Existing Conditions and Resources Inventory Report

Point Lobos State Natural Reserve

June 2013- Rev. December 2013

AECOM

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Acronyms

AADT	annual average daily traffic
ADA	Americans with Disabilities Act
BSLT	Big Sur Land Trust
Cal EMA	California Emergency Management Agency
Cal Fire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CCC	Civilian Conservation Corps
CCFRP	California Collaborative Fisheries Research Program
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CeNCOOS	Central & Northern California Ocean Observing System
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CLCC	Carmel Land and Coal Company
CLR	Cultural Landscape Report
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DFG	Department of Fish and Game
DPR	California Department of Parks and Recreation
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FWARG	Far Western Anthropological Research Group, Inc.
GHG	greenhouse gas
GPS	global positioning system
HSR	Historic Structures Report
IMAP	Inventory, Monitoring, and Assessment Program
MBSF	Monterey Bay and Channel Island Sanctuary Foundation
MPA	marine protected area
MPRPD	Monterey Peninsula Regional Park District
MRWMD	Monterey Regional Waste Management District
MST	Monterey-Salinas Transit
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWS	National Weather Service
OPC	Ocean Protection Council
PG&E	Pacific Gas & Electric
PLF	Point Lobos Foundation
SB	State Beach
SMR	State Marine Reserve
SNR	State Natural Reserve
TAMC	Transportation Agency of Monterey County
TMPFW	The Monterey Pine Forest Watch
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VIPP	Volunteers in Parks Program

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1 INTRODUCTION

This Existing Conditions and Resources Inventory Report was prepared in support of development of a General Plan for Point Lobos State Natural Reserve (SNR) and provides a detailed overview of the existing physical conditions at the park. Information presented in this report will inform the planning process, including the development of alternatives for use of the park, and will also serve as the baseline against which proposed changes at Point Lobos SNR will be evaluated. Point Lobos SNR is one of four California State Parks properties being evaluated through this planning process. The other California State Parks properties included in the current General Plan process are Carmel River State Beach (SB) and two unclassified properties commonly known as Point Lobos Ranch and Hatton Canyon. Separate Existing Conditions and Resource Inventory Reports have been prepared for these park units.

A combined General Plan for Point Lobos SNR (then called Point Lobos State Reserve) and Carmel River SB was approved by the California Park and Recreation Commission on May 11, 1979 (California Department of Parks and Recreation [DPR] 1979). A General Plan Amendment was approved in June 1987 to designate 36 acres of newly acquired property for day use and to allow visitor facility development including new parking facilities (DPR 1988). A second General Plan Amendment was approved in March 1996 to change the land use designation of the 155-acre Odello West agricultural field within Carmel River SB from agricultural use to riparian and wetland habitat to help reduce the risk of flooding and to address resource enhancement goals (DPR 1996).

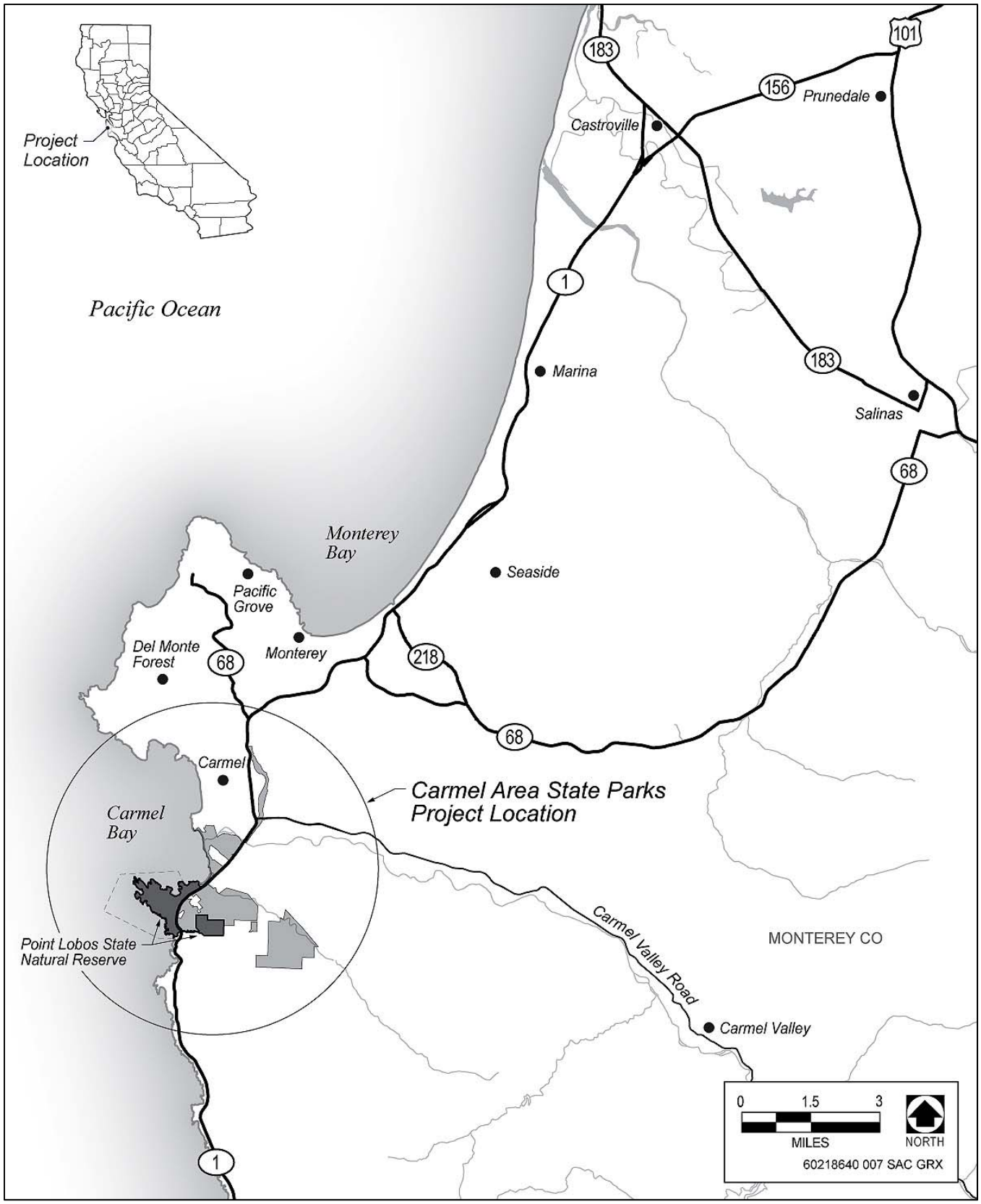
This report includes information on land use, significant physical, biological, cultural, and aesthetic resources, and recreation values at Point Lobos SNR. It was prepared based on an extensive review of existing information, supplemented with photos and notes from a site tour conducted at the onset of the planning process and coordination with park staff, including resource specialists and planners from the Monterey District and Planning Division of California State Parks, and other agencies and organizations.

Point Lobos SNR is located in coastal Monterey County adjacent to Highway 1 and approximately 3 miles south of the City of Carmel-by-the-Sea. The primary area of the Reserve is located west of Highway 1 and is open to the public. An additional 150 acres of the Reserve that is not open to the public is located east of Highway 1. The regional location of Point Lobos SNR is shown in Exhibit 1-1. Exhibit 1-2 shows the Reserve in a local context and in relation to the other park units also included in the development of the current General Plan. Major park features are shown in Exhibit 1-3.

The portion of Point Lobos SNR located west of Highway 1 was acquired by California State Parks in 1933 and was originally designated as Point Lobos Reserve State Park. In 1962, 150 acres east of Highway 1 that contains a rare stand of Gowen cypress trees, was given to the state by Herman Marks and became part of the unit. The State Park was renamed and reclassified a State Reserve in 1963, and reclassified as a State Natural Reserve through legislation in 2004 (DPR 2011).

California Public Resources Code Section 5019.65 defines **State reserves** and **State natural and cultural reserves** as follows:

- **State reserves** consist of areas embracing outstanding natural or scenic characteristics or areas containing outstanding cultural resources of statewide significance. State reserve units may be established in the



Source: AECOM 2012

Exhibit 1-1 **Regional Location of Point Lobos SNR**

Exhibit 1-2 **Local Context of Point Lobos SNR**

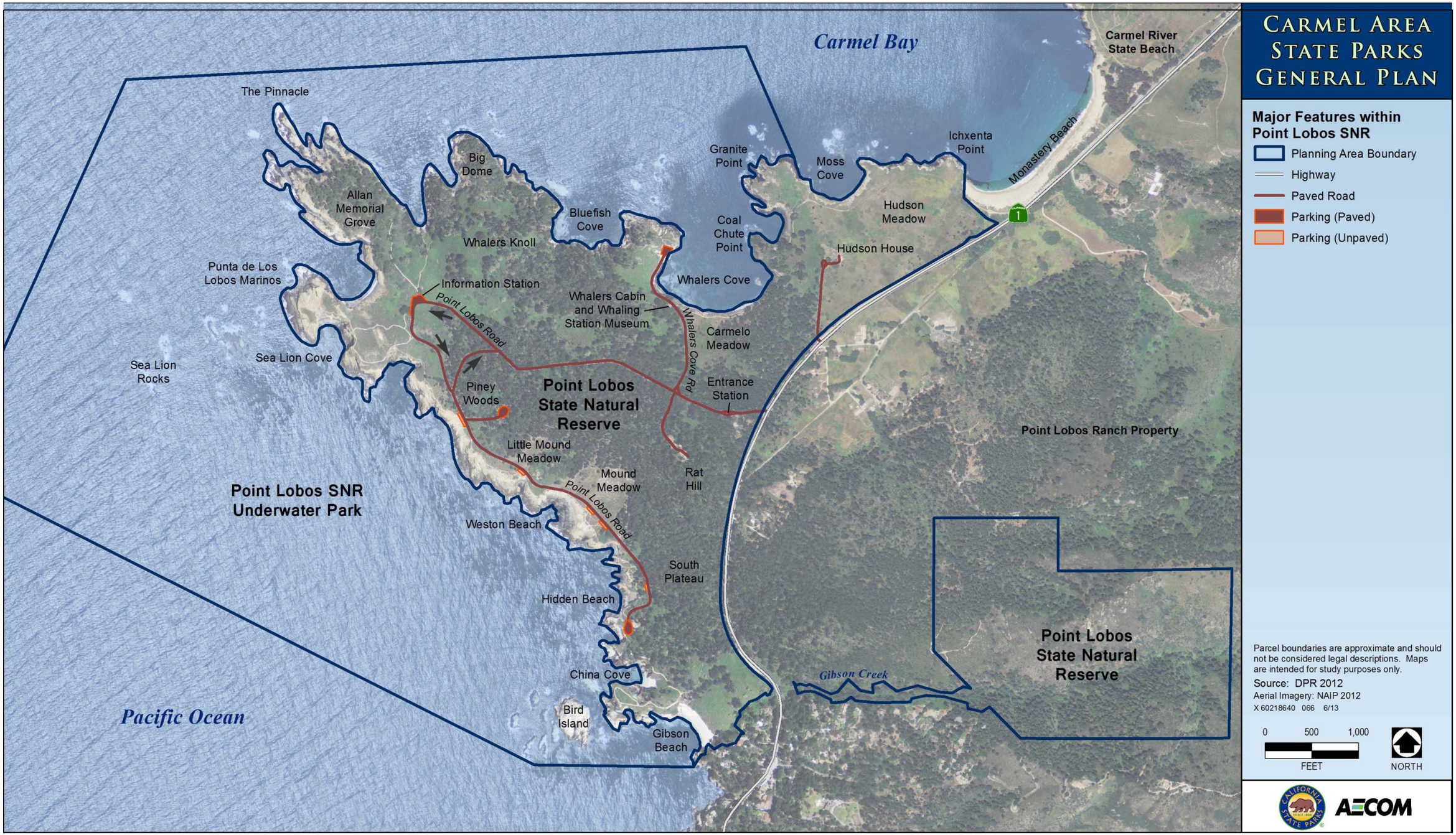
terrestrial or nonmarine aquatic (lake or stream) environments of the state and shall be further classified as of the following types:

- **State natural reserves**, consisting of areas selected and managed for the purpose of preserving their native ecological associations, unique faunal or floral characteristics, geological features, and scenic qualities in a condition of undisturbed integrity. Resource manipulation shall be restricted to the minimum required to negate the deleterious influence of man. Improvements undertaken shall be for the purpose of making the area available, on a day use basis, for public enjoyment and education in a manner consistent with the preservation of their natural features. Living and nonliving resources contained within state natural reserves shall not be disturbed or removed for other than scientific or management purposes.

- **State cultural reserves**, consisting of areas selected and managed for the purpose of preserving and protecting the integrity of places that contain historic or prehistoric structures, villages, or settlements, archaeological features, ruins, artifacts, inscriptions made by humans, burial grounds, landscapes, hunting or gathering sites, or similar evidence of past human lives or cultures. These areas may also be places of spiritual significance to California Native Americans. Within state cultural reserves, the highest level of resource protection shall be sought. Improvements may be undertaken for the purpose of providing public access, enjoyment, and education, and for cultural resource protection. Improvements made or the purpose of cultural resource protection shall take into account the possible need for access to the site for ceremonial or spiritual purposes. Living and nonliving resources contained within state cultural reserves may be used for ceremonial or spiritual purposes, consistent with other laws, and if the use is not harmful to threatened or endangered species or to the cultural resources intended for protection by this designation. Management actions shall be consistent with the preservation of cultural resources and with federal and state laws.

