts

Implementation of the proposed General Plan could allow new or expanded park facilities. Sparks from potential construction activities, such as welding and cutting could ignite dry brush and wood structures. If such a fire occurred and spread to adjacent areas, damage to Department property and wildlife habitat, and public health and safety risk could occur. Further, unregulated public use activities, such as use of campfires or matches, could result in fire hazards. Implementation of Guidelines PUB-4 and PUB-5 (public safety guidelines), as well as Interpretation and Educational Resources guidelines advocating public education regarding appropriate visitor use activities, and Mitigation Measure Haz-3, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Haz-3. Potential construction phase fire hazard impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented, including but not limited to:

- The Department shall incorporate fire safety recommendations into all project plans and contract specifications, such as:
 - All dry brush shall be removed from the project construction area, and immediate vicinity
 - All equipment shall be provided with spark arresters, except those exempted by regulation
 - During periods of high fire danger, as determined by local firefighting agencies, a water truck shall remain on site for the duration of the project
 - In the event that project construction ignites a fire, the contractor shall notify Department staff and local fire-fighting agencies immediately, consistent with applicable fire safety plans

Implementation of requirements described above would reduce the potential program-level construction phase fire hazard impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Haz-4. Potential Demolition and Renovation Phase Hazardous Materials Impacts

Implementation of the proposed General Plan could allow reuse of existing facilities or demolition of existing structures. Assessments for the presence of lead-based paint or asbestos in these structures have not occurred. Based on the age and nature of these structures, existing buildings may contain these substances. Asbestos is a naturally occurring fibrous material used as a fireproofing and insulating agent in building construction before such uses were banned by the Environmental Protection Agency (EPA) in the 1970s. Similarly, lead-based paint was commonly applied on interior and exterior structural surfaces prior to being banned by the EPA in 1978.

Asbestos is regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal-OSHA. Lead-based paint is classified as a hazardous waste if the lead content exceeds 1,000 parts per million. Additionally, lead-based paint chips can pose a hazard to workers and adjacent sensitive land uses. Demolition or renovation activities may therefore expose the public and construction workers to these substances.

Implementation of Management Guideline HAZ-3 (hazardous materials evaluation), and Mitigation Measure Haz-4 would reduce the potential lead-based paint and asbestos impacts to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Haz-4. Should lead-based paint and asbestos surveys required by Management Guideline HAZ-3 determine these substances are present in buildings slated for demolition or renovation, abatement activities shall occur prior to the renovation and demolition activities and comply with all federal, state, and local regulations regarding removal and handling of lead-based paint and asbestos.

- Asbestos removal activities shall be conducted by a California-licensed asbestos abatement contractor, and appropriate notifications to the state Occupational Health and Safety Administration and Central Coast Air Quality Management District shall occur. Renovation or demolition wastes containing asbestos shall be disposed of in accordance with federal and state waste disposal requirements. All federal and state Occupational Health and Safety Administration regulations shall be followed.

The Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

HYDROLOGY AND WATER QUALITY

THRESHOLD

A significant water quality and/or hydrology impact would be expected to occur if the General Plan would:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam
- Cause an inundation of seiche, tsunami, or mudflow

IMPACTS AND MITIGATION MEASURES

Impact Hyd-1. Potential Stormwater Runoff Impacts

Implementation of the General Plan could allow the addition of new facilities and public use. Fort Ord Dunes project area does not currently include stormwater drainage systems. If implemented, newly constructed facilities would result in increased impervious surface areas³ that would increase runoff. However, given the purpose and vision of this park unit as a natural setting, park related development would not significantly alter the existing drainage pattern of the site by adding substantial new impervious surface areas.

Implementation of Management Guidelines HYD-6 (limiting impervious surfaces) and Mitigation Measure Hyd-1 would reduce the potential impact associated with increased volume and rates of stormwater runoff to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Hyd-1. Potential runoff and downstream flooding impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented as appropriate, including but not limited to:

- Park improvements shall include stormwater drainage facilities to accommodate increased runoff volumes where necessary, and a drainage plan shall be included with all grading plan applications.

Implementation of storm drainage measures, as described above, would reduce the program level potential runoff and downstream flooding impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

³ Storm water runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff. In addition, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Finally, increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety.

Significance After Mitigation: Less than Significant at the Program-level

Impact Hyd-2. Potential Flooding Impacts

Specific areas of Fort Ord Dunes, such as along the shoreline and inland near the 8th Street Zone, are within FEMA-designated 100-year flood zones. Potential impacts associated with proposed management zoning in the General Plan may therefore include development of new facilities within these 100-year flood zones, particularly in the 8th Street Zone. However, given the purpose and vision of this park unit as a natural setting, park related development would not substantially alter the existing drainage pattern of the site or area, resulting in flooding associated with alteration of a river or stream course or substantial increases in the amount of runoff. Further, Fort Ord Dunes and adjacent areas do not include dams or levees that could be affected by activities at Fort Ord Dunes. Implementation of Mitigation Measure HYD-2 would reduce potential flood zone impacts to less than significant at the program level. However, because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures, if needed.

Mitigation Measure Hyd-2. Potential flooding impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented as appropriate, including but not limited to:

- New facilities shall be located outside of FEMA-designated 100-year flood zones whenever possible. If no practical alternative location exists, a drainage plan that includes detailed calculations of expected changes in stormwater runoff patterns and rates, potential flooding impacts related to facility construction and operations, changes to flood flows, and expected depth of facility inundation in the event of a 100-year storm event, shall be completed.

Implementation of compliance measure, as described above, would reduce the potential flood-zone impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

NOISE ENVIRONMENT

THRESHOLDS

A project would normally result in a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise

IMPACTS AND MITIGATION MEASURES

Impact Noi-1. Construction Noise Impacts

Implementation of the proposed General Plan could allow construction projects related to the provision of additional public use opportunities and facilities, and additional support facilities. Facilities that could be constructed under the General Plan include entrance stations/visitor information kiosks, park roads, parking lots, trails, information and interpretation signs, picnic grounds, campgrounds, storage and maintenance sheds, and administrative offices. In addition, a few existing structures may be demolished if not adaptively reused. Construction or demolition activities associated with potential General Plan projects could generate substantial amounts of noise within proximity of individual construction sites.

The exact location and schedule of construction projects that could occur under the General Plan are unknown at this time, but could occur at locations that would adversely affect the noise environment of off-site sensitive land uses such as the residences on Lake Court near the park's north boundary line.

Construction of the potential projects would result in temporary, intermittent increases in ambient noise levels, and could potentially result in groundborne vibration or noise levels. Construction noise levels at the project area would fluctuate depending on the particular type, number, and duration of use of construction equipment. The effect of construction noise would depend on the volume generated and the distance between construction activities and noise-sensitive receptors. Table 4-3 shows typical noise levels during different construction stages. Table 4-4 shows typical noise levels produced by various types of construction equipment.

Noise from construction equipment in the park, and haul trucks accessing the park could result in noise levels that exceed local thresholds when operated without noise controls and in areas near residences. Without noise controls and other mitigation measures, noise impacts by construction or demolition activities could have a significant temporary impact, particularly if they are located near sensitive receptors close to the park boundary. Implementation of Guideline NOI-3 (noise abatement measures) Mitigation Measure Noi-1 would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Noi-1. Potential construction noise impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and additional mitigation measures shall be implemented, if appropriate including but not limited to:

- Implement a compliance-monitoring program in order to stay within the parameters of project-specific compliance documents. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols. The compliance-monitoring program may entail posting signs at construction sites that include permitted construction days and hours, and a day and evening contact number for the job site.
- Impact tools used for project construction shall be hydraulically or electrically powered wherever possible. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to 10 dBA. External jackets on the tools themselves shall be used where feasible, which could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

**TABLE 4-3
TYPICAL COMMERCIAL CONSTRUCTION NOISE LEVELS BY PHASE**

Construction Phase	Noise Level (dBA, Leq) ^a
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

^a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Source: U.S. Environmental Protection Agency, 1971

**TABLE 4-4
TYPICAL COMMERCIAL CONSTRUCTION NOISE LEVELS BY EQUIPMENT TYPE**

Equipment	dBA at 50 feet ^a WITHOUT CONTROLS	dBA at 50 feet ^a WITH CONTROLS ^b
Backhoe	85	75
Bulldozer	80	75
Graders	85	75
Frontend loader	79	75
Dumptrucks	91	75
Concrete Pump	82	75
Flat bed delivery truck	91	75
Crane	83	75
Pumps	76	75

^a Estimates correspond to a distance of 50 feet from the noisiest piece of equipment and 200 feet from the other equipment associated with that phase.

^b Implementing controls may include selecting quieter procedures or machines and implementing noise-control features requiring no major redesign or extreme costs (e.g., improved mufflers, equipment redesign, use of silencers, shields, shrouds, and ducts, and engine enclosures).

Source: U.S. Environmental Protection Agency, 1971

- Noise control measures shall be applied to construction equipment. Equipment and trucks used for project construction shall utilize normal noise control techniques (e.g., mufflers in good working order).
- Construction equipment may not be operated during sensitive times of the day. Seasonal time constraints may also need to be implemented.

- Plan construction activities so that additive noise is minimized (e.g., avoid concurrent use of loud construction equipment) that minimizes the duration in which a sensitive receptor is affected by noise.
- Take appropriate measures to control pedestrian access to active construction areas. Recreational users should be kept at a safe distance from the operation of construction equipment.
- Limit the proximity of construction noise to sensitive receptors. Stationary noise sources, such as diesel generators, shall be located as far from sensitive receptors as possible. Haul-trucks and other construction equipment shall be restricted to routes that practicably avoid sensitive receptors.

Implementation of requirements described above would reduce the potential program-level construction noise impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Noi-2. Potential Operational Noise Impacts

Implementation of the proposed General Plan could allow additional noise sources, associated with the operation of the potential new Park facilities and activities. The amount of vehicular traffic to the park is expected to grow, resulting in additional noise along roadways leading to and from the projects; however, the amount of the increase can not be determined at the program level. Given the purpose and vision of the park as a natural setting, it is not anticipated that implementation of the general plan would result in operational activities or park uses that would generate excessive groundborne vibrations or noise levels.

While implementation of the General Plan could result in additional noise sources, the General Plan includes several components that would limit the level of additional noise associated with operation of the park. The General Plan aims to limit the amount of vehicular traffic both to and within the park by emphasizing non-vehicular public access to the park via connections to pedestrian and bicycle trails and to public transit. Potential transit stops at park entrances and within the park would be encouraged (CIR-2 and CIR-3). Moreover, private vehicles would not have access throughout the park, limiting areas that could be affected by vehicular noise, as described in the Management Zones section (Chapter 4).