Point Lobos SNR was acquired: "to preserve its native ecological associations, unique faunal or floral characteristics, geological features and scenic qualities in a condition of undisturbed integrity." Francis McComas described the Reserve as "… the greatest meeting of land and water in the world"

There are 16 state natural reserves in the California state park system (California State Parks 2012). The Reserve was acquired to perpetuate forever, for public enlightenment, inspiration and aesthetic enjoyment, an area of unique natural beauty and ecological significance. The Reserve consists of approximately 1,325 acres of headlands, coves, meadows, forests and the adjacent 775-acre underwater park. The underwater park is designated as an Ecological Reserve and an Area of Special Biological Significance (Exhibit 1-4). The term "underwater park" has been used informally by California State Parks and has appeared in many publications and documents. However, it has no official (legislative or administrative) basis or standing. Underwater parks do not have specific individual names, but they are an integral part of the classified units they are part of. There are 22 underwater parks in the state park system (California State Parks 2012). The Point Lobos SNR underwater park is within a larger marine protected area (MPA) managed by California Department of Fish and Wildlife (CDFW) called Point Lobos State Marine Reserve (SMR). There is no fishing allowed within the 5.36 square mile SMR. In addition, the Point Lobos State Marine Conservation Area extends seaward from the Point Lobos SMR and is 8.8 square miles. The Marine Conservation Area is also managed by CDFW and there is limited commercial and recreational fishing in this area (Clifton and Johnson 2010).



Carmel Area State Parks General Plan

Major Features within Point Lobos SNR

- Planning Area Boundary
- Highway
- Paved Road
- Parking (Paved)
- Parking (Unpaved)

Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

Source: DPR 2012

Aerial Imagery: NAIP 2012

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Exhibit 1-3 **Major Features**

Exhibit 1-4 **Marine Resource Designations**

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2 LAND USE AND POLICY REVIEW

2.1 REGIONAL LAND USES

Founded in 1850, Monterey County was one of the first counties established in California. Much of the current land use in the county is dictated by the natural landforms. Monterey County lies between the Pacific Ocean and the Gabilan Mountain Range, which is part of the California Coastal Ranges running in a northwest-to-southeast direction along the California coastline. Major land uses within the county include recreation, agriculture, urban development (housing and industrial), mining extraction, and transportation. The 2010 General Plan Update for the county establishes land use policies to designate general distribution and intensity of various land uses. The main vision of the 2010 Land Use Element is to create a general framework that encourages growth within or near developed/developing areas in order to reduce impacts to agricultural production, natural resources, and public services. Most of the intense land uses are concentrated in the northern third of the county. The following is the land use breakdown with respect to land coverage percentage in the county (Monterey County 2010):

Agriculture	60%
Public/Quasi Public (e.g., hospitals)	28%
Residential	0.7%
Commercial	0.3%
Industrial	0.3%
Other and Federal lands	remaining

Several other plans that provide regional land use guidance specifically in the Carmel coastal segment of the county have also been adopted. These include the *Greater Monterey Peninsula Area Plan* (Monterey County 1997), *A Conservation Plan for Three Ranches* (Monterey County 1966a), *Rancho San Carlos Master Plan* (Monterey County 1966b), *Carmel Valley Master Plan* (Monterey County 1986), and *Carmel Area Land Use Plan* (Monterey County 1983). The development policies and land use recommendations in all of these plans follow the basic objective of maintaining the unique scenic and recreational resources of the Carmel coastal area by holding developments to a standard of "minimal visibility", such that it is subordinate to the existing natural grandeur of the coastline and adjacent coastal terraces.

The *Greater Monterey Peninsula Area Plan* is intended to provide refinement of the County General Plan to reflect local concerns which could not be addressed at the county-wide level. The primary land uses in the Carmel Coastal segment envisioned in the *Greater Monterey Peninsula Area Plan* include residential, commercial, recreational, resource conservation, and agricultural. Public uses in the Carmel area include Point Lobos SNR, Carmel River SB, county and city parks, elementary schools, a day-care school, churches, and a sewage treatment plant.

Regionally major concerns related to new development in the *Greater Monterey Peninsula Area Plan* include:

- Creation of additional recreational demands on the existing state reserve and beaches.
- Degradation of the visual quality of the scenic coastline.
- Continued encroachment affecting the quality of life in existing communities.

- Scarcity of water and waste services.

Land use in portions of Monterey County that are within the coastal zone is also influenced by the California Coastal Act. Local jurisdictions implement the California Coastal Act in coordination with the California Coastal Commission through Local Coastal Programs. The Local Coastal Programs contain the ground rules for future development and protection of coastal resources. The *Carmel Area Land Use Plan* is part of the Local Coastal Program. Carmel River SB is within the coastal zone. All development in the coastal zone requires either a Coastal Development Permit or an exemption from coastal permit requirements. The California Coastal Act established a framework for resolving conflicts among competing uses for limited coastal lands. The highest priority is placed upon the preservation of natural resources, including environmentally sensitive habitat areas. In the case of sensitive habitat areas, only uses dependent on these resources are allowed within such areas. Public recreational uses have priority on coastal sites which are not habitat areas and not needed for coastal-dependent uses. For sites that are not reserved for habitat preservation, agriculture, coastal-dependent uses, public recreation, or other types of development are permitted. However, commercial visitor-serving recreation has priority over private residential, general industrial and general commercial development (Monterey County1983).

Many parks that offer recreation opportunities are available in the region (Exhibit 2-1). Approximately 14% of the county is devoted to parks and recreation facilities that are owned by various federal, state, and local agencies (Monterey County 2010). The U.S. Bureau of Land Management (BLM) manages lands in the Monterey area, including Fort Ord National Monument, that provide a variety of recreation opportunities. In the Carmel and Carmel Valley areas, the Monterey Peninsula Regional Park District (MPRPD) operates Garland Ranch Regional Park, Thomas Open Space, Blomquist Open Space Preserve, Cachagua Community Park, Carmel Valley Community Park, and Palo Corona Regional Park (MPRPD 2012a) (Exhibit 2-1).

The Monterey County Parks Department owns several parks in the area including Jacks Peak County Park and Martin Canyon. Mission Trails Regional Park, owned by the City of Carmel, is also a well-used corridor connecting the Carmel Mission to surrounding neighborhoods (Monterey County Parks 2012).

Other California State Parks properties in the immediate vicinity of Point Lobos SNR include Carmel River SB, the unclassified Point Lobos Ranch property, the unclassified Hatton Canyon property, and Garrapata State Park. California state parks slightly farther north include Asilomar State Beach and Conference Grounds, Monterey State Historic Park, Monterey State Beach, Fort Ord Dunes State Park, Marina State Beach, and Salinas River State Beach. There are also a number of state parks in the Big Sur area. These parks are discussed in more detail in Section 4, Recreation Resources.

Other popular recreation opportunities within the region include the Monterey Bay Aquarium, Cannery Row, Fisherman's Wharf, 17-Mile Drive, and various golf courses including Pebble Beach. Numerous hotel/resorts, restaurants, and shopping areas are located near Point Lobos SNR. Visitors come to the Monterey Peninsula for a variety of recreation experiences, including sightseeing, scenic driving, fishing, diving, surfing, wine tasting, and golfing. Visitors also come to the Monterey area for organized special events such as the Big Sur International Marathon, Sea Otter Classic (bicycle races and outdoor recreation expo), or race events at Laguna Seca (Monterey County 1983, Monterey County Convention and Visitors Bureau 2012). Peak visitation to the region occurs between June and September. The Big Sur area to the south is a popular destination for visitors. Activities in this area include camping, tours, whale watching, hiking, and SCUBA diving (Caltrans 2004). The Big Sur area

attracts visitors from around the world. It offers spectacular views of California's rugged coast and is recognized as one of the most scenic coast lines in the world.

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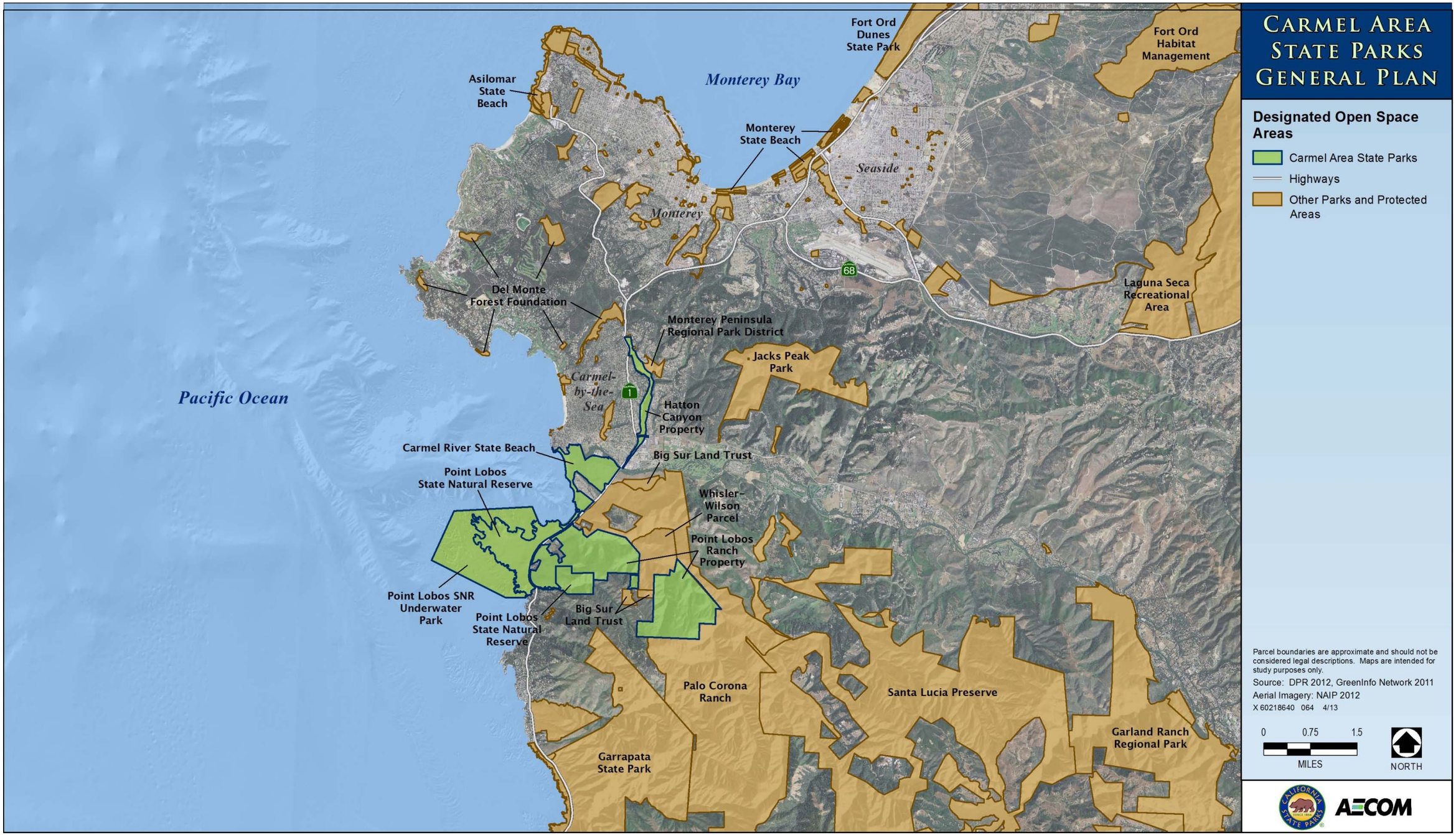

Exhibit 2-1

Designated Open Space Areas

2.2 PARK LAND USE AND ZONING

Land uses within the SNR primarily include recreational uses, interpretive and educational uses, residences for California State Parks staff, park operations and maintenance facilities, and cultural and biological resource protection. Many unique natural resources exist within the Reserve including Gowen cypress and an underwater park. Most of the recreational activities at the Reserve are focused towards day-use visitors seeking reprieve from urban life: to paint, photograph or simply walk or hike along the shoreline, and provide visitors an experience whereby they can appreciate the natural beauty of the California coast. Recreational uses within the Reserve are described in more detail in Section 4, Recreation Resources. The Reserve is managed by interfering as little as possible with the unique natural resources. To maintain natural qualities as much as possible, restrictions have been placed on visitors to limit their impact on the environment. The types of recreational activities in the Reserve have also been limited to passive types of recreational facilities to protect the resources. The underwater portions of the Reserve are an Ecological Reserve and therefore no fishing and no collecting of plants or marine animals is allowed within its underwater boundaries (DPR 1979).

Point Lobos SNR is within the *Carmel Area Land Use Plan*, which is part of the Local Coastal Program. Point Lobos SNR is designated as a coastal forest and upland habitat. To the south is Carmel Highlands, a low density residential development. To the north is the boundary shared with Carmel River SB (Monterey County 1983).

Point Lobos SNR is zoned as Resource Conservation District by Monterey County. The purpose of this zoning designation is to protect, preserve, enhance, and restore sensitive resource areas, and the zoning code states that development in areas with this zoning designation shall be achieved without adverse effect and will be subordinate to the resources.

2.3 RELEVANT PLANNING POLICIES

There are various plans that guide management within and in the vicinity of Point Lobos SNR. Below are descriptions of planning policies that are relevant to the Reserve.

2.3.1 1979 GENERAL PLAN

The previous General Plan for Point Lobos SNR, which also covers Carmel River SB, was approved in October 1979. Amendments to the 1979 General Plan were approved in June 1987 and March 1996. Appendix A includes a description of the 1979 General Plan proposals by topic area and a brief description of whether they were implemented and the reasons they were or were not implemented. The 1979 General Plan includes specific management guidelines for the Reserve. Although several of the guidelines are no longer applicable, the following management guidelines continue to be relevant to management of the Reserve:

- Terrestrial ecosystem management shall include the restoration of the natural fire cycle through a program of prescribed bums. A serious fire hazard does exist now. Special studies will be made, in addition to the collection of data through the monitoring program, to determine a specific program for ecological burning.
- Paleontological sites shall be protected from destruction and investigated for scientific values.

- Mound and Little Mound meadows are unique ecological resources that shall be protected from human impact and encroachment by vegetation from surrounding areas.

- The enhancement of the ecological niches of rare, endangered, or endemic species or other entities shall be attempted when consistent with management toward the pristine state of the ecosystem or when extinction is otherwise imminent. Marine ecosystem management should include the restoration of the natural dynamic balance among sea otter - shellfish - urchin - kelp - Indian. The Indian harvesting that occurred in the past must be replaced by management of marine resources, a responsibility of the Fish and Game Commission and Fish and Wildlife Service.