Potential visitor activities such as recreation and educational field trips could also contribute noise to the environment. The General Plan specifies the need to include adequate setbacks from SR 1 to separate park activities from highway noise.

While components of the General Plan may reduce potential noise sources, potential impacts could be associated with implementation of projects under the General Plan, depending on the size and location of potential facilities and uses. Implementation of Mitigation Measure Noi-2 would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities, is not yet known, specific facilities would be reviewed at the time they are proposed to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Noi-2. Potential operational noise impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented as appropriate, including but not limited to:

- The effects of noise resulting from the use or operation of new facilities should be analyzed to ensure consistency with relevant local noise ordinances. The design of new facilities shall incorporate specifications that prevent significant noise impacts on nearby residences.
- Operation of maintenance equipment such as mowers and landscaping equipment should abide by the local noise ordinances.
- Speed limits should be placed on roads inside the park to reduce noise levels caused by motor vehicle traffic.

Implementation of the requirements described above would reduce the potential program-level operational noise impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans developed under the General Plan at the time they are proposed to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

PUBLIC SERVICES

THRESHOLD

A project would normally result in a significant emergency and public services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
 - Fire protection
 - Police protection
 - Schools
 - Parks
 - Other public facilities

IMPACTS AND MITIGATION MEASURES

Impact Pub-1. Potential Fire Protection Services Impacts

The adequacy of fire protection for a given area is based on ability to provide adequate water supply and water flow rate, response distance from existing fire stations, and the Fire Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Implementation of the proposed General Plan could allow visitation to the park, which, in turn, would increase the probability of fires caused by human activity. The General Plan includes some management actions for providing additional fire protection. Under the General Plan, fire roads and hydrants could be installed where necessary to facilitate fire protection. Potentially significant program-level environmental impacts associated with construction and operation of the park facilities that could be developed under the General Plan are identified in this Environmental Analysis. Implementation of the mitigation measures included in the Environmental Analysis would reduce potential impacts to a less than significant at the program level.

Full implementation of the General Plan would result in some increases in demand for fire protection services. Potential fire protection services impacts could occur if new facilities are not designed properly and proper access and water flow is not provided. Implementation of Guidelines CIR-7 and CIR-8

(emergency access planning guidelines) and Mitigation Measure Pub-1 would reduce the potential impact to less than significant at the program level by ensuring that adequate fire protection is incorporated into park planning. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Pub-1. Potential fire protection services impacts should be reviewed at the project-level for specific facilities or management plans proposed under the General Plan and mitigation measures shall be implemented, including but not limited to:

- The Department shall comply with all applicable State and local codes and ordinances. Requirements may relate to automatic fire extinguishing systems and smoke detectors.
- Roofs of new structures shall have a Class A rating to mitigate problems that may arise as a result of wildland-urban interface.
- Requirements for emergency vehicle access shall be incorporated into project design, including access to physical structures and fire hydrants. Such requirements include road grade and lane width, paving of access roads, curb painting, emergency breakaway gates, vertical clearance, turning radii, turn-around areas, and signage.
- Water flow requirements and fire hydrant specifications shall be met. All fire hydrants shall be in place prior to construction of any facilities.
- Emergency vehicle access shall be maintained at all times.

Implementation of the requirements described above would reduce the potential program-level fire protection services impacts associated with the implementation of the General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

RECREATION RESOURCES

A project would normally result in a significant recreation resources impact 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
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment

IMPACTS AND MITIGATION MEASURES

Implementation of the proposed General Plan would apply management zoning to the park that could allow the addition of new recreational facilities and access to this area, the construction of which could result in adverse physical effect on the environment. Potentially significant program-level environmental impacts associated with construction and operation of the park facilities that could be developed under the General Plan are identified in this Environmental Analysis. Implementation of the mitigation measures described throughout this Environmental Analysis would reduce potential impacts to a less than significant level at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Significance After Mitigation: Less than significant at the Program-level

TRANSPORTATION / TRAFFIC

THRESHOLD

A project would normally result in a significant transportation/traffic impact if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature or incompatible uses
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation

IMPACTS AND MITIGATION MEASURES

Impact Tra-1. Potential Traffic Circulation Impacts

Implementation of the proposed General Plan would apply management zoning to the park that could allow an increase in public use and an associated increase in trips (vehicular, bicycle, and pedestrian) to the park. The potential forecast generation of increased traffic during the weekday peak commute hours, and the peak weekend hour could adversely affect traffic flow conditions on local and regional roadways in the project vicinity. As described in Existing Conditions and Issues, SR 1 in the project area is currently operating at a satisfactory level of service (LOS C or better). Addition of park-related traffic could cause current and forecast peak-hour levels of service to degrade for area roadways and intersections. In addition, the potential increase in park-related traffic may adversely affect local roadways and their adjacent land uses (both existing and land uses planned by other jurisdictions, such as adjacent cities, Transportation Agency for Monterey County, and Monterey County) that would be used to access park entrance roadways.

The Transportation Agency for Monterey County reviews all Environmental Impact Reports for projects that could affect transportation and traffic circulation in Monterey County. The Transportation Agency for Monterey County has adopted guidelines for environmental review. At the time individual facilities and management plans are developed and analyzed in detail, specific mitigation measures can be determined to reduce the project's impact to transportation impacts to less than significant levels. Adopted significance standards for traffic circulation for the project-specific analysis would be determined by the appropriate jurisdiction for each roadway and intersection facility (i.e., cities of Marina and Seaside, Monterey County, and Caltrans).

Implementation of Guidelines CIR-1 through CIR-3 (transportation and access design guidelines) and Mitigation Measure Tra-1 would reduce the potential impact to less than significant at the program level. Because implementation

information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Mitigation Measure Tra-1. Potential traffic circulation impacts should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan, and mitigation measures shall be implemented, including but not limited to:

- Concurrent with the planning and development of project level facilities and management plans, conduct a traffic study for the park's components. Elements of the traffic study would include, but not be limited to, the following: 1) project trip generation estimate; 2) roadway, intersection and freeway mainline operations and level of service analyses; 3) an onsite circulation and access analysis; and 4) provision of mitigation measures to reduce potential project traffic impacts. Project specific mitigation would be developed based and implemented on the results of these studies.

Implementation of traffic study requirements, as described above, would reduce the potential program-level traffic circulation impacts associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Tra-2. Potential Pedestrian and Bicycle Safety Impacts

Implementation of the proposed General Plan would apply management zoning to the park that could allow access points to the park and internal roads that would serve both motorized and non-motorized traffic. In addition, the potential development of trails adjacent to the existing Beach Range Road may adversely affect pedestrian/bicycle safety. The location and design of the potential secondary pedestrian/bicyclist access points to the park may result in safety hazards for both motorists and pedestrians.

Implementation of Guidelines CIR-4 and CIR-5 (vehicle safety guidelines) and Mitigation Measure Tra-2, would reduce the potential impact to less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time

they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures. Adopted significance standards for pedestrian and bicycle safety for the project-specific analysis would be determined by the appropriate jurisdiction for each roadway and intersection facility (i.e., cities of Marina and Seaside, Monterey County, and Caltrans).

Mitigation Measure Tra-2. Potential pedestrian and bicycle safety impacts should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan, and mitigation measures shall be implemented, including but not limited to:

- Locate and design the potential access points to avoid or minimize potentially significant pedestrian, bicycle, and automobile safety hazards.
- Consider separate travelways where necessary to improve safety and minimize traffic conflicts.
- Install adequate signage on roads and trails to quickly orient and focus visitors walking and bicycling through the park; also to advise motorists of the presence of pedestrians and bicyclists.
- Concurrent with planning and development of project level facilities and management plans, evaluate the project's potential to affect bicycle and pedestrian traffic and circulation. Project-specific mitigations would be developed, based on the results of these studies.

Implementation of the requirement described above would reduce the potential program-level pedestrian and bicycle safety impacts associated with the implementation of the Fort Ord Dunes State Park General Plan. However, the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

Impact Tra-3. Potential Parking Impacts

Implementation of the proposed General Plan would apply management zoning to the park which could allow several new parking areas. Parking in the 8th Street Management Zone would likely be located within an existing paved parking lot that formerly supported Stilwell Hall, accommodating up to about 90 to 100 parking spaces. Limited short-term visitor parking will be developed in the 1st Street Management Zone to serve access to interpretive facilities (about 10 to

15 spaces) and to a vista point providing views of Monterey Bay (about 4 to 6 spaces). Day-use parking area(s), each with about 20 to 40 parking spaces, located within the Storage Bunker Zone would allow visitors to stage vehicles in a centralized location and explore outlying park resources by non-motorized modes of transportation. Public parking could also be accommodated within the east of SR 1 parcel to serve a potential visitor center, potential youth hostel, and staging for non-motorized access through the SR 1 underpass. The actual number of parking spaces that may be developed in each of the above-cited management zones will require site specific planning and resource evaluation.

The potential mix and types of land uses and user activity that could occur in the park as a result of General Plan implementation might generate parking demand beyond the parking supply provided. This potential for unmet parking demand may lead to hazardous pedestrian and traffic conditions as vehicles circulate in crowded parking lots, or park in unauthorized areas both inside and outside the Fort Ord Dunes State Park. Implementation of Guidelines CIR-9 through CIR-11 (parking development guidelines) and Mitigation Measure Tra-3 would reduce the potential impact to less than significant at the program level by ensuring that adequate parking is provided. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures. Parking requirements for project specific land uses may be subject to Zoning Code Parking Requirements of the applicable jurisdiction.

Mitigation Measure Tra-3. Potential parking impacts should be reviewed at the project-level for specific facilities or management plans proposed under the Fort Ord Dunes State Park General Plan, and mitigation measures shall be implemented, including but not limited to:

- During development of project level facilities and management plans, include additional parking in development plans if warranted by parking demand study to respond to the estimated demand and to decrease traffic and circulation conflicts in the adjacent residential neighborhoods.

Implementation of the requirement described above would reduce the potential program-level parking impacts associated with the implementation of the Fort Ord Dunes State Park General Plan. However the Department would require examination of many specific facilities and management plans included in the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Significance After Mitigation: Less than significant at the Program-level

UTILITIES AND SERVICE SYSTEMS

THRESHOLD

A project would normally result in a significant utilities and service systems impact if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, and local statutes and regulations related to solid waste

Impact Util-1. Potential Impacts to Utilities and Service Systems

Implementation of the proposed General Plan would result in visitation to the park, which, in turn, would increase the demand for wastewater treatment, water supply, and stormwater management. The General Plan includes management actions to ensure adequate wastewater treatment, water supply, and stormwater management (Guidelines PUB-1 and PUB-2). In addition, the Department has a Memorandum of Understanding with the Marina Coast Water District for use of the wastewater treatment facility that is located on the east side of Fort Ord Dunes (near Beach Range Road), potentially to be operated as a desalination plant in the future (MCWD, 2003).

Full implementation of the General Plan would result in minimal increases in demand for these services and is not expected that wastewater treatment

requirements, treatment provider capacity, landfill capacity, or water supply entitlements would be exceeded. However, implementation of the General Plan could result in construction of new water, wastewater, and stormwater drainage systems, the construction of which could cause environmental impacts. Potential impacts associated with construction of park facilities, including park infrastructure, are identified in this Environmental Analysis. Implementation of the mitigation measures described throughout this Environmental Analysis would reduce potential impacts to a less than significant level at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

Significance After Mitigation: Less than significant at the Program-level

UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

At a program level, all potential impacts would be reduced to less than significant with the implementation of mitigation measures listed above. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Implementation of the proposed General Plan would apply management zoning to the park which would allow construction of new facilities that in turn could result in short-term, construction-related impacts, impacts from increased operations and maintenance activities, and impacts associated with public access and use. These potential impacts are identified in the section above entitled “Significant Environmental Effects.” If the mitigation measures identified in the section below entitled “Mitigation Measures Proposed to Minimize Significant Effects” were approved and implemented, implementation of the General Plan would not result in significant irreversible environmental impacts or commitment of resources. However, the commitment of land, resources, and energy for maintenance of the project facilities would be a long-term commitment. Once the project has been developed, it is unlikely that circumstances would arise that could justify the return of the land occupied by the General Plan facilities to its original condition. However, the Department will rotate uses and remove, replace, or realign facilities in response to adverse impacts.

Though significant cultural resources have a low probability to occur within Fort Ord Dunes, in the event cultural resources are encountered on the park and are physically damaged or materially altered to the degree that the resource no longer conveys any scientific value for which the resource was determined significant (i.e., demolition of a significant historic resource), the loss would be considered an irreversible environmental change.

GROWTH-INDUCING IMPACTS

Growth-inducing effects are defined as those effects that could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth-inducing effects could result from projects that would remove obstacles to population growth. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities could significantly affect the environment, either individually or cumulatively. The Guidelines also encourage analysis of housing impacts, including displacement of substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

The purpose of the Fort Ord Dunes State Park General Plan is to portray the desired resource conditions of the park and desired visitor experience, and to provide goals and guidelines that will direct future management efforts toward achieving those desires. An important component of this purpose is to protect the natural resources of the park. This purpose and the goals, policies, and management zones of The Plan have no potential to directly foster population growth, or result in the construction of additional housing with the exception of the potential addition of minimal staff housing within Fort Ord Dunes, to provide for 24-hour immediate emergency response as well as providing an on site security presence.

Implementation of the General Plan may indirectly foster minimal economic and population growth in the region. By providing recreational opportunities, park visitation would occur in an area that has been historically closed to the public, which may create additional tourism and the need for tourist services in the adjacent communities and surrounding region. The proposals in the General Plan may potentially foster economic growth in the region by encouraging an increase in supporting recreation and tourist services, such as recreation equipment, supplies, food, and related facilities. The increase in visitor use may be considered an economic benefit to the surrounding communities. The proposed facilities and uses may result in the need for a minimal increase in permanent and seasonal staff, which may necessitate staff housing outside the

Park boundaries. These proposals may result in a very minimal growth impact to the area.

ALTERNATIVES TO THE PROPOSED ACTION

OVERVIEW

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project or project location that could feasibly attain the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines, Section 15126.6[a]).

Additionally, Section 15126.6(b) of the CEQA Guidelines requires consideration of alternatives that could avoid or substantially lessen any significant adverse environmental effects of the proposed project, including alternatives that may be more costly or could otherwise impede the project's objectives. The range of alternatives considered must include those that offer substantial environmental advantages over the proposed project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

FACTORS IN SELECTION OF ALTERNATIVES

The CEQA Guidelines recommends that an EIR should briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination [CEQA Guidelines, Section 15126.6(c)].

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- the extent to which the alternative would accomplish most of the basic goals and objectives of the project;
- the extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project;
- the feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, General Plan consistency, and consistency with other applicable plans and regulatory limitations;
- the appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice; and

- the requirement of the CEQA Guidelines to consider a “no project” alternative [CEQA Guidelines, Section 15126.6(e)].

Alternatives to the proposed project include:

- No Project
- Minimal Use Alternative
- Minimal Facility Alternative

NO PROJECT ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The No Project Alternative assumes that the existing conditions would continue, as well as 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. In this case, the No Project Alternative assumes that a State Park and its concomitant facilities would not be implemented on the Fort Ord Dunes. That is, no new facilities (e.g., vista points, camping, trails, and interpretive displays) would be constructed on the Fort Ord Dunes. The property would be conveyed to the Department and restoration activities required under the HMP and Draft HCP would continue. This alternative would result in a continued regional deficiency of coastal camping opportunities and beach access.

IMPACTS AND REASONS FOR REJECTION

The No Project Alternative would eliminate the potential of creating a State Park, with the inherent resource protection and public access it affords, in an area historically inaccessible and altered from its natural conditions. The No Project Alternative would avoid potential impacts related to construction and operation of potential future park uses and facilities, such as aesthetic resources impacts associated with installation of new facilities within a relatively undeveloped area with high aesthetic appeal; potential effects to native habitats associated with construction activities; potential erosion associated with construction and operation of park uses and facilities; and potential increases in vehicular emissions. However, as discussed above, the impacts of implementation of The Plan can be reduced to a less than significant at the program level with measures identified in this EIR. Under the No Project Alternative, informal public access to the dunes and the further propagation of invasive species to the dunes would continue. This alternative would not respond to the Department’s Mission Statement or the purpose and vision set forth for this Unit, related to providing for recreation opportunities and protection of resources. Therefore, this alternative was rejected.

MINIMAL USE ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The Minimal Use Alternative would function to return the dunes to their pristine state through restoration efforts and closed areas. The entire geographic scope of the Fort Ord Dunes would be similar to the Natural Resource Zone described in Chapter 3, The Plan. The operational focus would be on restoration of dune habitats, with limited public access via low impact trails and wildlife viewing and interpretive displays at certain appropriate locations of the park. Visitor parking would be provided east of SR 1, with limited vehicle access within those areas west of SR 1 to accommodate emergency/operational access, and to meet Americans with Disabilities requirements. Overnight use and visitor serving facilities such as visitor centers would not be included in this alternative.

The goals of the alternative would be to eliminate the potential for public access incompatibility with wildlife and vegetation in the sensitive dune scrub and restore native biota to the dunes. This alternative would include the minimum park administration and operations activities required to support resource protection and restoration activities, and the low level of public use that would be included within the alternative.

IMPACTS AND REASONS FOR REJECTION

The Minimal Use Alternative would respond to a portion of the Department's Mission Statement by providing for preservation of the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, but would address the portion of the mission regarding creation of opportunities for high-quality outdoor recreation, particularly because the alternative would not allow overnight camping or develop interpretation and education opportunities, beyond trailside interpretive displays. Similarly, the alternative would respond to the Unit Purpose and Vision regarding resource protection and enhancement, preservation of aesthetic resources, and retention of the undeveloped character of the property, but would not fully respond to the Purpose and Vision regarding available public use and diversity of visitor experiences. Further, this alternative would not respond to statewide and regional recreation demand for uses not regionally available, such as coastal camping.

The Minimal Use Alternative would avoid some of the potential impacts related to construction and operation of potential future park uses and facilities, such as aesthetic resources impacts associated with installation of new facilities within a relatively undeveloped area with high aesthetic appeal; potential effects to native habitats associated with construction activities; potential erosion associated with construction and operation of park uses and facilities; and potential increases in vehicular emissions. However, as discussed above, the impacts of

implementation of The Plan can be reduced to less than significant at the program level with measures identified in this EIR.

By definition the State Park designation would allow for the preservation and protection of sensitive species while allowing for compatible public access. In light of the proposed expansive Natural Resource Zone in compliance with the HCP stipulations, the goals of a preserve would be achieved at the expense of fulfilling other objectives of the park project, such as to enhance recreational opportunities. Therefore, this alternative was rejected.

MINIMAL FACILITY ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The Minimal Facility Alternative would include similar Management Zones as the Preferred Plan; with similar uses and facilities and uses as those described in Chapter 3, The Plan. However, the overall scope of allowable facilities and development would be greatly reduced and the overall acreage dedicated to the Natural Resource Zone would be increased. Management goals and guidelines related to resource restoration would be similar to those described for the Preferred Plan. Vehicular use of park areas west of SR 1 by the public would be permitted; however, access to and throughout the park would be focused on non-vehicular access. The overall number of beach access routes would be reduced to one location within the 8th Street Zone, primarily serving day-use visitors and including day-use parking; and one location within the Storage Bunker Zone, primarily serving overnight visitors. This alternative would include an entrance station and information kiosk within one of the management zones, but would not include a visitor center. However, a visitor center could be located within the former Fort Ord military reservation, in a location near the park; should an appropriate location be identified and cooperative management agreements be developed.

Interpretive displays and a potential lookout within the 1st Street Zone would not include parking. The campground located within the Storage Bunker Zone would be restricted to a smaller acreage than under the Preferred Plan, thereby reducing the number of campsites as well as the management and resource requirements. Day use parking would not be provided in this zone. This alternative would not include a youth hostel and as a result, and also because a visitor center would not be included, the parking development within the Park Support/Administration Zone would be reduced compared to the Preferred Plan.

The goals of the alternative would be to provide a wide range of public use types, while minimizing the number of facilities within the park, thereby reducing the potential for incompatibility with wildlife and vegetation in the sensitive dune scrub and also reducing the management and operational needs for the park.

While similar types of facilities would be included under this alternative as under the Preferred Plan, it is expected that this alternative would result in a lower number of park visitors, given the minimal number of public use facilities included. This alternative would include the minimum park administration and operations activities required to support resource protection and restoration activities, and the public use facilities that would be included within the alternative.