- Exotic species, such as Hottentot fig, kikuyu grass, and pampas grass, shall be controlled and, where possible, eradicated. Biological control and manual removal will be used wherever possible; herbicides will be used only as a last resort and only where environmentally acceptable.

- Manmade intrusions that threaten or detract from natural and/or esthetic resources shall be removed and the resources rehabilitated if possible.

    - Total parking facilities shall not exceed 150 cars.

    - If, in the future, the monitoring program shows that the resources in the area of the South Shore Road are being degraded by vehicular traffic, the road between the Cypress Grove and South Shore parking lots shall be scarified; leaving only a narrow foot/bicycle trail.

    - Roads in the Gibson Creek inland area shall be allowed to revert to narrow trails.

    - Road scars shall be revegetated; no new roads or trails other than those specified in the 1979 General Plan shall be constructed.

    - All trails shall be well-defined yet unobtrusive. Trails down bluffs or hillsides shall be constructed of native rock and/or soil cement. New trails shall not be constructed within the ecological niches of rare and/or endangered taxa nor on archaeological sites.

    - Trails shall be limited to 1.2 meters (4 feet) in width. Trail barriers shall consist only of natural materials, chain and wood posts, or eye bolt and single-strand wire. Trail barriers shall be used only as a last resort in protecting sensitive resources.

    - All trails shall be rerouted, where necessary, to minimize human impact on natural ecosystems. For example, the trail between Carmelo Meadow and Coal Chute Point shall be rerouted to avoid areas of high soil compaction and vegetation sensitivity. Portions of the North Shore trail shall be rerouted if excessive human impact or safety factors indicate this action.

    - Signing shall be kept to the minimum necessary for visitor safety, direction, and interpretation needs, and shall not be permitted in the underwater portion of the Reserve.

    - Trails, parking lots, or picnic areas can be intermittently or permanently closed when irreversible impact to natural resources is deemed imminent.

- Diver use shall be restricted to Bluefish and Whalers Coves.
- The buoy in Whalers Cove shall be replaced by a smaller, less obtrusive buoy.
- The use of septic tank and leach field facilities shall be discontinued and replaced with recycling sewage facilities (a combination solar distillation and methane generation unit with aerobic and anaerobic digesters), or use municipal systems when they become available.
- All utilities shall be placed underground; overhead wires shall be phased out.

2.3.2 CARMEL AREA LAND USE PLAN

Many of the policies within the *Carmel Area Land Use Plan* are relevant to consider for Point Lobos SNR. These policies are listed below:

- Recreational access and associated facilities within Monterey cypress habitat in Point Lobos SNR should be restricted to existing trails.
- To allow for wildlife movement from one open space area to another, adequate corridors (greenbelts) connecting open space areas should be maintained or provided. Such a corridor shall be specifically retained for movement of wildlife to and from uplands east of Point Lobos SNR and the Reserve itself.
- The restoration of Northern Coastal Prairie in Point Lobos SNR should provide for the retention of snags along the ecotone and within the area to be converted to prairie.
- Appropriate areas of Highway 1 should be designated for construction of paved turnoffs for slow-moving vehicles. The unpaved turnoffs south of Point Lobos Reserve may be appropriate for such improvement. The turnoffs should be signed to notify approaching vehicles in time to pull over.
- Use of the Gowen cypress and Monterey cypress areas of Point Lobos SNR and of the Carmel River lagoon and marsh shall be limited to very low-intensity recreational and educational uses such as walking, nature study, photography and scenic viewing. Facilities shall be limited to properly sited and designed trails, access points and interpretive and directional signs. There shall be no public access into the marsh.
- The State Department of Parks and Recreation should develop a management plan for the former Briggs property and the northern 48 acres of Point Lobos SNR based on the policies and standards and site-specific recommendations set forth in the Public Access Element of this plan. Management of both areas should provide for retention of the area's scenic character and visual access from Highway 1.

2.4 EASEMENTS

Two of the deeds granted for Point Lobos SNR contain easements. A 1933 deed between Florence Allan, Helen Burnette, Eunice Riley, and Margaret Hudson included a scenic easement along Highway 1. Another deed granted in 1958 from Nathaniel Owings included riparian rights to water, a right-of-way easement over the trail along Gibson Creek, and a right-of-way easement for pedestrian access to Gibson Beach (DPR 2012a).

2.5 EXISTING PARK FACILITIES

Existing facilities within Point Lobos SNR are listed below. Additional detail and a map of the recreational facilities are provided in Section 4.2, Recreation Facilities and Trails. Additional detail and a map of operations and maintenance facilities are provided in Section 7.1, Existing Facilities.

- Operations and Maintenance Facilities
  - Office/docent meeting room & library
  - Maintenance shop
  - Storage yard

- Staff Residences
  - Hudson House
  - One residence at Rat Hill
  - Three residences at office area

- Visitor Serving Facilities
  - Information Station
  - Entrance station
  - Whalers Cabin Museum/Whaling Station Museum
  - Five restrooms
  - Two boat sheds
  - Diver access ramp
  - Interpretive displays
  - Ten parking areas throughout the Reserve

- Trails
  - Sea Lion Point Trail; Americans with Disabilities Act (ADA) accessible
  - Cypress Grove Trail; 500 feet ADA accessible
  - Sand Hill Trail; ADA accessible
  - Bird Island Trail; ADA accessible
  - Carmelo Meadow Trail; ADA accessible
  - Granite Point Trail; ADA accessible
  - North Shore Trail
  - Lace Lichen Trail
  - Pine Ridge Trail
  - Mound Meadow Trail
  - Moss Cove Trail
  - South Plateau Trail
  - Whalers Knoll Trail
  - Cabin Trail
  - Old Veteran’s Trail

- Roads
  - Point Lobos Road
  - Whalers Cove Road
  - Unnamed spur roads

- Picnic Areas
  - Whalers Cove Picnic Area
  - Piney Woods Picnic Area
  - Bird Island Picnic Area

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3 SIGNIFICANT RESOURCE VALUES

3.1 PHYSICAL RESOURCES

3.1.1 CLIMATE

The climate in the Carmel area is a maritime Mediterranean climate characterized by warm, rainy winters and cool, foggy summers (Thomson 1997). The year-round climate is mild and not subject to severe seasonal change, primarily because of the immediate influence of the Pacific Ocean. A semi-permanent Pacific high pressure system to the west or northwest of the Monterey area creates northwesterly winds over the ocean. The Pacific high pressure system intensifies during the summer months, keeping storms to the north. On average, fog occurs 135 days per year, primarily during July, August, and September, although inland areas experience less fog than the coastal areas. Average annual temperatures in the area generally range from 49°F to 63°F, with summer maximum temperatures around 68°F and winter maximum temperatures in the low 60s. Daily temperature fluctuations are typically small. Rainfall averages 19 inches per year and falls primarily between October and May (CeNCOOS 2012, Caltrans 2004). The El Niño phenomenon of cyclical ocean warming increases the severity and frequency of winter storms and increases the amount of precipitation. During El Niño events, coastal erosion accelerates, resulting in loss of beach sand and coastal bluff failures. La Niña years tend to bring nearly opposite effects of El Niño to the United States (NWS 2012). According to the National Oceanic and Atmospheric Administration's Weather Service website, the nearest weather station to Point Lobos SNR is the Monterey Peninsula Station.

3.1.2 TOPOGRAPHY

Topography has greatly influenced land use development in the Monterey area including the locations of major roadways and developments (CSU Pomona 2005). Slopes within Point Lobos SNR are generally gentle with the exception of sea bluffs and the steep-sided canyon of Gibson Creek. Sea bluffs rise to elevations of up to 200 feet above sea level in some areas. Elevations within the Reserve range from 940 feet in the northeast corner of the area east of Highway 1 to sea level at the beaches, including China Cove and Hidden Beach. Big Dome, Pelican Point, and Point Lobos itself are areas of significant topography on the west side of Highway 1. The banks of Gibson Creek, which form the southern boundary of the Reserve, are steep and the bottom of the canyon is narrow (DPR 1979).

Submarine topography is highly variable, with sheer granite walls, flat plateaus, stone pinnacles, and caves and caverns found off of Sandhill Cove and Bird Island (DPR 1979, Thomson 1997). The south shore submarine topography is fairly shallow and the north shore topography is extremely rugged (Barry et al. 1977).

3.1.3 GEOLOGY AND SEISMICITY

Point Lobos SNR is located within the Coast Ranges Geomorphic Province. Major geologic formations within Point Lobos SNR include Porophyritic Granodiorite, Carmelo Formation, Pleistocene marine terrace deposits, and Temblor Formation. Porophyritic Granodiorite is deep-seated igneous rock that is resistant to erosion and weathering. This formation is exposed at several locations throughout the Reserve including Bird Island, Big Dome, Whalers Knoll, and Granite Point (Photo Exhibit 3-1). The Carmelo Formation includes four distinct

Source: AECOM 2012

Photo Exhibit 3-1 **Geologic Formations at Bird Island**

rock types: sandstone, siltstone, conglomerate, and shale. The Carmelo Formation is softer than the granodiorite and more susceptible to erosion (Thomson 1997). The Carmelo Conglomerate is the most common. The conglomerate is exposed at Coal Chute Point and Sea Wolf Point. Sandstone units are exposed at Little Mound and Mound meadows, and the shale units are rare in the Reserve and are only exposed on small sections of Whalers Cove and at Hidden Beach. Pleistocene marine deposits are found as soil parent material above Headland Cove and behind Gibson Beach. The Temblor Formation is composed of coarse-grained sandstones and conglomerates (DPR 1979).

In the northern submarine portion of the Reserve lies the Carmel Submarine Canyon. This canyon is a branch of the larger Monterey Submarine Canyon, a major geomorphic feature off the California coast.

Faults in the Monterey area occur primarily in two northwest-trending zones, the Palo Colorado-San Gregorio fault zone and the Monterey Bay fault zone. There are several active or potentially active faults within these zones including: San Andreas, San Gregorio-Palo Colorado, Chupines, Navy, and Cypress Point, with the San Andreas and San Gregorio being the most dominant faults that are considered active and have evidence of historic or recent movement. The San Andreas Fault runs through much of California and the southeast portion of Monterey County (Monterey County 2010). Small to moderate earthquakes (i.e., magnitude 5.0 and below) are common in Monterey County. Although there are a number of faults zones in this area, none of them are officially designated as an Alquist-Priolo Earthquake Fault Zone (DPR 1979, 1988; TAMC 2009) (Exhibit 3-1). The Monterey County General Plan EIR identifies the entire Reserve as having a low potential for landslides and liquefaction (Monterey County 2008).