IMPACTS AND REASONS FOR REJECTION

The Minimal Facility Alternative would respond to the Department's Mission Statement by providing for preservation of the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating high-quality recreation opportunities. Similarly, the alternative would respond to the Unit Purpose and Vision regarding resource protection and enhancement, preservation of aesthetic resources, retention of the undeveloped character of the property, and providing for public use and diversity of visitor experiences. This alternative would also respond to statewide and regional recreation demand for uses not regionally available, such as coastal camping.

The Minimal Facility Alternative would avoid or reduce some of the potential impacts related to construction and operation of potential future park facilities, such as aesthetic resources impacts associated with installation of new facilities within a relatively undeveloped area with high aesthetic appeal; potential effects to native habitats associated with construction activities; potential erosion associated with construction park facilities; and potential increases in vehicular emissions. However, as discussed above, the impacts of implementation of The Plan can be reduced to a less than significant at the program level with measures identified in this EIR. While the Minimal Facility Alternative would respond to the basic goals and objectives of the project and would avoid or reduce some of the potential impacts of the Preferred Plan, the Preferred Plan would provide greater enhancement of recreational opportunities while avoiding significant resource impacts. Therefore, this alternative was rejected.

OTHER ALTERNATIVES CONSIDERED

This section describes alternative concepts that were considered during the development of the General Plan, but were rejected primarily because they would result in greater impacts than the General Plan. The concepts included maximizing development area allowed under the HMP and Draft HCP for overnight use, by locating campgrounds in additional areas (such as the 8th Street Zone) than considered in The Plan, and including a lodge with a restaurant and conference facility (with the addition of concession services). Other concepts included the addition of beach access in the northern and southern portions of the park and a more pronounced trail system. These concepts would

create a greater diversity of new overnight opportunities in the park and a place for community gathering, in the spirit of the former Stilwell Hall and as such. However, this alternative would result in potential impacts to natural resources and potentially to aesthetic resources that were determined to be unacceptable, particularly to resources in the northern portion of Fort Ord Dunes. Further, indoor lodging is available at other facilities in the region and provision of these services at Fort Ord Dunes would be duplicative of other facilities available nearby, and potentially not consistent with Department land use goals and responsibilities. Therefore, these concepts were not carried forwards in the planning process.

CUMULATIVE IMPACTS

Cumulative environmental effects are multiple individual effects that, when considered together are considerable or compound or increase other environmental impacts. The individual effects may result from a single project or a number of separate projects and may occur at the same place and point in time or at different locations and over extended periods of time. Cumulative impacts can result from individually minor but collectively significant projects. The purpose of this cumulative analysis is to determine whether potentially significant cumulative environmental impacts would occur from implementation of the Fort Ord Dunes State Park General Plan in combination with other projects or conditions, and to indicate the severity of the impacts and their likelihood of occurrence. The CEQA guidelines require that EIRs discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. The discussions of cumulative impacts should include:

- (1) Either: (A), a list of past, present, and probable future projects producing related or cumulative impacts; or (B), a summary of projections contained in an adopted General Plan or similar document, or in an adopted or certified environmental document, which described or evaluated conditions contributing to a cumulative impact;
- (2) A discussion of the geographic scope of the area affected by the cumulative effect;
- (3) A summary of expected environmental effects to be produced by these projects; and
- (4) Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The proposed General Plan would apply management zoning to the park that could allow in new or expanded facilities. The project-level implementation schedule for envisioned facilities at Fort Ord Dunes is not known at this time; therefore, a definitive list of specific cumulative projects at Fort Ord cannot be prepared. Generally, cumulative projects would include development and construction projects within the former Fort Ord military reservation, as guided by the Fort Ord Reuse Authority, Fort Ord Reuse Plan, the Cities of Marina, Seaside, and Sand City, and the Transportation Agency for Monterey County. Extensive redevelopment is anticipated within these jurisdictions, including areas adjacent to Fort Ord Dunes, such as regional trail and commuter train facilities near the balloon spur portions of Fort Ord Dunes, residential and regional commercial development of areas immediately east of Fort Ord Dunes, and ongoing redevelopment of the former Fort Ord military reservation. Regional development could be considered cumulatively with implementation of the Fort Ord General Plan, where such development relates to regional traffic and transportation, air quality, and habitat conservation; such effects could be cumulatively considerable.

Because specific plans timelines for implementation of facilities that could be developed under the general plan are not known and many of the projects within the adjacent jurisdictions are not fully developed or designed, assessing the expected environmental effects that these projects would produce is speculative. However, there are two general categories of effects that could be expected. The first and most widespread would be general construction impacts, such as temporary air quality degradation and increased erosion resulting from earth movement. However, construction impacts would be temporary and local in nature and thus unlikely to constitute cumulatively considerable contributions to cumulative significant impacts. The second category of impacts is related to operational effects to regional traffic, air quality, and potential habitat alterations and effects on wildlife.

Implementation of the general plan, in conjunction with other regional projects and ongoing regular park maintenance activities, could adversely affect resources within the park. However, implementation of mitigations described in the section entitled “Mitigation Measures Proposed to Minimize Significant Effects” would reduce any impacts, including cumulative impacts, to a less than significant level at the program-level. Further, the General Plan calls for extensive regional coordination and planning, to ensure that development within Fort Ord Dunes is consistent with the guidelines and plans of regional agencies, as appropriate, and is consistent with development anticipated within adjacent jurisdictions and vice versa (see Regional Planning within Chapter 3 of the General Plan). The Department would require examination of any specific facilities and management plans allowed under the General Plan at the time they are proposed for implementation to determine if further environmental review at a

more detailed project-specific and site-specific level is necessary, including analysis of potential cumulative effects.

EFFECTS FOUND NOT TO BE SIGNIFICANT

AESTHETICS

SCENIC HIGHWAY IMPACTS

Fort Ord Dunes and the surrounding land uses do not include state scenic highways, or otherwise designated scenic routes; therefore no impacts to scenic highways would occur.

AGRICULTURE RESOURCES

THRESHOLD

A significant agriculture resource impact would be expected to occur if the General Plan would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use

IMPACTS

Fort Ord Dunes is not zoned as farmland. Implementation of the Fort Ord Dunes State Park General Plan would not result in impacts to significant agricultural resources.

AIR QUALITY

CONSISTENCY WITH THE AIR QUALITY MANAGEMENT PLAN

Consistency with the applicable air quality management plan is analyzed by determining the consistency of the Fort Ord Dunes State Park General Plan with applicable regional plans, including the Monterey Bay Unified Air Pollution Control District's Air Quality Management Plan. Because the Fort Ord Dunes State Park General Plan does not result in a population increase in the region, a

consistency determination from the Association of Monterey Bay Area Governments is not needed. Instead, the consistency determination is made by the Monterey Bay Unified Air Pollution Control District. The Air Pollution Control District has stated that additional emissions resulting from implementation of the Fort Ord Dunes State Park General Plan will be accounted for by the next update of the air quality management plan, which will be released in early 2004 (Brennan, 2003). Therefore, implementation of the Fort Ord Dunes State Park General Plan would have a less than significant impact on regional air quality and would be considered consistent with the Monterey Bay Unified Pollution Control District's Air Quality Management Plan.

BIOLOGICAL RESOURCES

RIPARIAN HABITAT AND WETLANDS IMPACTS

No riparian habitat or wetlands are included within Fort Ord Dunes. Implementation of the Fort Ord Dunes State Park General Plan would not result in impacts to riparian or wetland habitats.

CONFLICT WITH CONSERVATION PLANS AND BIOTIC RESOURCES POLICIES/ORDINANCES

Implementation of the proposed General Plan would apply goals, guidelines, and management zoning to the park which could allow the addition of new facilities and public use. The proposed General Plan includes proposals for development and operations that are consistent with the basewide HMP and Draft HCP, as required in Guidelines BIO-5 and BIO-6. Further, Regional Planning Guidelines (REG-1 through REG-8) call for coordinated planning and consistency with local jurisdictions and applicable planning policies, including the Fort Ord Reuse Plan, HMP, Draft HCP, Monterey County General Plan, and City of Seaside General Plan, as appropriate.

GEOLOGY AND SOILS

POTENTIAL SEISMIC IMPACTS

Several active faults are located in the Monterey region, as discussed in Chapter 2, Existing Conditions. Seismic activity on these faults could generate very strong (Modified Mercalli Intensity Scale VIII) ground shaking throughout the park. Implementation of the proposed General Plan would result in the addition of new facilities and reuse of existing facilities. Ground shaking could cause damage to new or existing facilities, although existing facilities are most susceptible to damage due to antiquated building methods used during their construction.

Management Guidelines, specifically, GEO-7 through GEO-10 (geotechnical investigations and site-specific planning guidelines), address seismic effects. With inclusion of these guidelines in the plan, the potential impact would be less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

HAZARDS AND HAZARDOUS MATERIALS

POTENTIAL OPERATION-RELATED HAZARD IMPACTS

Implementation of the proposed General Plan would apply management zoning to the park which could result in an increase in public use and an associated increase in traffic within Fort Ord Dunes. The increase in traffic would result primarily from visitation to the park and jobs related to the administration, operations, and maintenance of the park. The increase in motor vehicle traffic could result in runoff from oil, grease and fuel products as well as accidental releases of hazardous materials. Potential operational activities could require the use of certain potentially hazardous materials such as fuels, oils, paints, and solvents, and chemical pesticides/herbicides. These materials would generally be contained within vessels engineered for safe storage. Spills during onsite fueling of equipment or upset conditions (i.e., puncture of a fuel tank through operator error or slope instability) could result in a release of materials into the environment. Storage of large quantities of these materials is not anticipated. Additionally, visitation to Fort Ord Dunes could expose people to hazardous surf conditions along the shoreline. Management Guideline HAZ-4 (hazardous materials handling) addresses potential hazardous materials effects. With inclusion of this guideline in the plan, the potential impact would be less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

AIRPORT AND AIRSTRIP HAZARDS

Fort Ord Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would expose visitors or employees of the park to safety hazards.

EMERGENCY RESPONSE/EVACUATION PLAN IMPACTS

Fort Ord Dunes State Park General Plan calls for emergency response and evacuation measures as appropriate, as described under Guidelines GEO-5, PUB-3 through PUB-9, and HAZ-5. Implementation of the Fort Ord Dunes State Park General Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

HYDROLOGY AND WATER QUALITY

POTENTIAL WATER QUALITY IMPACTS

Implementation of the proposed General Plan would apply management zoning to the park which could allow in the addition of new facilities and public use. Construction activities would increase the potential for spills of hazardous materials and expose soils to wind and rain erosion, potentially resulting in sedimentation and increased pollutant levels in stormwater runoff. Increased development⁴ associated with the creation of parking lots and operation management yards could reduce water quality in stormwater runoff. Additionally, development within Fort Ord Dunes and public use activities may increase erosion, resulting in higher sediment loads in stormwater runoff.

Management Guidelines HYD-1 through HYD-9 (water quality protection guidelines) address potential water quality effects. With inclusion of these guidelines in the plan, the potential for stormwater sedimentation to occur would be less than significant at the program level. Because implementation information, such as locations of specific facilities and development of project-specific management plans, is not yet known, specific facilities and plans would be reviewed at the time they are proposed for implementation to determine the potential for project-specific impacts and to identify appropriate mitigation measures.

GROUNDWATER SUPPLY IMPACTS

Given the purpose and vision of this park unit as a natural setting, it is not anticipated that park related development would include development that requires substantial water supplies, such as would be required for manicured lawns, golf courses, and swimming pools. Implementation of the General Plan would not substantially deplete groundwater supplies.

⁴ Development can increase pollutant loads in runoff from construction activities, landscape irrigation, storm water, and illicit dumping. Pollutants of concern include sediment, nutrients, bacteria and viruses, oxygen demanding substances, oil and grease, metals, pesticides, and trash. Public parks contribute substantial amounts of trash and pollutants associated with parking lots. Paved surfaces, parking lots, and gutter designs promote the collection and concentration of pollutants.

INUNDATION IMPACTS

Fort Ord Dunes is not located in an area of sensitivity for mudflow impacts. Parklands are located in an area of potential tsunami or seiche hazard. However, the Fort Ord Dunes State Park General Plan calls for setback of all permanent facilities from the coastal erosion zone (approximately 700 feet), as described under Guideline GEO-1. Implementation of this guideline would also protect park visitors at such facilities (excepting roads, trails, beach areas). In addition, the General Plan calls for emergency response and evacuation measures as appropriate, as described under GEO-5, PUB-3 through PUB-9, and HAZ-5. With the inclusion of these guidelines in the Fort Ord Dunes State Park General Plan, the plan would not expose people or structures to a significant impact associated with tsunami or seiche related inundation.

LAND USE AND PLANNING

THRESHOLD

A significant land use impact would be expected to occur if the General Plan 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
- Conflict with any applicable habitat conservation plan or natural community conservation plan

Land use impacts are evaluated with respect to compatibility of the proposed General Plan with the existing land uses and the potential effect the proposed policies and actions would have on land use patterns in the project vicinity.

IMPACTS

Division of Established Communities

Implementation of the proposed General Plan would apply management zoning to the park that could allow continued public access into Fort Ord Dunes. The intention of the General Plan is to provide for some new public use opportunities, such as a visitor centers, campground, trails, interpretive programs and panels, etc (see the section entitled “The Plan”). In addition, the General Plan calls for provision of universal access to recreation facilities and trails, which could increase public use of the park. The General Plan would give priority to trails that

provide regional trail connections. These trails would allow for general public access.

Potential increases in public use would not disrupt or divide the physical arrangement of established surrounding uses. Areas adjacent to Fort Ord Dunes State Park are developed with residential, educational, commercial, and recreational uses, and the proposed recreational uses would be compatible with such uses. Proposed trails would connect with existing or future trails and would not alter the land use character in the vicinity. Therefore, implementation of the General Plan would not directly result in any significant land use impacts.

The Department would require examination of any specific plan actions allowed under the General Plan at the time they are proposed for implementation to determine if further environmental review at a more detailed project-specific and site-specific level were necessary.

Conflict with Established Land Use Plan or Conservation Plan

Implementation of the proposed General Plan would apply goals, guidelines, and management zoning to the park which could result in the addition of new facilities and public use. The proposed General Plan includes requirements for development and operations that are consistent with the basewide HMP and Draft HCP, as proposed in Guidelines BIO-5 and BIO-6. Further, Regional Planning Guidelines included in The Plan (Guidelines REG-1 through REG-8) call for coordinated planning and consistency with local jurisdictions and applicable planning policies, including the Fort Ord Reuse Plan, HMP, Draft HCP, Monterey County General Plan, and City of Seaside General Plan, as appropriate.

MINERAL RESOURCES

THRESHOLD

A significant mineral resources impact would be expected to occur if the General Plan would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan

IMPACTS

Fort Ord Dunes is classified as Mineral Resource Zone 2; areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. However, the California Geological Survey recognizes that dedicated park lands have special-status as opposed to other current land uses. Further, implementation of the General Plan would not result in any large scale development or other activities requiring significant removal of the mineral deposits present. Therefore, implementation of the general plan would not result in permanent loss of availability of mineral resources.

NOISE**AIRPORT NOISE IMPACTS**

Fort Ord Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would expose visitors or employees of the park to noise levels greater than 65 dBA.

PUBLIC SERVICES**POLICE PROTECTION SERVICES**

Increase in demand for police protection public services associated with implementation of the General Plan would not in itself be considered a significant environmental impact. Further, the General Plan includes goals and guidelines (PUB-3 through PUB-9) to provide for appropriate public safety and law enforcement.

SOLID WASTE DISPOSAL

Implementation of the proposed General Plan would result in visitation to the park, which, in turn, would increase the need for solid waste disposal. However, given the purpose and need of this park unit as a natural setting, the increase in solid waste disposal needs is not expected to be high compared to the remaining landfill capacity in the region. Further, an increase in solid waste disposal needs at the park would not in itself be considered a significant environmental impact. The General Plan includes goals and guidelines (SUST-3 through SUST-5) that would reduce the amount of waste generated at the park and utilize appropriate technology in processing waste. Guideline SUST-3 states that the Park shall follow the Department's integrated waste management plan, as directed under Assembly Bill 75.

SCHOOLS

Implementation of the General Plan would not entail an increase in the local population and therefore not increase the demand for public schools.

PARKS

Implementation of the General Plan would increase park and recreational opportunities in the Monterey Bay Area, rather than result in the need for additional parks or park facilities to maintain acceptable service ratios or performance objectives.

OTHER PUBLIC FACILITIES

The demand for public facilities, other than those discussed in this environmental analysis, would not increase from implementation of the General Plan.

RECREATION***DETERIORATION OF EXISTING PARKS AND RECREATIONAL FACILITIES***

Implementation of the General Plan would increase park and recreational opportunities in the Monterey Bay Area, rather than result in increased use of existing parks or other recreational facilities.

TRANSPORTATION / TRAFFIC***AIR TRAFFIC CIRCULATION***

Fort Ord Dunes is not located within an airport land use plan or within the vicinity of a private airstrip such that it would result in changes in air traffic patterns

EMERGENCY ACCESS

Fort Ord Dunes State Park General Plan calls for provision of adequate emergency access to the park's potential visitor use and natural resource areas, as described under Guidelines CIR-7 and CIR-8. Implementation of Fort Ord Dunes State Park General Plan would not result in inadequate emergency access.

CONFLICT WITH ALTERNATIVE TRANSPORTATION PLANS

Fort Ord Dunes State Park General Plan calls for an emphasis on non-motorized forms of transportation, to and within the park, use of public transportation, and establishment of shuttles as appropriate, as described under CIR-2 and CIR-3, as well as Management Zoning prescription calling for emphasis of day use parking areas as potential vehicle staging areas allowing park visitors to explore

the park by foot or bicycle. Implementation of Fort Ord Dunes State Park General Plan would not conflict with alternative transportation policies, plans, or programs.

ORGANIZATIONS AND PERSONS CONSULTED IN THE GENERAL PLAN/EIR PROCESS

Organizations and persons consulted appear in Appendix B and C.

COMMENTS RECEIVED

ORGANIZATIONS AND PERSONS COMMENTING

AGENCY AND PUBLIC SCOPING COMMENTS (SUMMER AND FALL 2003)

As described above, public meetings were held in summer and fall of 2003, newsletters and surveys were distributed to an extensive mailing list associated with those meetings, and a formal Notice of Preparation scoping period was held during summer of 2003. Scoping reports summarizing comments submitted prior to the Preliminary General Plan/Draft EIR publication are located in Appendix C.

AGENCY AND PUBLIC PRELIMINARY GENERAL PLAN/DRAFT EIR COMMENTS (SPRING 2004)

A list of organizations and persons commenting on the Preliminary General Plan/Draft EIR will be provided following the completion of the public review period for this document.

RESPONSES TO COMMENTS

Responses to Comments on the Preliminary General Plan and Draft EIR will be provided following the completion of the public review period for this document.

INFORMATION ADDED TO PRELIMINARY GENERAL PLAN/DRAFT EIR

Additional information provided through the public review process will be added to this document following the completion of the public review period for the Preliminary General Plan/Draft EIR.

APPENDICES



APPENDIX A

ACRONYMS

CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
dBA	A-weighted decibels
g	gravity
GIS	Geographic Information System
HCP	Habitat Conservation Plan
HMP	Habitat Management Plan
Ldn	Day-Night Average Sound Level
LOS	Level of Service
M	richter magnitude
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter of air
ml/kg	milligrams per kilogram
Mw	Maximum Moment Magnitude Earthquake
PM10	particulate matter
ppm	parts per million by volume
SR	State Route
The Department	California Department of Parks and Recreation
USFWS	U.S. Fish and Wildlife Service

APPENDIX B

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APPENDIX C

PUBLIC AND AGENCY CONSULTATION

On May 28, 2003, a CEQA Notice of Preparation was distributed through the State Clearinghouse, notifying State agencies that a General Plan and Environmental Impact Report would be prepared for Fort Ord Dunes, and inviting those agencies to provide input and comment. Release of the Notice of Preparation began a formal 30 day review period. In addition, the Notice of Preparation was submitted by the California Department of Parks and Recreation to federal and local agencies of interest. Also in late May, an informational newsletter and survey, and an invitation to an upcoming public workshop, was distributed to interested agencies, organizations, and individuals (a list of agencies and organizations included on the Fort Ord Dunes General Plan mailing and distribution list is provided below). The workshop was held on June 10, 2003 at California State University Monterey Bay in Seaside, California.

The agency and public comments received were considered in the development of general plan issues and concerns, opportunities and constraints, and draft plan possibilities and were summarized in a Scoping Report (see below). Following preparation of draft possibilities, another newsletter and invitation to a second public workshop was distributed to agencies, organizations, and individuals. The public workshop was held on October 9, 2003 at the Monterey District office. In addition, a meeting was conducted on October 9, 2003 with the Fort Ord Coordinated Resource Management Plan team to discuss the General Plan planning process and draft plan possibilities.

The agency and public comments received during the October 9 meetings, as well as input received over the following weeks were considered in the development of Draft General Plan and were summarized in a second Scoping Report (see below).