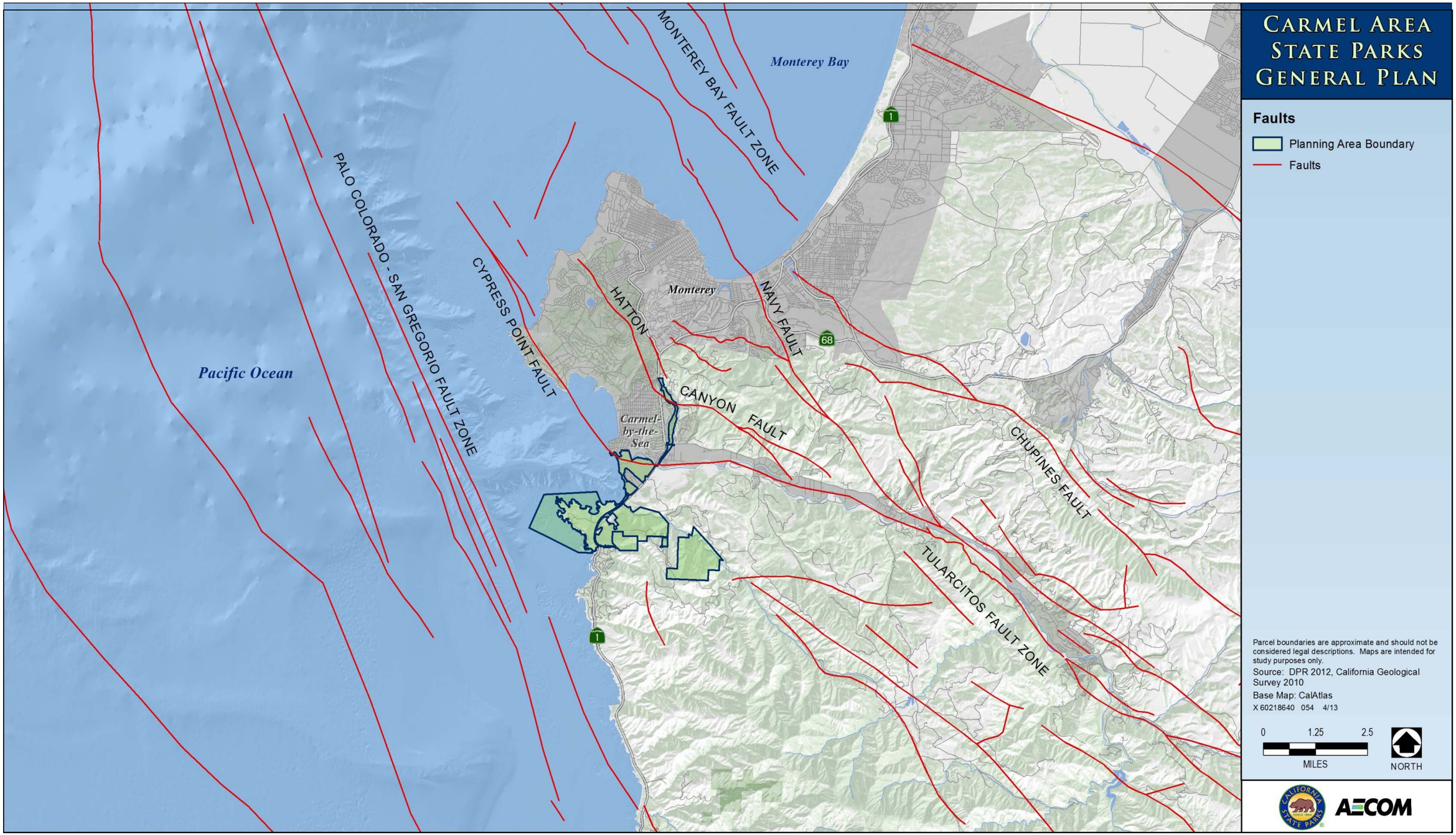


Exhibit 3-1

Faults in the Vicinity of Point Lobos SNR

3.1.4 PALEONTOLOGY

Point Lobos SNR is an exceptional example of a fossil submarine canyon formed 50-60 million years ago by avalanches of sand and mud that flowed down from the canyon's upper reaches when the area was submerged. Although no humans have witnessed these avalanches, their existence is well documented in the Carmelo Formation, which is the sedimentary rock exposed along the south shore and the northeastern part of the Reserve (Clifton 2008). The Carmelo Formation within Point Lobos SNR contains plant and animal fossils, largely consisting of leaf fragments, pieces of carbonized wood, and seaweed. Fossils associated with this formation have been found in various locations, including numerous fossils near Gibson Beach. Trace fossils of many kinds are also a prominent feature along the southwestern shore of Point Lobos SNR between Weston (previously Pebbly) Beach and Sea Lion Point (Bromley et al. 2002). The most distinctive of the large fossils found in this formation was a turret shell found on Gibson Beach (California Division of Mines and Geology 1965). This formation also contains various trace fossils including a highly complex trace fossil that is thought to be a result of a steadily moving subsurface deposit-feeding tellinacean bivalve (Bromley et al. 2002). This complex trace fossil was once thought to be a fossilized marine plant; however, because of the three-dimensional structure and non-carbonaceous character of the fossil it was later identified as that created by a tellinacean bivalve (Maze and Clifton 2004) (Photo Exhibits 3-2 and 3-3). The fossils that have been found within the Carmelo Formation indicate the formation is of the Paleocene age (Bromley et al. 2002). Fossil mollusks found within the Chamisal Formation indicate that this formation is of the Miocene age. The Santa Margarita Formation, which is white sandstone, also contains numerous fossil shells (California Division of Mines and Geology 1965).

3.1.5 SOILS

Point Lobos SNR is located within the Coast Ranges Geomorphic Province. Fifteen soil series have been mapped within the Reserve (Exhibit 3-2). According to the Natural Resources Conservation Service (NRCS) Soil Survey and GIS data layers, the three soil types with maximum coverage in the portion of the Reserve west of Highway 1 are Xerorthents along the coastal edge, Santa Ynez fine sandy loam, and Sheridan coarse sandy loam. The portion of the Reserve east of the highway is dominated by Junipero-sur complex and Cieneba fine gravelly sandy loam (NRCS 2009).

Xerorthents typically occur on steep to extremely steep terrain and consist primarily of unconsolidated or weakly consolidated stony alluvium. Runoff is rapid and erosion hazards vary considerably over short distances. The Santa Ynez fine sandy loam occurs on 2 to 9% slope. This type of Santa Ynez has a soil profile typical of the series, but with a thicker, fine sandy loam surface layer. Runoff is slow to moderate, producing a slight to moderate erosion hazard. The Sheridan coarse sandy loam is formed in residuum weathered from granite, schist, and related rocks. Typically this type of soil is well drained with medium to very rapid runoff and moderately rapid permeability. The Junipero-sur complex consists of well drained soils that formed in material weathered from igneous rocks, and are found on slopes of 30 to 85%. Cieneba fine gravelly sandy loam is a somewhat excessively drained soils that formed in material weathered from granitic rock.

Other types of fine sandy loam soils at Point Lobos SNR include Elder, Elkhorn, Pfeiffer, and San Andreas. The Elder very fine sandy loam is a well-drained soil type with negligible to low runoff. These soils are typically formed from moderately coarse textured alluvium derived from sedimentary, granitic, and basic igneous rock sources. Elkhorn soils are found on marine terraces and are formed from old stabilized sandy dune deposits and

Source: Chuck Bancroft 2012

Photo Exhibit 3-2 **Trace Fossil near Weston Beach**

Source: Chuck Bancroft 2012

Photo Exhibit 3-3 **Trace Fossils near Weston Beach**

Exhibit 3-2 **Soil Types within Point Lobos SNR**

soft marine sediments near the coast. These types of soils are generally well drained with moderately slow permeability with slow to rapid runoff. Both the Pfeiffer and San Andreas soils are well drained soil types with moderately rapid permeability, with the former showing low to medium runoff and the latter showing slow to rapid runoff.

Other soil types found within Point Lobos SNR include Antioch, Coastal beaches, Dibble silt loam, Dune land, Narlon, and Lockwood.

Erosion hazard mapping was completed as part of the 1979 General Plan. This effort identified many of the areas along the headlands near Ichxenta Point, Granite Point, the Allen Grove headlands, and Sea Lion Point as having high erosion potential. Areas with compacted soils and/or vegetation denudation were identified in multiple areas of the Reserve but were most prevalent near Ichxenta Point, Hudson House, the Reserve entrance and headquarters, portions of the Granite Point Trail along Whalers Cove, Cypress Grove Tail, South Shore Trail, Piney Woods, and several locations along the Bird Island Trail (DPR 1979). These erosion and compaction areas continue to be issue areas.

3.1.6 HYDROLOGY, WATER QUALITY, AND FLOODPLAINS

According to the NRCS watershed database, watersheds in the region include the Canyon Del Rey-Frontal Monterey Bay, Carmel River, and Big Sur River-Frontal Pacific Ocean watersheds (Exhibit 3-3). Watershed data in support of California State Parks general plans is typically obtained from the Calwater 2.2 database; however, in the case of this planning effort, the NRCS dataset appears to contain more detailed and accurate information for this particular region. The Reserve is completely within the Big Sur River-Frontal Pacific Ocean Watershed. The entire Big Sur River-Frontal Pacific Ocean Watershed is more than 20,000 acres, and Point Lobos SNR comprises approximately 2.9% of that area. The primary waterways within the Big Sur River-Frontal Pacific Ocean Watershed are San Jose Creek, North Fork San Jose Creek, Gibson Creek, and Wildcat Creek. San Jose Creek drains approximately 15 square miles (DFG and CCC 2006). There are also a number of unnamed tributaries and creeks within this watershed.

Most of the terrain within Point Lobos SNR is upland terrain formed from old marine terraces. Only the immediate coastline of the Reserve and areas offshore are considered to be within the 100-year floodplain or 100-year floodplain for coastal areas (Exhibit 3-4). Areas designated within the 100-year floodplain have a 1% annual chance of flooding, and areas within the 100-year floodplain for coastal areas have a 1% or greater annual chance of flooding with an additional hazard associated with storm waves. The only surface waterways within Point Lobos SNR are Gibson Creek and its floodplain, and two freshwater seeps in the northern portion of the Reserve.

Groundwater in the area primarily occurs in unconfined deposits in alluvial material. The groundwater basin slopes toward the Pacific Ocean. Monterey County residents rely on the Carmel River watershed for their primary water supply. Water is supplied by California American Water Company (Cal Am); however, there is currently a moratorium on drilling new wells. Therefore, water is a limiting factor for new development.

Potential point sources of water pollution include the Carmel Area Wastewater District (CAWD) treatment plant and existing package treatment plants located to the north of the Reserve. Package treatment plants are small on-site treatment plants designed to handle specific needs. Effluent from the two package treatment plants is discharged into the open ocean north of Point Lobos SNR. Surface water quality for the

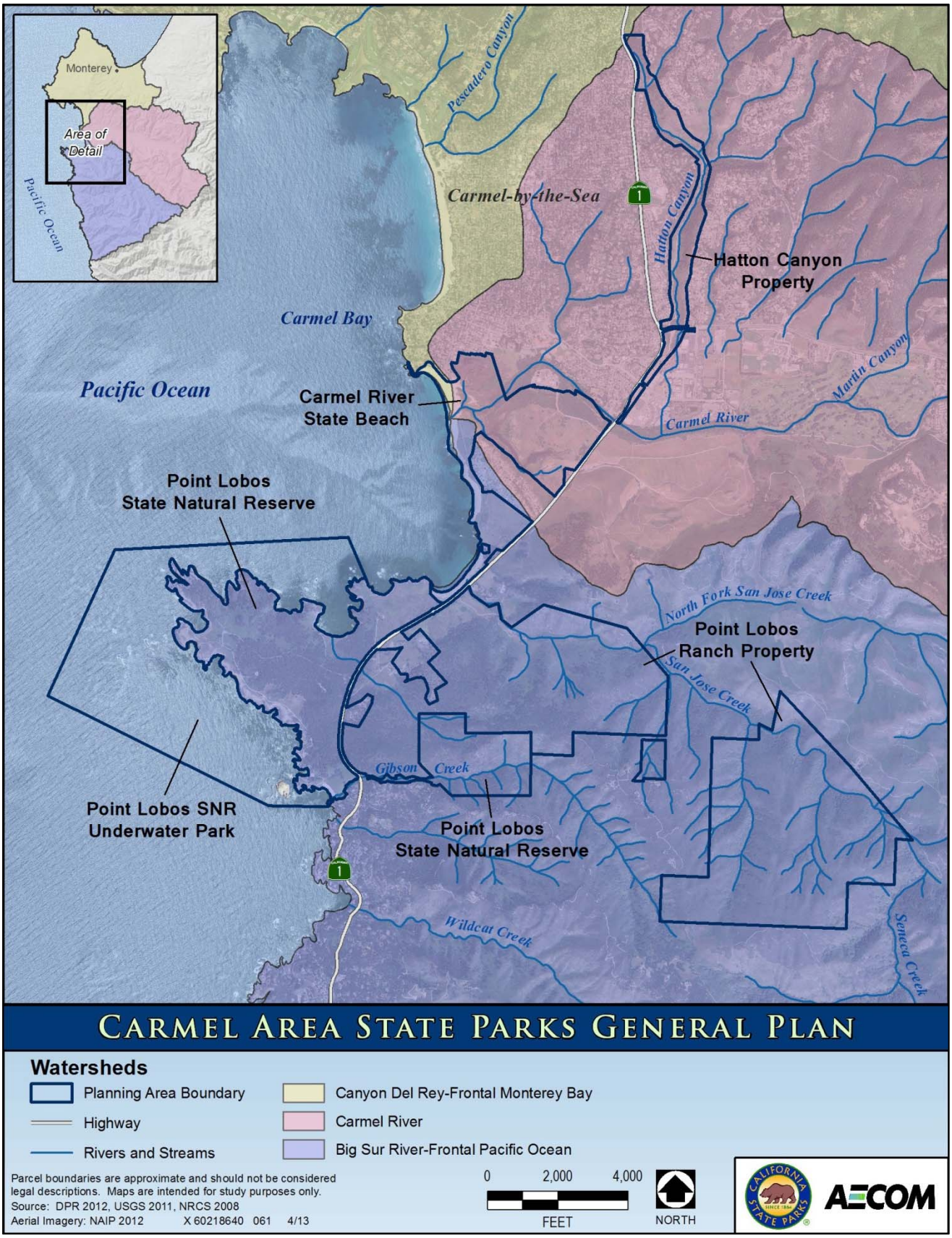


Exhibit 3-3 **Watersheds**

Exhibit 3-4 **Floodplain Map of Point Lobos SNR**

portions of Gibson Creek within the Reserve was fair-to-good during the 2003 monitoring of this creek (DPR 1979, Swolgaard 2003).

In addition, runoff from Highway 1 is concentrated and discharged via double culverts that discharge runoff through the forested and coastal meadow upland zones and into Whalers Cove. This runoff has caused erosion and silt flows into Whalers Cove impacting ocean water clarity.

3.1.7 SHORELINE CONDITIONS

Point Lobos SNR encompasses approximately 6.7 miles of coastline that includes a diversity of habitats including pocket beaches, exposed or protected rocky areas, tidepools and sheer cliffs. Steep cliffs drop as much as 200 feet to the water surface in some areas. Shoreline conditions are highly variable and include many geologic features such as caves, islands, pinnacles, and low-lying rocks (Caltrans 2004). Surface currents off of Point Lobos SNR vary with the season. The predominant current is a southerly movement of cold water from the Gulf of Alaska. From August through November the current is close to the coasts of northern and central California. There is a significant area of upwelling off the coast at Sea Lion Point. This area is an extremely rich and highly productive marine ecosystem of statewide importance.

In 1960, the Point Lobos SNR underwater park (Exhibit 1-3) became the first permanent marine protected area in the nation. The underwater park covers approximately 775 acres, and is classified as an Ecological Reserve and an area of special biological significance. As such, no fishing and no collecting of plants or marine animals is permitted within its underwater boundaries. Diving access is controlled by permit and is limited to Whalers and Bluefish Coves (Barry et al. 1977). The Point Lobos SNR underwater park is within a larger MPA managed by CDFW called Point Lobos SMR which is 5.36 square miles. There is no fishing allowed within the State Marine Reserve. In addition, the Point Lobos State Marine Conservation Area extends seaward from the Point Lobos SMR and is 8.8 square miles. The Marine Conservation Area is also managed by CDFW and there is limited commercial and recreational fishing in this area (Clifton and Johnson 2010).

The Marine Life Protection Act requires monitoring of designated MPAs to evaluate their effectiveness. As part of this effort, the California Collaborative Fisheries Research Program (CCFRP) has actively monitored four MPAs including the Point Lobos SMR since 2007. The monitoring efforts are a collaborative effort between the California Sea Grant at Moss Landing Marine Laboratories and San Luis Obispo Science and Ecosystem Alliance/Center for Coastal Marine Sciences at Cal Poly San Luis Obispo. Data collected includes species compositions, sizes, and catch rates of fishes in the region and is used to help resource managers evaluate the effectiveness of MPAs and for future fisheries management (Sea Grant California 2012).

3.1.8 CLIMATE CHANGE AND SEA LEVEL RISE

CLIMATE CHANGE

Climate change refers to change in the Earth's weather patterns including the rise in the Earth's temperature due to an increase in heat-trapping or greenhouse gases in the atmosphere. Greenhouse gases (GHGs) include carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride among others. Human activities are adding large amounts of GHGs to the atmosphere. Combustion of fossil fuels for heat, electricity, and transportation is the main source of these gases.

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing adaptation and mitigation strategies to reduce the negative impacts of impending climate change.

It is anticipated that coastal areas in California will experience several negative affects related to climate change, which will compel the population in these areas to make difficult choices regarding critical assets that need to be protected, relocated, or removed because of economic feasibility. Some of the anticipated extreme events and climate impacts associated with oceans and coastal resources are increased temperature, precipitation changes, sea level rise, reduced agricultural activity, biodiversity threats, public health threats, and increased wildfire risks.

Projected effects of climate change on the central California Coastal Region, including Point Lobos SNR, as described in the *Draft California Climate Change Adaptation Policy Guide* are summarized in Table 3-1.

SEA-LEVEL RISE

Sea level rise is considered to be one of the primary effects of climate change that is already affecting California. It is anticipated that sea-level rise along the California coast will increase coastal flooding and permanent inundation, deteriorate coastal wetland habitat, increase coastal erosion, cause saltwater intrusion within inland freshwater systems, and change acidity levels of the oceans. Sea-level rise will also have economic impacts, threatening private and public properties and reducing tourism potential of California State Parks and other agencies that provide coastal amenities to the public through reduction in or damages to beaches, access ways, parks, scenic vistas, and trails.

In 2006, a historic sea-level rise of 7 inches was reported by the Climate Change Center. The *Draft California Climate Change Adaptation Policy Guide* estimates that the entire coastal zone of California is susceptible to the effects of sea-level rise including bays and estuaries. The California Ocean Protection Council and Pacific Institute estimate that, even in a medium climate change scenario, the sea-level along the California coast will rise by 37 to 60 inches by 2100 (Table 3-2).

While future sea-level rise estimates vary based on future GHG emissions scenarios, the *2009 California Climate Change Adaptation Strategy* has adopted six adaptation strategies for ocean and coastal resources that are important to keep in mind while understanding the existing conditions of the Carmel Area State Parks and proposing a plan for the future. The six adaptation strategies laid out by the Coastal Adaptation Working Group, including California State Parks, are:

- Strategy 1: Establish State Policy to Avoid Future Hazards and Protect Critical Habitat;
- Strategy 2: Provide Statewide Guidance for Protecting Existing Critical Ecosystems, Existing Coastal Development, and Future Investments;
- Strategy 3: State Agencies Should Prepare Sea-Level Rise and Climate Adaptation Plans;
- Strategy 4: Support Regional and Local Planning for Addressing Sea-Level Rise Impacts;
- Strategy 5: Complete a Statewide Sea-Level Rise Vulnerability Assessment Every Five Years; and
- Strategy 6: Support Essential Data Collection and Information Sharing.

Table 3-1
Projected Effects of Climate Change on the Central California Coastal Region

Effect	Ranges
Temperature Change (1990-2100)	January: 4.1°F to 5.2°F increase in average temperatures. July: 5.1°F to 6°F increase in average temperatures. (Modeled high temperatures – average of all models; high carbon emissions scenario)
Precipitation	Precipitation varies by location with a general decrease throughout the century. Big Sur's rainfall is projected to decrease by nearly 8 inches in the same timeframe, with 5 to 7 inch decreases in cities like Santa Cruz, San Luis Obispo, and Santa Barbara. Projected decreases in areas of the region that are farther inland are about 4 to 5 inches. (CCSM3 climate model; high carbon emissions scenario)
Sea-Level Rise	By 2100, sea levels may rise up to 55 inches, posing threats to many areas in the region, particularly the Monterey Bay Area, Morro Bay, Avila Beach, and Santa Barbara. Overall, the estimated increased acreage in each county vulnerable to flooding will be 36% in Santa Barbara County, 15% in San Luis Obispo County, 12% in Santa Cruz County, and 11% in Monterey County.
Wildfire Risk	There is low to moderate change in projected fire risk in this region except for southwestern Monterey County, near the Big Sur, Carmel Valley, and Greenfield areas, where rates are expected to increase by 70% to 100% by 2085 (GFDL climate model; high carbon emissions scenario)

Source: Cal EMA and CNRA 2012

Table 3-2
Sea-Level Rise Projections using 2000 Sea Levels as a Baseline[1]

Year	IPCC Emission Scenario	Average of Models	Range of Models
2030		7 in (18 cm)	5-8 in (13-21 cm)
2050		14 in (36 cm)	10-17 in (26-43 cm)
2070	Low	23 in (59 cm)	17-27 in (43-70 cm)
	Medium	24 in (62 cm)	18-29 in (46-74 cm)
	High	27 in (69 cm)	20-32 in (51-81 cm)
2100	Low	40 in (101 cm)	31-50 in (78-128 cm)
	Medium	47 in (121 cm)	37-60 in (95-152 cm)
	High	55 in (140 cm)	43-69 in (110-176 cm)

Source: Cal EMA and CNRA 2012

Notes:

[1] Background regarding these sea level rise projections can be found in the *Resolution of the California Ocean Protection Council on Sea-Level Rise* (OPC 2011).

In addition, in 2011 California State Parks developed the *Sea Level Rise and Extreme Event Guidance* document that includes recommendations for addressing sea level rise at California state parks along California's coast (DPR 2011). This document anticipates effects to coastal park units resulting from the following:

- Potential loss of cultural and natural resources;
- Damage to park facilities and infrastructure (owned by State Parks and others);
- Decreased public access;
- Altered recreational opportunities;
- Change to revenue generation.

To help park planners and managers address these potential effects, the guidance document recommends a 5 step approach to managing risk in coastal park units:

1. Define Scope
2. Assess Vulnerability
3. Determine Risk
4. Manage Risk
5. Formulate Recommendation

Specific considerations include mapping of potential flooding areas, identifying opportunities and constraints, siting of new structures outside of potential flooding areas, and developing shoreline protection goals and guidelines.

It is anticipated that sea-level rise caused by climate change will affect Point Lobos SNR in the future. Point Lobos SNR, while situated directly along the coastline, has a varying topography, with some steep sea bluffs rising up to 200 feet above sea level. However, according to the *Impacts of Sea Level Rise on the California Coast* mapped by the Pacific Institute, the coastal edges along Point Lobos SNR are at risk of inundation, coastal erosion, and saltwater intrusion related to sea-level rise and intensification of coastal storms (Exhibit 3-5).

Erosion of coastal bluffs may also result in deterioration or loss of upland bluff habitat, beach access, and the trails near shoreline at Point Lobos SNR. Portions of the following trails could be affected by sea-level rise: Moss Cove Trail, South Shore Trail, Sea Lion Point Trail, Granite Point Trail, and Bird Island Trail. In addition, sea-level rise has the potential to affect Whalers Cove Road, Point Lobos Road, the Bird Island parking area, Whalers Cabin and associated storage area, restroom, and parking area, as well as parking areas along Point Lobos Road.

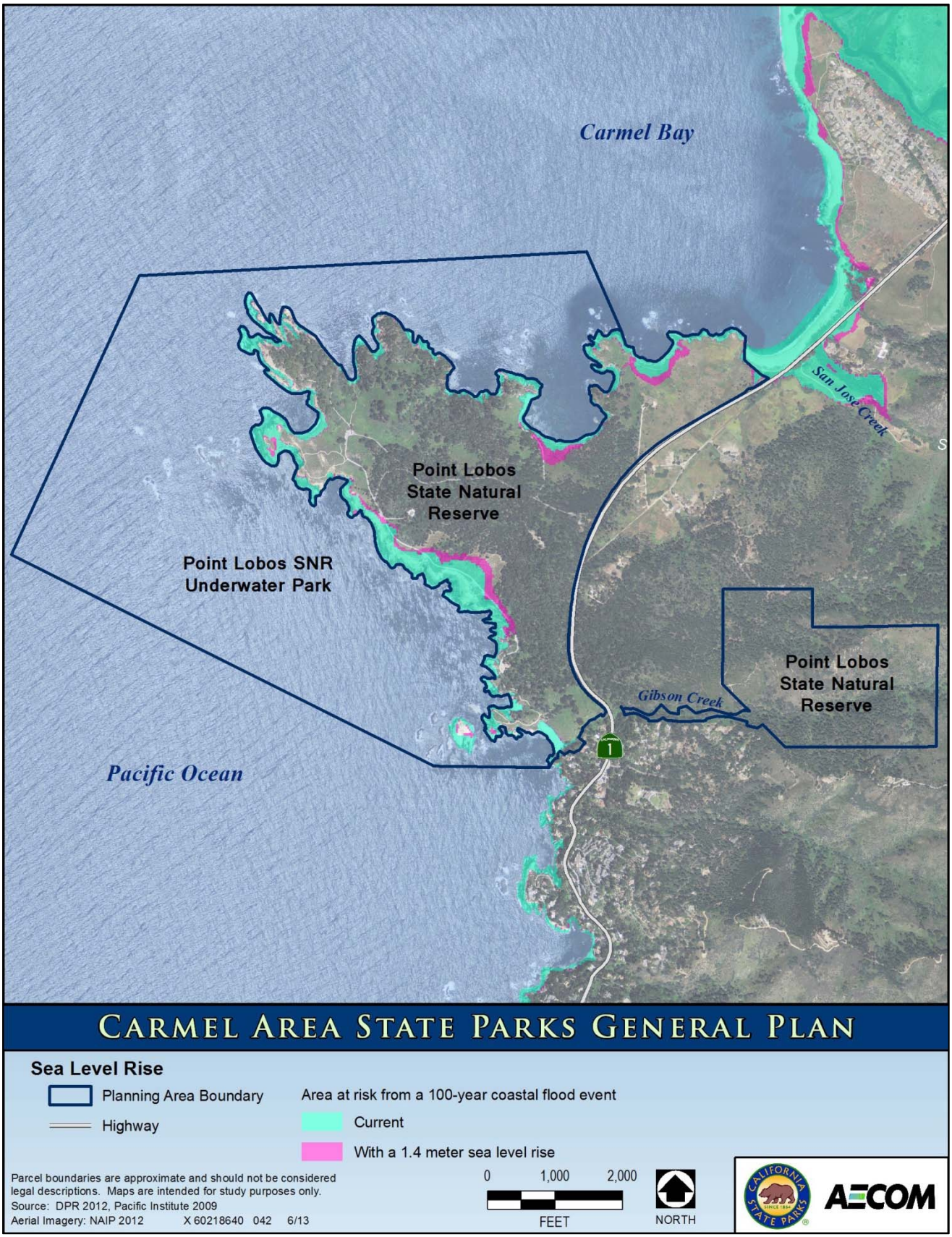


Exhibit 3-5 **Sea Level Rise at Point Lobos SNR**

3.2 NATURAL RESOURCES

The Monterey Peninsula supports several different climatic, topographic, and soil conditions, resulting in a wide variety of habitats. This diversity of habitats supports many native plant and wildlife species. As an example, 146 plant species reach their most southern distributional limits and 156 plant species reach their most northern distributional limits in Monterey County, and at least 34 plant species are found only in Monterey County (City of Carmel-by-the-Sea 2003).

3.2.1 PLANTS

The Monterey Peninsula supports a variety of unique and important vegetation communities and landscapes, including several types of forest, coastal prairie, coastal scrub, wetlands, streams and associated riparian corridors, beaches, and rocky shoreline. Distinctive forest types characteristic of this region include Monterey pine, Monterey cypress, Gowen cypress, and the pygmy forests of pines and cypress. The Monterey pine forest is found naturally in only five places in the world, and the "core" population exists on the Monterey Peninsula (TMPFW 2011). The Monterey cypress and Gowen cypress forests naturally occur in only two stands each on the Monterey Peninsula (TMPFW 2011, Barbour 2007, USFWS 2004). Coastal prairie is quickly dwindling throughout the state, falling victim to development and invasion by non-native annual grasses and even to the native forest and coastal scrub species that were historically kept at bay by grazing and fire (Ford and Hayes 2007). The coastal scrub that covers much of the Peninsula contains several rare vegetation associations, including maritime chaparral, an extremely sensitive and dwindling community (TMPFW 2011). Beaches and rocky shoreline also provide habitat for many sensitive species, as do wetlands and streams.

VEGETATION COMMUNITIES AND OTHER LANDSCAPES

Vegetation communities within Point Lobos SNR include coastal prairie, coastal scrub, Monterey cypress forest, Monterey pine forest, Gowen cypress forest, grasslands, freshwater seeps, riparian, and beaches. Other landscapes represented within the Reserve include rocky shore and developed areas. The sensitive vegetation communities, including the Monterey pine forest and Gowen cypress forest, are some of the Reserve's most significant resources, and were a primary reason that the Reserve was purchased by California State Parks for preservation. The location and extent of these communities and landscapes is shown in Exhibit 3-6. Vegetation mapping is based primarily on California State Parks vegetation management areas mapping (California State Parks 2009a), rather than more detailed vegetation community mapping protocols. For general planning purposes, this level of mapping was determined to be sufficient. Minor corrections to the vegetation management areas were made during preparation of this report based on aerial photograph interpretation. A checklist of plants that can be observed at Point Lobos SNR, compiled by the local Monterey Chapter of the California Native Plant Society (CNPS), is included in Appendix B.

Monterey Pine Forest

Monterey pine stands are widely distributed across Point Lobos SNR and vary in age, degree of recruitment, understory density, species composition, and structure (Patterson 1995). Canopies may reach 25 meters in height (Sawyer et al. 2009). The dominant trees are Monterey pine (*Pinus radiata*) and coast live oak (*Quercus agrifolia* var. *agrifolia*). Monterey cypress (*Hesperocyparis macrocarpa*) is also present in stands near the ocean (see Mixed Monterey pine-Cypress forest on Exhibit 3-6). Lace lichen (*Ramalina menziesii*) is frequently found hanging from the limbs of the pine and oak trees where openings in the canopy provide some light (DPR 2012b).