In addition to the agency and public outreach described above, General Plan development included outreach with natural and cultural resources regulatory agencies, as listed in Appendix B. A consultation letter provided by the Native American Heritage Commission is provided below.

LIST OF AGENCIES/ORGANIZATIONS

AJF & Associates
Akicita Luta International Society
American Association for Nude Recreation
American Institute of Architects
American Youth Hostels
Army Base Realignment and Closure Office
Army Environmental Office
Asilomar Conference Center
Association of Monterey Bay Area Governments
Bakersfield Sun Club
Bare Buns Family Nudist Club
Bay Area Naturists
Bay Area Naturists / The Naturist Society
Bellinger-Foster Land. Arch.
Big Basin State Parks Mountain Sector 406
Big Sur Land Trust
Builder's Exchange of Monterey
Bureau of Land Management
California Association Resource Conservation Districts
California Coastal Commission
California Coastal Commission Central Coast District Office
California Coastal Conservancy
California Department of Fish and Game
California Department of Forestry
California Department of Historic Preservation
California Department of Parks and Recreation, Monterey District
California Environmental Protection Agency, Department of Toxic Substances Control
California Environmental Protection Agency; Department of Toxics
California Institute of Technology
California Native Plant Society
California Native Plant Society, Monterey Bay Chapter
California Parks Hospitality Association
California Regional Water Quality Control Board, Region 3
California State Clearinghouse
California State Senate
California State University Monterey Bay
California State University Monterey Bay - Watershed Institute
Caltrans Consultant Services
Carmel Pine Cone
Casa Munras
Central Coast Agricultural Task Force
Central Coast Military Coalition
Central Coast Naturists

City of Carmel
City of Del Rey Oaks
City of Marina
City of Marina Planning Department
City of Marina, Office of the Mayor
City of Monterey
City of Pacific Grove
City of Salinas
City of Sand City
City of Seaside
City of Seaside Planning Department
Community Development Department
County Board of Supervisors
CTB McMillian-McGraw/Hill
Defense Language Institute Foreign Language Center – Presidio of Monterey
Denise Duffy and Associates
Economic Development Corporation
EMC Planning Group
Environmental and Natural Resources Management
Environmental and Natural Resources Management Director
Environmental Center of San Luis Obispo County, Sierra Club
Fenton and Keller
First Nation Bank
Fish and Game Advisory Commission
Fort Ord – Interagency Coordinated Resource Management Planning Group
Fort Ord Bike Committee
Fort Ord Reuse Authority
Friends of San Onofre Beach
George H. Wilson Inc.
Governor’s Office of Planning and Research
Greenfield News
Heisinger, Buck, & Rose
HLA
KCBA Fox TV 35
KCON 105 FM
KDON
Kelp Klimbers Dive Club
KION 46 TV
KSBW8 TV
KTOM 100.7FM & 1380AM
KWAV 97 FM
League of Women Voters of the Monterey Peninsula
Local Agency Formation Community
Mahoney Tancredit
Marina Beach Real Estate
Marina Coast Water District

Monterey Bay Aquarium
Monterey Bay Dunes Coalition
Monterey Bay National Marine Sanctuary
Monterey Bay Toxics Project
Monterey Bay Unified Air Pollution Control District
Monterey County Administration Office
Monterey County Farm Bureau
Monterey County Free Library Seaside Branch
Monterey County Health Department
Monterey County Herald, Newsroom
Monterey County Hospitality Association
Monterey County Parks Department
Monterey County Planning and Building Inspection Department
Monterey County Public Works
Monterey Dunes Natural History Association
Monterey Elks Lodge #1285
Monterey History and Art Association
Monterey Peninsula Airport District Board of Directors
Monterey Peninsula College
Monterey Peninsula Regional Park District
Monterey Peninsula Water Management District
Monterey Regional Water Pollution Control Agency
Monterey-Salinas Transit
National Oceanic and Atmospheric Administration Marine Prediction Center
National Park Service
Natural Resource Management Department
Naval Postgraduate School
Naval Postgraduate School 042A
Pacific Bell
Pacific Gas and Electric
Pacific Grove RA
Pacific Grove Unified School District
Pebble Beach Community Services District
Pebble Beach Company
Planning & Conservation League
Ripplewood Resort
River Dippers
Salinas Valley Builder's Exchange
Salinas Valley Mosquito Abatement
SCNA
Seaside/Sand City Chamber of Commerce
Security National Guaranty, Inc.
Sequoians Family Nudist Park
Sierra Club, Ventana Chapter
Southern California Naturists Association
Southern California Nudist Association

Special Medical Augmentation Response Team, Army Environmental Policy
Institute
Sports Car Racing Association of the Monterey Peninsula
SSA Landscape Architects
State Assembly
SUN
Sunstokers, S.C.N.
Surfrider Foundation
The Beach Garden Project
The Beach Garden Project/MDN History
The Californian
The Coast Weekly
The JM Smucker Co
The Naturist Society
The Register-Pajaronian
The San Jose Mercury News
The Sentinel
TNS, AANR, Laguna Del Sol
Transportation Agency for Monterey County
Transportation Agency for Monterey County, Bicycle and Pedestrian Facilities
Advisory Committee
U.S. Army Corps of Engineers
U.S. Congress
U.S. Environmental Protection Agency, Community Involvement Coordinator
U.S. Environmental Protection Agency, Region 9
U.S. Environmental Protection Agency; Hazardous Waste Management Division
U.S. Fish and Wildlife Service
U.S. Forest Service – Pacific Southwest Region
U.S. Geological Survey
U.S. Hang Gliding Association – Coastal Condors
University of California Santa Cruz
University of California Santa Cruz Natural Reserve
USA Hosts Monterey
Water Systems Consultant
Zander and Associates



Fort Ord Dunes General Plan



Agency and Public Comment Report 1

INTRODUCTION

The California Department of Parks and Recreation is developing a General Plan for the future Fort Ord Dunes State Park. Working together with agencies and the public, this planning process will create a vision for the future, provide recommendations for facilities improvements, and set guidelines for managing the park so it can be enjoyed for years to come. A California Environmental Quality Act (CEQA) required Environmental Impact Report is being prepared along with the General Plan.

The planning process is getting underway and the first of many opportunities for agency and public input is complete. On May 28, 2003, a CEQA Notice of Preparation was distributed through the State Clearinghouse, notifying State agencies that a General Plan and Environmental Impact Report would be prepared for Fort Ord Dunes, and inviting those agencies to provide input and comment. Release of the Notice of Preparation began a 30 day review period. In addition, the Notice of Preparation was submitted by the California Department of Parks and Recreation to federal and local agencies of interest. Agency comment letters received are described below.

Also in late May, an informational newsletter and survey was distributed to interested members of the public, as well as agencies of interest. The newsletter and survey, along with the Notice of Preparation and information regarding the planning process, were posted on the California Department of Parks and Recreation Planning Website (www.parks.ca.gov). Surveys received are described below.

The newsletter, the planning website, and a May 29, 2003 press release invited the public to a workshop where the planning process would be discussed. The workshop was held on June 10, 2003 at California State University Monterey Bay in Seaside, California and public input provided at the workshop is described below.

The agency and public comments received through July 3, 2003 will be considered in the development of general plan issues and concerns, opportunities and constraints, and draft alternatives. Following preparation of draft General Plan alternatives, another public workshop will be held and comments on the draft alternatives and other planning issues will be received at the meeting, or via mail or fax. The next public workshop is tentatively scheduled for Fall 2003. It is noted that public comments may be submitted to the California Department of Parks and Recreation at any time throughout the planning process, but that the various public outreach meetings and comment periods indicate specific points in the planning process where agency and public input is most crucial to development of the General Plan.

AGENCY COMMENTS

A total of three agency comment letters were received during the 30 day Notice of Preparation scoping period:

- Monterey Regional Water Pollution Control Agency, Robert Jaques, Director of Engineering Planning and Technology. Submitted June 10, 2003.
- Monterey Peninsula Water Management District, Fran Farina, Acting General Manager. Submitted July 2, 2003.
- City of Marina, Jeffrey Dack, Director of Planning. Submitted January 9, 2003.

The city and county agencies main comments addressed infrastructure issues, including wastewater reclamation, water supply, and traffic circulation within the future State Park. For instance, the Monterey Regional Water Pollution Control Agency urged that public access be limited in the water percolation pond areas, which are interconnected with the emergency overflow capability of their wastewater treatment plant. The Monterey Peninsula Water Management District recommends that the groundwater setting in the Seaside Basin be addressed, specifically in terms of how the future park may use water sources from this basin. Lastly, the City of Marina recommended that reference should be made to the Marina General Plan in order to remain consistent with the policies related to traffic circulation.

WRITTEN PUBLIC COMMENTS

Approximately 155 surveys were received through July 3, 2003. Surveys received were from a wide range of geographical locations, and expressed a range of issues, concerns, and desired future use for Fort Ord Dunes. The following sections summarize the public comments submitted.

ORIGIN OF RESPONDENTS

Of the total 155 respondents 122 were from California and 33 were from outside the state. Californians who responded to the survey were from the following 21 counties:

<u>County</u>	<u>No. of Respondents</u>
Monterey	36
Sacramento	5
San Diego	5
Santa Barbara	5
Los Angeles	4
Orange	3
Santa Clara	3
Santa Cruz	3
Alameda	2
Contra Costa	2
Fresno	2
Marin	2
San Bernardino	2
San Francisco	2
Butte	1
Kern	1
Nevada	1
Riverside	1
San Luis Obispo	1
San Mateo	1
Yuba	1

Respondents from outside of California reside in the following places:

<u>State</u>	<u>No. Respondents</u>
New Jersey	5
Massachusetts	3
Texas	3
Colorado	2
Nevada	2
New York	2
North Carolina	2
Arizona	1
Florida	1
Georgia	1
Illinois	1
Kansas	1

<u>State</u>	<u>No. Respondents</u>
Montana	1
Ohio	1
Oregon	1
Pennsylvania	1
Rhode Island	1
Utah	1
Virginia	1
Washington, D.C.	1

FREQUENCY OF VISIT

The frequency at which respondents intend to visit Fort Ord Dunes when it is open to the public is as follows:

- Regular Visitor (daily or weekly) – 17
- Occasional Visitor (monthly) – 36
- Infrequent Visitor (1-6 times per year) – 87
- Once or twice in lifetime – 3

Most visitors from areas outside of Monterey County indicated that they would visit the park once or twice annually. Most of respondents who indicated they would visit the park daily or weekly were from Monterey County. Two respondents indicated that they would never visit Fort Ord Dunes and the remainder did not provide an answer.