The understory consists of low-growing shrubs and openings of duff and grass. Dominant understory shrubs include poison oak (*Toxicodendron diversilobum*) and bush monkeyflower (*Mimulus aurantiacus* var. *aurantiacus*) (DFG 1994a, Barry et al. 1977). Other common understory shrubs include toyon (*Heteromeles arbutifolia*), California coffeeberry (*Frangula californica*), California blackberry (*Rubus ursinus*), creeping snowberry (*Symphoricarpos mollis*), blue blossom (*Ceanothus thyrsiflorus*), coyote brush (*Baccharis pilularis*), fuchsia-flowered gooseberry (*Ribes speciosum*), and wood rose (*Rosa gymnocarpa*). Common herbs of the understory include seaside woolly sunflower (*Eriophyllum staechadifolium*), seaside daisy (*Erigeron glaucus*), bluff lettuce (*Dudleya farinosa*), Douglas iris (*Iris douglasiana*), hedge-nettle (*Stachys bullata*), California oat grass (*Danthonia californica*), stinging phacelia (*Phacelia malvifolia*), California bedstraw (*Galium californicum*), bracken fern (*Pteridium aquilinum* var. *pubescens*), seashore bentgrass (*Agrostis pallens*), wild rye (*Elymus* sp.), and California polypody (*Polypodium californicum*) (CNPS 2012a, Patterson 1995, DFG 1994a, Barry et al. 1977).

Monterey Cypress Forest

Monterey cypress forest supports pure stands of Monterey cypress, which is endemic to the Monterey area (Photo Exhibit 3-4). The only remaining natural stands of Monterey cypress occur in Point Lobos SNR and to the north along the coast (i.e., in the vicinity of Pebble Beach) (USFWS 2004, DPR 1979, Barry et al. 1977). These stands are found in two locations in Point Lobos SNR on rocky, granitic soils on the coastal headlands and bluffs. Mixed Monterey pine and cypress forest is found in three locations along the headlands as well. Monterey cypress stands show low recruitment and are moderately dense with trees up to 20 meters tall in sheltered locations and shorter, wind pruned trees in areas more exposed to constant onshore winds and salt spray (Patterson 1995). Lace lichen is often found hanging from the tree limbs, and branches closest to the salt spray are frequently covered with *Trentepohlia aurea* v. *polycarpa*, a green alga which is bright orange in color due to the beta carotene in its tissues (DPR 2012b). The alga is also found on the surfaces of rocks and downed trees along the Cypress Grove Trail through the forest. The understory consists of very low vegetative cover in denser areas and supports sparse dwarf shrubs and herbs in more open areas. Common shrubs include California sagebrush (*Artemisia californica*), coyote brush, bush monkeyflower, California blackberry, creeping snowberry, and poison oak. Common herbs in the understory include swordfern (*Polystichum munitum*), hedge-nettle, bluff lettuce, seaside daisy, seaside woolly sunflower, Douglas' iris, footsteps-of-spring (*Sanicula arctopoides*), stinging phacelia, California bedstraw, California barley (*Hordeum brachyantherum* ssp. *californicum*), and soft chess (*Bromus hordeaceus*) (CNPS 2012a, Patterson 1995, DFG 1994a, Barry et al. 1977).

Gowen Cypress Forest

One of the two native populations of Gowen cypress (*Hesperocyparis goveniana*) is present in the Reserve property east of Highway 1. A dwarf woodland of stunted Gowen cypress trees grows on poor soil with woollyleaf manzanita (*Arctostaphylos tomentosa*), an uncommon species of Monterey manzanita (*A. hookeri* ssp. *hookeri*), and sandmat manzanita (*A. pumila*). A more typical woodland of large, tall Gowen cypress trees is present on more fertile soils, where it intergrades with the Monterey pine forest and shares many of the same shrub and herbaceous species. The canopy is closed and few shrubs or herbs occupy the understory. Some characteristic species include California huckleberry (*Vaccinium ovatum*), salal (*Gaultheria shallon*), and chamise (*Adenostoma fasciculatum*).

Coastal Scrub

Coastal scrub is a variable plant community that is widely dispersed throughout Point Lobos SNR on exposed, relatively steep slopes. Shrubs may be mat-like, prostrate, or upright, reaching up to 2 meters in height and may be dense or interspersed with grassy openings (Patterson 1995). Dominant species include coyote brush, mock heather (*Ericameria ericoides*), blue blossom, California sagebrush, poison oak, bush monkeyflower, California coffeeberry, bush lupine (*Lupinus arboreus*), Douglas' silver lupine (*L. albifrons* var. *douglasii*), and wild buckwheat (*Eriogonum parvifolium*). Common associates include California blackberry, bracken fern, golden yarrow (*Eriophyllum confertiflorum*), seaside woolly sunflower, gray loco (*Astragalus nuttallii* var. *nuttallii*), Great Valley grindelia (*Grindelia camporum*), and Pacific grindelia (*G. stricta* var. *platyphylla*). The steepest bluffs closest to the shoreline support low-growing herbaceous vegetation such as sea fig (*Carpobrotus chilensis*), Hottentot fig (*C. edulis*), seaside plantain (*Plantago maritima*), bluff lettuce, California seapink (*Armeria maritima* ssp. *californica*), Monterey Indian paintbrush (*Castilleja latifolia*), seaside daisy, beach sagewort (*Artemisia pycnocephala*), and common iceplant (*Gasoul crystallinum*) (CNPS 2012a, Patterson 1995, DFG 1994a, Barry et al. 1977).

Central Maritime Chaparral

Central maritime chaparral is present in the Gowen cypress forest within the Reserve property east of Highway 1, and is found on sandy, dry soils above Gibson Creek. Central maritime chaparral is found within the coastal fog belt from Monterey County to Santa Barbara County. It is characterized by a variety of species with moderate to high cover and averaging 1 to 2 meters in height. Dominant species include woollyleaf manzanita, Monterey manzanita, golden chinquapin (*Chrysolepis chrysophylla*), scrub oak (*Quercus dumosa*), California huckleberry, and chamise. Other characteristic shrub species include warty-leaved ceanothus (*Ceanothus papillosus*), sandmat manzanita, California sagebrush, coyote brush, blue blossom, black sage (*Salvia mellifera*), California coffeeberry, toyon, Monterey ceanothus (*Ceanothus rigidus*), salal, beargrass (*Xerophyllum tenax*), and silk tassel (*Garrya elliptica*). Few herbaceous species are found in this community; these include goldenrod (*Solidago spathulata*), cudweed (*Pseudognaphalium* sp.), small-lobe navarretia (*Navarretia hamata* ssp. *parviloba*), pearly everlasting (*Anaphalis margaritacea*), coast sanicle (*Sanicula laciniata*), herba impia (*Filago californica*), slender woolly-marbles (*Psilocarphus tenellus*), threadstem madia (*Madia exigua*), cottonweed (*Micropus* sp.), and beach aster (*Corethrogyne* sp.) (Patterson 1995).

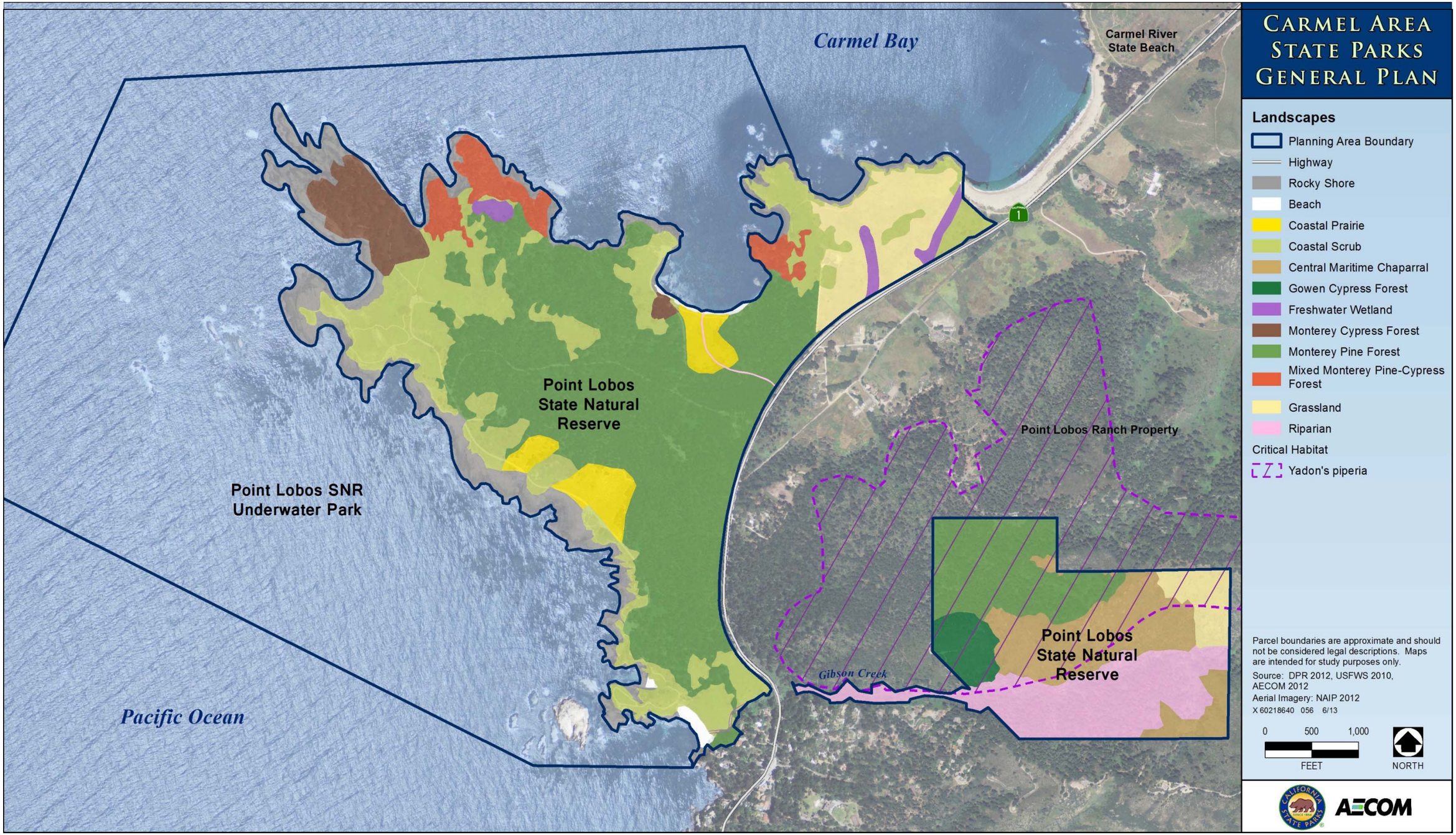
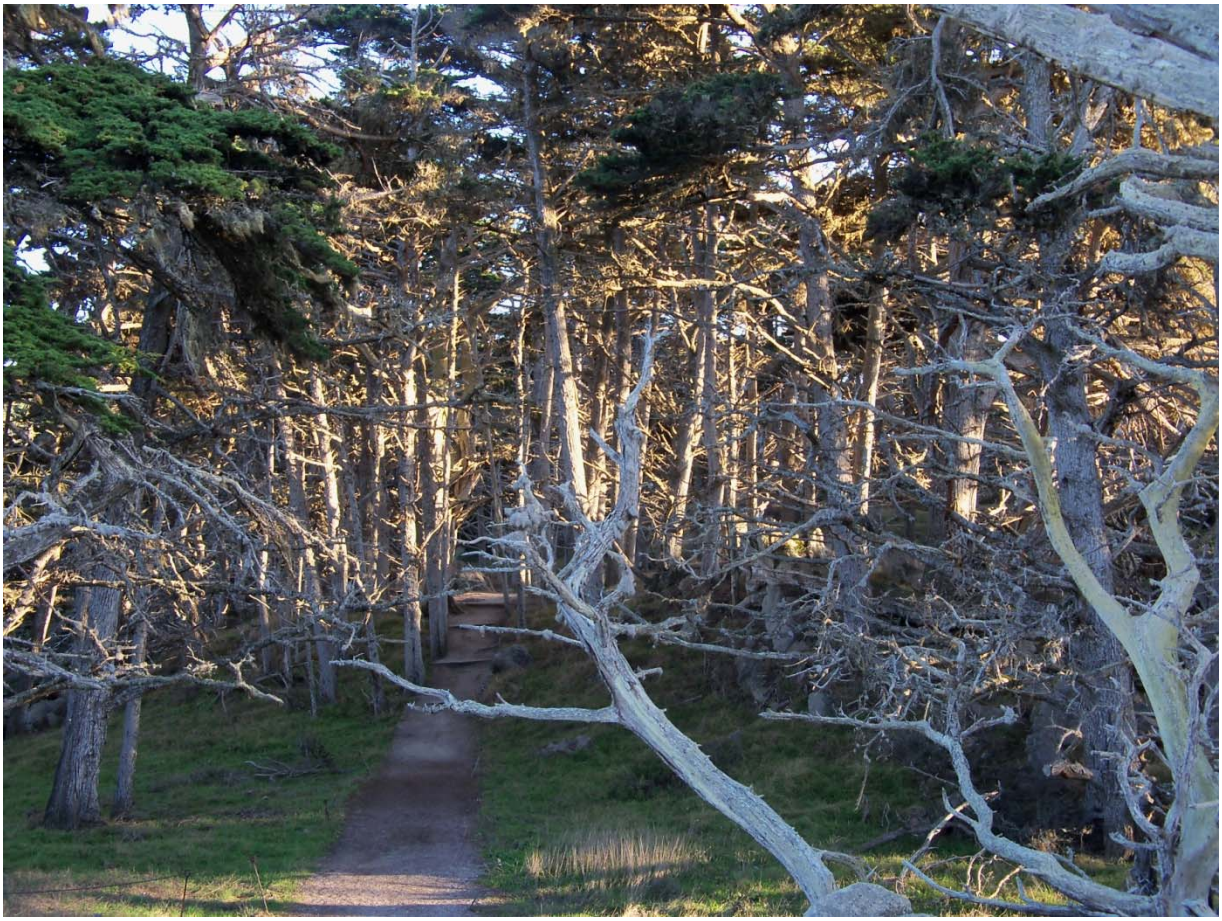