USER ACTIVITIES

Below is a list of all the activities respondents indicated they would like to have at Fort Ord Dunes and the number of surveys that mention each activity.

<u>Activity</u>	<u>No. Respondents</u>
Clothing-optional beach, nude recreation	109
hiking, walking, or beachcombing	84
beach access	79
camping	65
cycling	41
surfing, bodysurfing	24
sunbathing	23
swimming	21
nature study, birding, or botany	9
Picnicking	5
Volleyball	3

<u>Activity</u>	<u>No. Respondents</u>
Fishing	3
Jogging	2
SCUBA diving	2
historic interpretation	2

Other activities mentioned once were kayaking, sailing, hang gliding/paragliding, cooking, volunteering, kiting, and beach combing with a metal detector.

The desire that Ford Ord Dunes provide a clothing-optional beach and/or an area for nude recreation was mentioned on 109 surveys. These respondents identified themselves as naturists (and/or nudists). Most of the surveys returned by naturists indicated the availability of a clothing-optional beach as their primary concern and did not mention other concerns about the park, such as habitat protection or other environmental issues. All of the respondents from areas outside of California identified themselves as naturists or nudists.

Access to the beach, and hiking and walking, were the next most common stated activities. Sixty-five respondents indicated camping as an activity they would like to be available at Fort Ord Dunes.

LIKES AND DISLIKES

In response to the question of what they value most about Fort Ord Dunes, most survey respondents indicated the beautiful, natural setting of the beach and its natural state. Many specifically indicated that they would visit the beach because of its history as a clothing optional beach. Many respondents also stated that they enjoy the beach because of its secluded setting and lack of crowds.

Among the present features of Fort Ord Dunes that respondents indicated they liked least were the accessibility to the beach, the lack of parking, trash on the beach, and lack of restroom facilities.

Respondents indicated facilities or additions they would like to see in the park. An officially-designated clothing optional beach was the most suggested change mentioned by respondents. Some respondents also noted that appropriate signage should be used to designate the clothing optional area and “warn” visitors who may want to avoid clothing optional areas.

The next most mentioned suggestions were restrooms, parking, and a campground. To a lesser degree, respondents mentioned hiking and biking trails, as well as picnic tables. Many respondents also mentioned the need for habitat protection and restoration, particularly among the dunes.

PARK PRIORITIES

Overall, respondents expressed support for a balance of habitat protection and public access for recreation. A few respondents expressed the opinion that habitat conservation should be a high priority over public access, while a few respondents expressed the opposite opinion, that public access should be a high priority over habitat conservation.

ENVIRONMENTAL ISSUES

Approximately half of the total respondents included concerns about environmental issues with respect to the operation of Fort Ord Dunes as a State Park. The most common concern was for the protection of dunes and native plant species. Protection of snow plover, Smith’s blue butterfly, legless lizard, and sea lions were mentioned by at least one respondent. A few respondents suggested that access to the dunes be restricted and clearly marked trails be established to help restore native flora. A few respondents expressed concern about dune erosion caused by the remaining pipe outfalls. One person suggested that the park aim to educate visitors about responsible use of the park with respect to its sensitive resources.

The second most prevalent response expressed concern regarding the potential for over development of Fort Ord Dunes. Many respondents expressed that they think Fort Ord Dunes should be developed as little as possible and that new construction should be minimized. Some stated that commercial activity should be restricted. Others expressed that Fort Ord Dunes should be kept “wilder” than other state parks nearby and only limited access should be provided.

A few respondents expressed concerns about the clean up of trace pollutants, including lead contamination, and live ammunition and bullet fragments left from the Army’s former use of the property.

A few respondents promoted the preservation and reuse of Stilwell Hall. One respondent thought it should be removed.

Many comments were stated only once and are summarized below:

- Restrict horses on the beach during low tide only and only on wet sand.
- The unobstructed viewsheds should be maintained.
- The future park should include educational and interpretive components.
- Increased vehicular traffic through adjacent residential neighborhoods in Marina to access the future park could increase congestion.

- Noise from traffic near the future park could hinder the visitor experience.
- Glass and alcohol should be prohibited.
- Trash cans should be provided.
- Motorized vehicles and power boats should be prohibited.
- Provide a ranger for visitor safety.
- The park plan should minimize pavement for parking and trails.
- If existing buildings are retained, then the sewage treatment system shall be improved.

FAMILIARITY WITH MARINA AND MONTEREY STATE BEACHES

In an attempt to gauge the types of beach uses respondents have participated in regionally, the survey asked whether respondents had ever visited Marina or Monterey State Beach. Approximately one third of the survey respondents indicated they had been to either Marina State Beach or Monterey State Beach. Most engaged in typical beach activities such as walking, picnicking, sunbathing, and surfing. A few stated that they dive at Monterey State Beach and a few mentioned bicycling.

PUBLIC WORKSHOP 1 COMMENTS

As noted above, the first public workshop for the future Fort Ord Dunes State Park planning process was held on June 10, 2003 on the California State University Monterey Bay campus. The purpose of the workshop was to provide members of the community the opportunity to voice opinions regarding the goals and ultimate design of the future Fort Ord Dunes State Park. Approximately 35 people attended the workshop. After a brief introduction of the State Parks General Plan process and the existing conditions of Fort Ord Dunes, the attendees were divided into three discussion groups—each with either California Department of Parks and Recreation staff or their general plan consultant guiding discussions. Each group was guided through topics related to resource concerns and potential uses and facilities for the future park and was asked to provide input on each topic. As the discussions progressed, the public input provided was recorded on easel pads.

The comments raised were varied and diverse. Most of the sentiment recorded during the workshop supported the limitation of built facilities in the park, with more emphasis placed on natural, native landscape features being preserved

and protected. Although accessibility was supported, most agreed that it should be small-scale and the method of access should be pedestrian or bicycle, rather than any form of vehicular access. Emphasis was placed on maintaining connectivity with the Monterey Bay Marine Sanctuary, and the values governing its protection, as well as adjacent land use, such as Marina State Beach. Concern was raised regarding the potential for hazardous materials to affect future park users.

Some examples of input received are as follows:

- Emphasis should be on hiking, low impact camping, historic interpretation—all without off-road vehicle access.
- Some facilities should also include areas designated for hang gliding.
- Some park design should include areas to allow surfer access and dune exploration.
- Emphasize the connectivity with the marine sanctuary.
- The focus of the Park should be habitat interpretation, exploration, and special-status species protection.
- Accessibility should be limited to paths or boardwalks.
- Provide easy access points in areas least sensitive.
- Balance various recreation access with natural interpretation.
- Identify areas of less sensitivity for public access.
- Remove non-native species.
- No barriers should be installed, unless they are naturally occurring.
- Disturbed areas should be for day-use.
- Stilwell Hall site provides a possible vista point.

Further, the interpretation of the military history and existing military structures on Fort Ord Dunes was advocated. In addition, some asserted that conference grounds similar to Asilomar State Beach might be beneficial for the community.

CONCLUSION

The extensive input provided by agencies and the public, as summarized above, will be informative in the process of developing a General Plan for the future Fort Ord Dunes State Park. The planning team will utilize the public and agency comments to develop planning alternatives. Generally, the comments submitted focused on a desire for a balance of resource protection and public uses, and an appropriate range of public use types, facilities, and visitor protection.



Fort Ord Dunes General Plan



Agency and Public Comment Report 2

INTRODUCTION

The California Department of Parks and Recreation is developing a General Plan for the future Fort Ord Dunes State Park. Working together with agencies and the public, this planning process will create a vision for the future, provide recommendations for facilities improvements, and set guidelines for managing the park so it can be enjoyed for years to come. A California Environmental Quality Act (CEQA) required Environmental Impact Report is being prepared along with the General Plan.

In May 2003 a CEQA Notice of Preparation was distributed notifying agencies that a General Plan and Environmental Impact Report would be prepared for Fort Ord Dunes, and inviting those agencies to provide input and comment. Also in May, an informational newsletter and survey, and an invitation to a public workshop, was distributed to interested agencies, organizations, and members of the public. The workshop was held on June 10, 2003 at California State University Monterey Bay in Seaside, California.

The agency and public comments received were considered in the development of general plan issues and concerns, opportunities and constraints, and draft plan possibilities. Following preparation of draft possibilities, another newsletter was distributed to agencies, organizations, and individuals in late September 2003. The newsletter and information regarding the planning process were posted on the California Department of Parks and Recreation Planning Website (www.parks.ca.gov). The newsletter, the planning website, and a press release invited agencies, organizations, and the public to a second held on October 9, 2003 at the Monterey District office.

In addition, a meeting was conducted on October 9, 2003 with the Fort Ord Coordinated Resource Management Plan team to discuss the General Plan planning process and draft plan possibilities.

Information presented in the newsletter and at the October 9 workshop and Coordinated Resource Management Team meeting included draft unit Purpose and Vision, Draft Plan Goals, and Draft Management Zones and potential desired resource conditions, uses, and facilities within the draft zones.

The agency and public comments received during the October 9 meetings, as well as input received over the following weeks were considered in the development of Draft General Plan and were summarized below.

The Draft General Plan and Environmental Impact Report will be submitted to agencies, organizations, and members of the public in Spring 2004 for a formal CEQA required 45 day comment period. Comments submitted on the Draft General Plan and Environmental Impact Report will be responded to and considered in preparation of the Final General Plan. It is noted that public comments may be submitted to the California Department of Parks and Recreation at any time throughout the planning process, but that the various public outreach meetings and comment periods indicate specific points in the planning process where agency and public input is most crucial to development of the General Plan.

AGENCY COMMENTS

As described above, a meeting was conducted on October 9, 2003 with the Fort Ord Coordinated Resource Management Plan team to discuss the General Plan planning process and draft plan possibilities. The Coordinated Resource Management Plan team consists of representatives of the Bureau of Land Management, Department, California Department of Fish and Game, U.S. Fish and Wildlife Service, University of California, Department of Defense, Monterey County Board of Supervisors, California State University Monterey Bay, City of Marina, and California Coastal Commission. The Coordinated Resource Management Plan team functions as an interagency group of local, state, and federal governments that have joined to share resources and staff to help implement the Fort Ord Habitat Management Plan.