Exhibit 3-6

Vegetation Communities and Other Landscapes at Point Lobos SNR



Source: AECOM 2012

Photo Exhibit 3-4 **Monterey Cypress Forest along Cypress Grove Trail**

Coastal Prairie

Coastal prairie is characterized by perennial grasses and forbs, with variable species composition reflecting local differences in soil moisture (Patterson 1995), but dominated by grasses that reach 1 meter in height (Barry et al. 1977). At Point Lobos SNR, coastal prairie exists at Mound Meadow and Carmelo Meadow. The coastal prairie at Point Lobos SNR is one of the southernmost examples of north coastal prairie (Ford and Hayes 2007), containing unique species compositions and soil moisture relationships compared to the more northerly examples of this plant community (DPR 1979). Mound Meadow has been free from livestock grazing longer than any other prairie community in California (DPR 1979, Barry et al. 1977). Both meadows exhibit mima mound microtopography, with the mounds supporting bunchgrasses and prostrate shrubs that prefer drier conditions and the intermounds supporting grasses and herbs that tolerate more moist and saline conditions (Patterson 1995, DFG 1994a, Barry et al. 1977). Associated grass species include Pacific hairgrass (*Deschampsia cespitosa* ssp. *holciformis*), California oat grass, velvetgrass (*Holcus lanatus*), purple needle grass (*Nassella pulchra*), rattlesnake grass (*Briza minor, B. maxima*), saltgrass (*Distichlis spicata*), wild rye, June grass (*Koeleria macrantha*), silver hair grass (*Aira caryophyllea*), annual beardgrass (*Polypogon monspeliensis*), soft chess, beardless wild rye (*Elymus triticoides*), melic grasses (*Melica imperfect, M. bulbosa,* and *M. californica*), and annual fescue (*Festuca myuros*). Patches of giant ryegrass (*Elymus condensatus*) are found at the perimeter of Mound Meadow (Patterson 1995). Forbs commonly found in the coastal prairie include California seapink, blue-eyed grass (*Sisyrinchium bellum*), coast

tarweed (*Madia sativa*), checkermallow (*Sidalcea malviflora* ssp. *malviflora*), footsteps-of-spring, tropical horseweed (*Erigeron sumatrensis*), grass poly (*Lythrum hyssopifolia*), suncups (*Taraxia ovata*), seaside plantain, cut-leaved geranium (*Geranium dissectum*), large-flowered star-tulip (*Calochortus uniflorus*), California goldfields (*Lasthenia californica* ssp. *californica*), woolly goldfields (*L. minor*), coast gumplant, coast eryngo (*Eryngium armatum*), milk maids (*Cardamine californica*), sheep sorrel (*Rumex acetosella*), fiddle dock (*R. crispus*), sedges (*Carex* sp.), and rushes (*Juncus* sp.) (CNPS 2012a, Patterson 1995, Barry et al. 1977). Shrubs include marsh baccharis (*Baccharis glutinosa*), coyote brush, and bush monkeyflower (Patterson 1995).

Grasslands

Grasslands are present in Hudson Meadow and are dominated by non-native annual and perennial grasses. The grasslands are being colonized by native woody shrubs, such as coyote brush, and Monterey pines (California State Parks 2010a). Dominant species include Harding grass (*Phalaris aquatica*), velvet grass, wild oats (*Avena sativa, A. barbata*), soft chess, sheep sorrel, fiddle dock, ripgut brome (*Bromus diandrus*), barley species (*Hordeum brachyantherum, H. jubatum* ssp. *jubatum, H. marinum* ssp. *gussoneanum, H. murinum* ssp. *leporinum*), and field mustard (*Brassica rapa*) in drier sites; and perennial ryegrass (*Festuca perennis*), annual bluegrass (*Poa annua*), rabbits-foot grass, and silver hair grass in moister areas (CNPS 2012a; Bachman, pers. comm., 2012b; Barry et al. 1977). California poppy (*Eschscholzia californica*) may be seen blooming profusely in the spring (PLF 2012a) (Photo Exhibit 3-5).

Beaches

Beaches support strand vegetation, which is made up of sparsely distributed plants which are usually prostrate and tolerant of wind, sand, and dry soil conditions (Barry et al. 1977). Dominant plant species include beach bur (*Ambrosia chamissonis*), sea fig, golden yarrow, and seaside daisy (CNPS 2012a, Barry et al. 1977). Beaches within Point Lobos SNR include Gibson Beach, Hidden Beach, and Whalers Cove Beach. The beach is considered part of the marine wetlands present along the shoreline (Exhibit 3-6).

Freshwater Wetlands

Three areas within the portion of the Reserve west of Highway 1 support freshwater seeps – two north of the Hudson House and one near Whalers Knoll. Freshwater seeps are a type of wetland (Exhibit 3-7). Plants associated with the freshwater seeps at Point Lobos SNR include sedges (*Carex ssp.*), rushes (*Juncus mexicanus, J. hesperius, J. patens, J. xiphioides*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), fennel (*Foeniculum vulgare*), annual beardgrass, prickly ox-tongue (*Helminthotheca echioides*), dovefoot geranium (*Geranium molle*), poison hemlock (*Conium maculatum*), soft chess, shortpod mustard (*Hirschfeldia incana*), field mustard, and scarlet pimpernel (*Anagallis arvensis*) (CNPS 2012a, Patterson 1995). Freshwater wetlands are also present along many of the drainages within the Gowen cypress forest east of Highway 1. There is no information available on the vegetation composition of these wetlands, but they are likely dominated by common wetland herbs such as sedges (*Carex* sp.), rushes (*Juncus* sp.), tules (*Schoenoplectus* sp.), and nutsedges (*Cyperus* sp.).

Source: AECOM 2012

Photo Exhibit 3-5 **California Poppy along Moss Cove Trail**

Riparian

Riparian vegetation is present along a small unnamed drainage bisecting Carmelo Meadow and along Gibson Creek. Shrubs, mainly marsh baccharis, dominate the drainage in Carmelo Meadow. Other plant associates in that riparian corridor include dwarf nettle (*Urtica urens*), poison hemlock, coyote brush, California blackberry, rosilla (*Helenium puberulum*), annual beardgrass, California canary grass (*Phalaris californica*), fireweed (*Senecio minimus, S. glomeratus*), wild rye, yerba buena, rushes, and sedges (CNPS 2012a, Patterson 1995). Herbs dominate the vegetation along Gibson Creek west of Highway 1, including common reed grass (*Phragmites australis*) and giant wildrye. Other common plants along this portion of Gibson Creek include poison oak, common horsetail (*Equisetum telmateia* ssp. *braunii*), mock parsley (*Apiastrum angustifolium*), bracken fern, Douglas' nightshade (*Solanum douglasii*), poison hemlock, Pacific oenanthe (*Oenanthe sarmentosa*), creek dogwood (*Cornus sericea* ssp. *occidentalis*), California polypody, California wood fern (*Dryopteris arguta*), chain fern (*Woodwardia fimbriata*), and rushes (CNPS 2012a, Barry et al. 1977). The riparian corridor along Gibson Creek east of Highway 1 is dominated by coast redwood (*Sequioa sempervirens*), California bay laurel (*Umbellularia californica*), bigleaf maple (*Acer macrophyllum*), madrone (*Arbutus menziesii*), and white alder

Exhibit 3-7 **Wetlands within Point Lobos SNR**

(*Alnus rhombifolia*) in the overstory and swordfern, California huckleberry, thimbleberry (*Rubus parviflorus*), red-flowering currant (*Ribes sanguineum* var. *glutinosum*), panic veldt grass (*Ehrharta erecta*), lady fern (*Athyrium filix-femina* var. *cyclosorum*), California blackberry, giant chain fern, and French broom (*Genista monspessulana*) in the understory. Common herbs include redwood sorrel (*Oxalis oregana*), common horsetail, California bee plant (*Scrophularia californica*), hairy honeysuckle (*Lonicera hispidula*), dwarf nettle, panicled bulrush (*Scirpus microcarpus*), and Pacific reed grass (*Calamagrostis nutkaensis*) (Patterson 1995). Riparian areas at Point Lobos SNR are considered sensitive natural communities and also qualify as wetlands (Exhibit 3-6).

Rocky Shore

The rocky shoreline is the transition zone between marine and terrestrial habitats. It is subject to ocean waves, strong winds, and salt spray. Many species of algae and marine animals can grow here (described under Aquatic Life, below), but vascular plants are typically absent. This landscape is considered part of the marine wetlands present along the shoreline (Exhibit 3-6). During low tides, this area can be inundated with park visitors that are tidepooling.

Developed

Developed areas at Point Lobos SNR include paved roads, unpaved trails, parking areas, picnic sites, the Information Station, restrooms, dive access, and buildings used for residences and park maintenance. Vegetation found in developed areas may include non-native ornamental species around residences (Photo Exhibit 3-6).

SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those that are of special concern to CDFW or that are afforded specific consideration under CEQA, Section 1602 of the California Fish and Game Code, the State's Porter-Cologne Act, or Section 404 of the federal Clean Water Act (CWA). The 1979 General Plan (DPR 1979), *The Rare Plant Species of Point Lobos Reserve* (Patterson 1995), *Monterey Pine Forest Conservation Strategy Report* (CNPS and DFG 1996), *Monterey Pine Forest Ecological Assessment* (DFG 1994a), *Monterey Ecological Staircase* (DFG 1994b), the California Natural Diversity Database (CNDDB) (2012), and California State Parks staff (Palkovic, pers. comm., 2012a) are the primary sources of information on the location and extent of sensitive natural communities within Point Lobos SNR. Sensitive communities within the Reserve include Gowen cypress forest, Monterey cypress forest, Monterey pine forest, central maritime chaparral, coastal prairie, riparian, freshwater seeps, the giant kelp submarine forest, and submarine canyon habitat (Exhibit 3-6).

WETLANDS

The 1979 General Plan (DPR 1979), *The Rare Plant Species of Point Lobos Reserve* (Patterson 1995), and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory database (USFWS 2012) are the primary sources of information on the location and extent of wetlands within Point Lobos SNR. Because the Reserve is characterized primarily by uplands and coastal bluffs, wetland habitat is limited. Gibson Creek is the primary riverine wetland within Point Lobos SNR, though there are several smaller streams that flow into the creek the Reserve property east of Highway 1. Many of these smaller streams are dominated by wetland shrubs and trees and are classified as freshwater forested/shrub wetlands or are bordered by these wetlands (described under Riparian, above). Those that are dominated by herbaceous wetland vegetation are classified as freshwater

Source: AECOM 2012

Photo Exhibit 3-6 **Non-native Ornamentals Planted near Park Facilities**

emergent wetlands (described under Freshwater Wetlands, above). The riparian forest along Gibson Creek (described under Riparian, above) is also likely considered a freshwater forested/shrub wetland. Marine wetlands are also present along the shoreline. The marine wetlands include a diversity of habitats including pocket beaches, exposed or protected rocky areas, tidepools and sheer cliffs. Exhibit 3-7 shows the location and extent of wetlands in Point Lobos SNR. The wetlands in Point Lobos SNR are extremely diverse and provide valuable wildlife habitat (DPR 1979).

SPECIAL-STATUS PLANT SPECIES

The diverse geologic history and climatic conditions of the Monterey area have created a mosaic of isolated and specialized environments, which support many endemic plants (CNPS 2012b). Point Lobos SNR supports an extremely high diversity of plants, many of which are endemic to the Monterey area (DPR 1979). For the purposes of this document, special-status plants include the following:

- Species listed under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA) as rare, threatened, or endangered;
- Species considered as candidates and proposed for state or federal listing as threatened or endangered; and

- Plants ranked by CDFW to be rare, threatened, or endangered in California (these include species in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California).

The 1979 General Plan (DPR 1979) and *The Rare Plant Species of Point Lobos Reserve* (Patterson 1995) contain information on special-status species within Point Lobos SNR, and California State Parks staff have also observed several special-status plant species in the Reserve (Palkovic, pers. comm., 2012a). CDFW's California Natural Diversity Database (CNDDB) (2012), the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2012b), and USFWS species list for Monterey County (USFWS 2012) were also searched to gather additional information about special-status species previously documented within Point Lobos SNR (Exhibit 3-8). Regional occurrences of special-status species are shown in Appendix C. Special-status plant species known to occur within Point Lobos SNR include Hooker's manzanita, Monterey manzanita, sandmat manzanita, Monterey ceanothus, pink johnny-nip, jolon clarkia, Douglas' spineflower, marsh microseris, Gowen cypress, Monterey cypress, Monterey pine, Yadon's rein orchid, Hickman's cinquefoil, small-leaved lomatium, pine rose, and Pacific Grove clover (CNDDB 2012; Palkovic, pers. comm., 2012a, 2012b; Patterson 1995, DPR 1979); and possibly Gairdner's yampah (Regents of the University of California 2010, Patterson 1995). Critical habitat for Yadon's rein orchid has been designated by the USFWS within the Gowen cypress forest east of Highway 1. Many other species have the potential to occur, based on the habitat types present. Table 3-3 contains detailed information on all special-status plants known from or with potential to occur in Point Lobos SNR. Species that are known to occur within Point Lobos SNR are shown in bold.

Three of the special-status plant species found in Point Lobos SNR are listed as federally threatened or endangered (Gowen cypress [threatened], Yadon's rein orchid [endangered], and Hickman's cinquefoil [endangered]). Twelve of the special-status plant species have a California Rare Plant Rank of 1B, meaning they are rare, threatened, or endangered in California and elsewhere, and three of these have a threat rank of 0.1, meaning they are seriously threatened in California (Monterey pine, Hickman's cinquefoil, and Pacific Grove clover) (CNPS 2012b). Threats to special-status plants in Point Lobos SNR include loss of habitat and competition from invasive plants, as well as disturbance and damage during invasive plant removal efforts; trampling by Reserve visitors; herbivory; and improper fire regime, especially for the Monterey pine, Monterey cypress, and Gowen cypress. Monterey pine is also specifically threatened by disease (pine pitch canker) and genetic contamination.