Comments and concerns expressed by the Coordinated Resource Management Plan team included:

- Facilities within the Fort Ord Dunes boundaries that are operated by other agencies should be considered a separate management zone and not included in park management zones (in particular, these facilities should not be included within the proposed Natural Resource Zone)
- Percolation ponds within Fort Ord Dunes should be considered a long-term use

- Potential traffic and land use incompatibilities with development in the vicinity of Fort Ord Dunes and consistency with local government plans need to be explicitly addressed in the General Plan
- The General Plan should consider regional trail connections (such as the proposed Monterey Bay National marine Sanctuary Trail)
- The loss of restored habitat due to coastal restoration may require further restoration elsewhere in the park or in the greater Fort Ord area
- Maintenance of ecosystem connectivity may need to be addressed in the General Plan

In addition to oral comments provided at the October 9 meeting with the Coordinated Resource Management Plan team, a comment form was submitted by the Transportation Agency for Monterey County indicating that:

- The Natural Resource Zone should include only vista points as possible facilities
- The 8th Street Zone should include only low density indoor lodging
- The 1st Street Zone should include bicycle parking and lockers, and should allow for regional transportation if needed by the Transportation Agency for Monterey County but that the zone should not include park visitor facilities
- The Storage Bunker Zone should include vista points and separate areas for administrative uses, and allow only day use, with the exception of potential employee housing
- The East of State Route 1 Zone should not include administrative uses or visitor facilities. Placing services and facilities east of State Route 1 creates traffic flow problems and visitor inconveniences; therefore it is recommended that all services be placed west of State Route
- Circulation is crucial; therefore circulation should be pleasing and convenient for park visitors
- Draft zones are compact and have pleasing schematics

WRITTEN PUBLIC COMMENTS

A small number of written comments were received between preparation of Public Scoping Report 1 (issued in August 2003) and preparation of the Draft General Plan in December 2003. Comments received were from a wide range of

geographical locations, and expressed a range of issues, concerns, and desired future use for Fort Ord Dunes. The following sections summarize the public comments submitted.

ORIGIN OF RESPONDENTS

Eight comment forms were received from Monterey County residents; five were from residents of other California counties, and one from was received from a resident of Canada.

DESIRED USER ACTIVITIES AND FACILITIES

Similar to comments received prior to August 2003, respondents expressed interest in activities and associated facilities, including beach access (including clothing optional beach use), hiking, nature observation, picnicking, surfing, camping (including recreational vehicle access), as well as other uses such as radio controlled glider use and designated horse trails. One commentor indicated that pedestrian and bicycle use along Beach Range Road should be provided as soon as possible to reduce potential hazards associated with use of the existing State Route 1 recreation trail.

Respondents continue to express a strong desire for habitat protection and restoration, and retention of undeveloped nature of the beach and dunes areas. Some respondents coupled this request with a request for some level of public use opportunities. Alternatively, some respondents recommended that no facilities should be included in the park, and that vehicles should not be allowed to access (including park support vehicular use). Other recommendations for resource protection included park staffing to provide on-site supervision and closure of access points should staffing become unavailable in the future. Additionally, respondents expressed interest in interpretive opportunities.

DRAFT MANAGEMENT ZONE COMMENTS

Five respondents provided input specifically regarding the Draft Management Zones and possibilities presented in the October 2003. Most commentors approved of reuse of previously disturbed areas and concentration of potential park development; with large areas of parkland reserved as natural resource areas. Commentors urged resource protection for areas of higher visitor use, exclusion of park visitors from sensitive resource areas, and management strategies to prevent use of restricted areas and creation of informal trails. Other general comments requested that visitor vehicles be restricted to east of State Route 1 areas, overnight use be restricted to family, group, or environmental

camping, and interpretive exhibits be provided. Comments regarding the management zones are as follows.

NATURAL RESOURCE ZONE RANGE OF POSSIBILITIES

Comments received regarding this zone were generally similar and included themes such as:

- Creation of a natural preserve area in the northern Fort Ord Dunes area, supporting potential Western snowy plover breeding areas
- Emphasis on special-status species in interpretation opportunities
- Limited or no public use trails within the dune ridges and northern beach areas; limited development in entire zone
- Increase of the Natural Resource Zone area

8TH STREET ZONE RANGE OF POSSIBILITIES

Comments regarding this zone varied, with some commentors indicating the zone was an appropriate location to concentrate visitor access near the 8th Street overpass, allowing for parking and beach access while other commentors felt the 1st Street location was better served for visitor entrance.

Commentors generally felt that overnight lodging should not occur within this zone (or elsewhere in the park); some commentors felt that camping and a hotel could be appropriate, with provision of resource protection, while one commentor indicated that no overnight use should be occur.

1ST STREET ZONE RANGE OF POSSIBILITIES

Comments indicated that the 1st Street underpass tunnels should be maintained as wildlife corridors and urged avoidance of development and use in areas adjacent to special-status species locations.

One commentor indicated an objection to military era interpretation and reuse of military era structures.

The disturbed nature of this zone lead commentors to indicate that this zone may be appropriate for concentrated visitor use and facilities, with caution regarding potential lead contamination in the former firing range area. Some commentors indicated that larger facilities such as a visitor center or railroad platform/depot should be located east of State Route 1.

STORAGE BUNKER ZONE RANGE OF POSSIBILITIES

Commentors generally approved of use of this zone for public uses and facilities, with provision of resource protection. However, some commentors indicated that overnight uses should not be provided. One commentor indicated an objection to military era interpretation and reuse of military era structures.

EAST OF STATE ROUTE 1 RANGE OF POSSIBILITIES

Commentors generally approved of use of this zone for park operations and support facilities; however one commentor indicated that this zone did not provide appropriate connection to the dunes and beach areas to support use of this zone as a park entrance and orientation area.

CIRCULATION AND ENTRANCE LOCATION POSSIBILITIES

Commentors indicated a desire for centralized and limited roadways within the park, and emphasis on non-vehicular park use, concentration of parking close to entrance locations.

PUBLIC WORKSHOP 1 COMMENTS

As noted above, the second public workshop for the future Fort Ord Dunes State Park planning process was held on October 9, 2003 at the Monterey District Office. The purpose of the workshop was to provide members of the community the opportunity to voice opinions regarding the goals and ultimate design of the future Fort Ord Dunes State Park. Approximately 20 people attended the workshop. After a brief introduction of the State Parks General Plan process and the existing conditions of Fort Ord Dunes, the draft Management Zones and Ranges of Possibilities were described in detail. The attendees were divided into three discussion groups—each with either California Department of Parks and Recreation staff or their general plan consultant guiding discussions. Each group was guided through topics related to the draft Management Zones and Ranges of Possibilities, as well as other issues of concerns and potential uses. As the discussions progressed, the public input provided was recorded on easel pads.

The comments raised were varied and diverse. Most of the sentiment recorded during the workshop supported the limitation of built facilities in the park, with more emphasis placed on natural, native landscape features being preserved and protected. Although accessibility was supported, most agreed that it should be small-scale and the method of access should be pedestrian or bicycle, rather than any form of vehicular access. Concern was raised regarding the potential for hazardous materials to affect future park users.

Some examples of input received are as follows:

- Provide further information regarding potential hazardous materials currently present at Fort Ord Dunes; and how those areas relate to draft Management Zones
- Ensure that park visitors are not exposed to hazardous materials and that ongoing hazardous materials monitoring occurs
- Do not allow overnight use. Alternately, limit camping opportunities to group/family, hike/bike, or environmental camping; consider provision of platform camping structures.
- Locate campground areas to prevent traffic noise intrusions; utilize existing topography and vegetation to create small campground areas
- Provide on-site park staff to monitor overnight park use and provide 24-hour response.
- Continue to consider Transportation Agency for Monterey County development plans
- Include docent led and self guided tour opportunities
- Utilize raised boardwalks for dune trails.
- Provide connections to regional trails
- Include appropriate architectural/design standards in facility development
- Limit development of facilities and vehicle use in areas west of State Route 1 (some comments advocate no facilities or vehicle use west of State Route 1)
- Include resource protection and restrict beach access; do not allow pets
- Increase Natural Resource Zone areas

CONCLUSION

The input provided by agencies and the public, as summarized above, will be informative in the process of developing a General Plan for the future Fort Ord Dunes State Park. The planning team will utilize the public and agency comments to develop the Draft General Plan and Environmental Impact Report. Generally, the comments submitted focused on a desire for a balance of

resource protection and public uses, and an appropriate range of public use types, facilities, and visitor protection.

NATIVE AMERICAN HERITAGE COMMISSION

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(916) 653-4082
Fax (916) 667-5390
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July 18, 2003

Dean Martorana
Associate Archaeologist
ESA
8950 Cal Center Drive, Suite 300
Sacramento, CA 95826

Sent by Fax: 916-564-4501
No of Pages: 3

RE: Proposed development of a General Plan/Environmental Impact Report for Fort Ord Dunes State Beach and Conference Grounds, Monterey County.

Dear Mr. Martorana:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

A handwritten signature in black ink, appearing to read "Debbie Pitas-Treadway", with a long, sweeping underline.

Debbie Pitas-Treadway
Environmental Specialist III

NATIVE AMERICAN CONTACTS
Monterey County
July 18, 2003

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7090.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regards to the cultural assessment for the proposed development of a General Plan/Environmental Impact Report for Fort Ord Dunes State Beach and Conference Grounds, Monterey County.

**NATIVE AMERICAN CONTACTS
Monterey County
July 18, 2003**

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This list is only applicable for contacting local Native Americans with regards to the cultural assessment for the proposed development of a General Plan/Environmental Impact Report for Fort Ord Dunes State Beach and Conference Grounds, Monterey County.

APPENDIX D

LIST OF PREPARERS

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION (LEAD AGENCY)

GENERAL PLANNING UNIT

Wayne Woodruff	Statewide General Plan Program Manager
Jason Spann	Associate Landscape Architect (Project Coordinator)

MONTEREY DISTRICT

Phil Jenkins	District Superintendent
Dennis Hanson	Sector Superintendent
Ken Gray	Staff Park and Recreation Specialist
Pat Clark-Gray	District Interpretive Specialist
Dave Dixon	Supervising Ranger
Ian Harlen	Assistant Resource Ecologist

ENVIRONMENTAL SCIENCE ASSOCIATES (GENERAL PLAN/ENVIRONMENTAL IMPACT REPORT CONSULTANT)

PROJECT MANAGEMENT

Nancy Barbic	Project Director
Alisa Moore	Project Manager, Social Resources
Dean Martorana	Deputy Project Manager, Cultural Resources

TECHNICAL STAFF

Bill Boynton	GIS
Jack Hutchison	Circulation
Austin Kerr	Air Quality, Noise, GIS
Yolanda Molette	Biotic Resources
Jennifer Schulte	Hydrology, Geology and Soils, Hazards and Hazardous Materials