No Reserve-wide comprehensive survey for special-status plants has been conducted to date, and the extent of the populations of several species is not known.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Hickman's onion *Allium hickmanii*	-	1B.2	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; 5 to 200 meters elevation; blooms March through May	Could occur in Monterey pine forest, Monterey cypress forest, coastal prairie, coastal scrub, or other grasslands.
Little Sur manzanita *Arctostaphylos edmundsii*	-	1B.2	Coastal bluff scrub and chaparral, in sandy soils; 30 to 105 meters elevation; blooms November through April	Could occur in coastal scrub.
Hooker's manzanita *A. hookeri* ssp. *hookeri*	-	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub, in sandy soils; 85 to 536 meters; blooms January through June	**Known to occur** in several locations within the Gowen cypress forest east of Highway 1 (CNDDB 2012 [occ. no. 14], Patterson 1995).
Monterey manzanita *A. montereyensis*	-	1B.2	Maritime chaparral, cismontane woodland, and coastal scrub, in sandy soils; 30 to 730 meters elevation; blooms February through March	**Known to occur** (exact location information unknown) (DPR 1979).
Sandmat manzanita *A. pumila*	-	1B.2	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy soils and openings; 3 to 205 meters elevation; blooms February through May	**Known to occur** in one location within the Gowen cypress forest east of Highway 1 (CNDDB 2012 [occ. no. 11]; Barry et al. 1977; Patterson 1995).
Ocean bluff milk-vetch *Astragalus nuttallii* var. *nuttallii*	-	4.2	Coastal bluff scrub and coastal dunes; 3 to 120 meters elevation; blooms January through November	Could occur in coastal scrub or on beaches.
Coastal dunes milk-vetch *A. tener* var. *titi*	E	E, 1B.1	Coastal bluff scrub, coastal dunes, and mesic coastal prairie, in sandy soils, often in vernally mesic areas; 1 to 50 meters elevation; blooms March through May	Could occur in coastal scrub, on beaches, or in mesic areas in coastal prairie.
Pink johnny-nip *Castilleja ambigua* ssp. *insalutata*	-	1B.1	Coastal prairie and coastal scrub; 0 to 100 meters elevation; blooms May through August	**Known to occur** near Vierra's Knoll and possibly elsewhere (CNDDB 2012 [occ. no. 5, 6]; Palkovic, pers. comm., 2012a).
Monterey Indian paintbrush *Castilleja latifolia*	-	4.3	Closed-cone coniferous forest, openings in cismontane woodland, coastal dunes, and coastal scrub, in sandy soils; 0 to 185 meters elevation; blooms February to September	**Known to occur** throughout the Reserve (DPR 1988).

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Monterey ceanothus *Ceanothus rigidus*	-	4.2	Closed-cone coniferous forest, chaparral, and coastal scrub, in sandy soils; 3 to 550 meters elevation; blooms February through April (sometimes June)	**Known to occur** in several locations within the Gowen cypress forest east of Highway 1 (DPR 1979; Patterson 1995; Palkovic, pers. comm., 2012b).
Douglas' spineflower *Chorizanthe douglasii*	-	4.3	Chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest, in sandy or gravelly soils; 55 to 1,600 meters elevation; blooms April through July	**Known to occur** in one location within the Gowen cypress forest east of Highway 1 (Patterson 1995).
Monterey spineflower *C. pungens* var. *pungens*	T	1B.2	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland, in sandy soils; 3 to 450 meters elevation, blooms April through June	Could occur on beaches or in coastal scrub, grasslands.
Robust spineflower *C. robusta* var. *robusta*	E	1B.1	Maritime chaparral, openings in cismontane woodland, coastal dunes, and coastal scrub, in sandy or gravelly soils; 3 to 300 meters elevation; blooms April through June	Could occur on beaches or in coastal scrub.
Jolon clarkia *Clarkia jolonensis*	-	1B.2	Chaparral, cismontane woodland, coastal scrub, and riparian woodland; 20 to 660 meters elevation; blooms April through June	**Known to occur** in the vicinity of China Cove (CNDDB 2012 [occ. no. 16]; Palkovic, pers. comm., 2012a).
Lewis' clarkia *C. lewisii*	-	4.3	Broadleaf upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub; 30 to 610 meters elevation; blooms May through June	Could occur in Monterey pine forest, Monterey cypress forest, or coastal scrub.
San Francisco collinsia *Collinsia multicolor*	-	1B.2	Closed-cone coniferous forest and coastal scrub, sometimes in serpentine soils; 30 to 250 meters elevation; blooms March through May	Could occur in Monterey pine forest, Monterey cypress forest, or coastal scrub.
Seaside bird's-beak *Cordylanthus rigidus* ssp. *littoralis*	-	E, 1B.1	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy soils, often in disturbed sites; 0 to 425 meters elevation; blooms May through October	Could occur in Monterey pine forest, Monterey cypress forest, on beaches, or coastal scrub.
Branching beach aster *Corethrogyne leucophylla*	-	3.2	Closed-cone coniferous forest and coastal dunes; 3 to 60 meters elevation; blooms May through June	Could occur in Monterey pine forest, Monterey cypress forest, or on beaches.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	-	1B.2	Chaparral, mesic areas in cismontane woodland, and coastal scrub, in openings; 230 to 1,095 meters elevation; blooms April through June	Could occur in openings in coastal scrub.
Hutchinson's larkspur *D. hutchinsoniae*	-	1B.2	Broadleaf upland forest, chaparral, coastal prairie, and coastal scrub; 0 to 427 meters elevation; blooms March through June	Could occur in coastal prairie or coastal scrub.
Umbrella larkspur *D. umbraculorum*	-	1B.3	Cismontane woodland; 400 to 1,600 meters elevation; blooms April through June	Could occur in live oak dominated portions of Monterey pine forest.
Eastwood's goldenbush *Ericameria fasciculata*	-	1B.1	Closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub, in sandy soils and openings; 30 to 275 meters elevation; blooms July through October	Could occur in Monterey pine forest, Monterey cypress forest, on beaches, or coastal scrub.
Elegant wild buckwheat *Eriogonum elegans*	-	4.3	Cismontane woodland and valley and foothill grassland, usually in sandy or gravelly soils, often in washes, sometimes along roadsides; 200 to 1,525 meters elevation; blooms May through November	Could occur in live oak dominated portions of Monterey pine forest, grasslands.
Pinnacles buckwheat *E. nortonii*	-	1B.3	Chaparral and valley and foothill grassland, often on recent burns, in sandy soils; 300 to 975 meters elevation; blooms May through August (sometimes September)	Could occur in grasslands.
Sand-loving wallflower *Erysimum ammophilum*	-	1B.2	Maritime chaparral, coastal dunes, and coastal scrub, in sandy soils and openings; 0 to 60 meters elevation; blooms February through June	Could occur on beaches or in coastal scrub.
Menzies' wallflower *E. menziesii* ssp. *menziesii*	E	E, 1B.1	Coastal dunes; 0 to 35 meters elevation; blooms March through June	Could occur on beaches.
Yadon's wallflower *E. menziesii* ssp. *yadonii*	E	E, 1B.1	Coastal dunes; 0 to 10 meters elevation; blooms May through September	Could occur on beaches.
Fragrant fritillary *Fritillaria liliacea*	-	1B.2	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often on serpentine soils; 3 to 410 meters elevation; blooms February through April	Could occur in coastal prairie, coastal scrub, or other grasslands.
Santa Lucia bedstraw *Galium clementis*	-	1B.3	Lower and upper montane coniferous forest, in rocky granitic or serpentine soils; 1,130 to 1,780 meters elevation; blooms May through July	Could occur in higher elevation Monterey pine or Monterey cypress forest.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Monterey gilia *Gilia tenuiflora* ssp. *arenaria*	E	T, 1B.2	Maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy soils and openings; 0 to 45 meters elevation; blooms April through June	Could occur in live oak dominated portions of Monterey pine forest, on beaches, or in coastal scrub.
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	-	3.2	Coastal bluff scrub, coastal scrub, and valley and foothill grassland, in sandy or serpentine soils; 15 to 400 meters elevation; blooms June through September	Could occur in coastal scrub, grasslands.
Congdon's tarplant *Hemizonia parryi* ssp. *congdonii*	-	1B.2	Alkaline soils in valley and foothill grassland; 0 to 230 meters elevation; blooms May through November	Could occur in grasslands.
Gowen cypress *Hesperocyparis goveniana*	T	1B.2	Closed-cone coniferous forest and maritime chaparral; 30 to 300 meters elevation	**Known to occur** in one location within the Gowen cypress forest east of Highway 1 (CNDDB 2012 occ. no. 2; Barry et al. 1977; Patterson 1995).
Monterey cypress *H. macrocarpa*	-	1B.2	Closed-cone coniferous forest; 10 to 30 meters elevation	**Known to occur** in several locations within Point Lobos SNR (CNDDB 2012 [occ. no. 1]; Palkovic, pers. comm., 2012a; Patterson 1995).
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	-	1B.1	Closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub, in sandy or gravelly soils and openings; 10 to 200 meters elevation; blooms April through September	Could occur in openings in Monterey pine forest, Monterey cypress forest, coastal scrub, or on beaches.
Coast iris *Iris longipetala*	-	4.2	Coastal prairie, lower montane coniferous forest, and meadows and seeps, in mesic areas; 0 to 600 meters elevation; blooms March through May	Could occur in mesic areas in coastal prairie, higher elevation Monterey pine forest, or freshwater seeps.
Contra Costa goldfields *Lasthenia conjugens*	E	1B.1	Cismontane woodland, alkaline playas, valley and foothill grassland, and vernal pools, in mesic areas; 0 to 470 meters elevation; blooms March through June	Could occur in mesic areas in higher elevation Monterey pine forest or other grasslands.
Beach layia *Layia carnosa*	E	E, 1B.1	Coastal dunes and coastal scrub, in sandy soils; 0 to 60 meters elevation; blooms March through July	Could occur on beaches or in coastal scrub.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Coast yellow leptosiphon *Leptosiphon croceus*	-	1B.1	Coastal bluff scrub and coastal prairie; 10 to 150 meters elevation; blooms April through May	Could occur in coastal scrub or coastal prairie.
Large-flowered leptosiphon *L. grandiflorus*	-	4.2	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, and valley and foothill grassland, usually in sandy soils; 5 to 1,220 meters elevation; blooms April through August	Could occur in coastal scrub, Monterey pine forest, Monterey cypress forest, coastal prairie, grasslands, or on beaches.
Small-leaved lomatium *Lomatium parvifolium*	-	4.2	Closed-cone coniferous forest, chaparral, coastal scrub, and riparian woodland, in serpentine soils; 20 to 700 meters elevation; blooms January through June	**Known to occur** in several locations within the Reserve west of Highway 1 and the Gowen cypress forest east of Highway 1 (Patterson 1995).
Tidestrom's lupine *Lupinus tidestromii*	E	E, 1B.1	Coastal dunes; 1 to 100 meters elevation; blooms April through June	Could occur on beaches.
Carmel Valley bush-mallow *Malacothamnus palmeri* var. *involucratus*	-	1B.2	Chaparral, cismontane woodland, and coastal scrub; 30 to 1,100 meters elevation, blooms May through August (sometimes October)	Could occur in live oak dominated portions of Monterey pine forest or coastal scrub.
Carmel Valley malacothrix *Malacothrix saxatilis* var. *arachnoidea*	-	1B.2	Rocky soils in chaparral and coastal scrub; 25 to 1,036 meters elevation; blooms June through December	Could occur in coastal scrub.
Mt. Diablo cottonweed *Micropus amphibolus*	-	3.2	Broadleaf upland forest, chaparral, cismontane woodland, and valley and foothill grassland, in rocky soils; 45 to 825 meters elevation; blooms March through May	Could occur in live oak dominated portions of Monterey pine forest, or grasslands.
Marsh microseris *Microseris paludosa*	-	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland; 5 to 300 meters elevation; blooms April through June (sometimes July)	**Known to occur** (exact location information unknown) (CNDDB 2012 [occ. no. 5]; Palkovic, pers. comm., 2012a).
San Antonio Hills monardella *Monardella antonina* ssp. *antonina*	-	3	Chaparral and cismontane woodland; 500 to 1,000 meters elevation; blooms June through August	Could occur in live oak dominated portions of Monterey pine forest.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Woodland woolythreads *Monolopia gracilens*	-	1B.2	Broadleaf upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland, in serpentine soils and openings; 100 to 1,200 meters elevation; blooms March through July	Could occur in openings in live oak dominated portions of Monterey pine forest or grasslands.
California adder's-tongue *Ophioglossum californicum*	-	4.2	Chaparral, valley and foothill grassland, and along vernal pool margins, in mesic areas; 60 to 525 meters elevation; blooms January through June	Could occur in mesic areas of grasslands.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	-	4.2	Broadleaf upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools, in vernally mesic areas; 0 to 610 meters elevation; blooms June through October	Possibly known to occur. Wheeler 1936 herbarium specimens describe location as "Point Lobos Reserve" (Regents of the University of California 2010). Tentatively identified in Patterson 1995.
South coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	-	3.2	Chaparral, coastal dunes, coastal scrub, and coastal salt marshes and swamps, in sandy and sometimes rocky soils; 5 to 300 meters elevation; blooms March through August	Could occur on beaches or in coastal scrub.
Monterey pine *Pinus radiata*	-	1B.1	Closed-cone coniferous forest and cismontane woodland; 25 to 185 meters elevation	**Known to occur** throughout Point Lobos SNR (CNDDB 2012 [occ. no. 3]; Palkovic, pers. comm., 2012a; Patterson 1995).
Yadon's rein orchid *Piperia yadonii*	E	1B.1	Coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral, in sandy soils; 10 to 510 meters elevation; blooms May through August	**Known to occur** in three locations within the Gowen cypress forest east of Highway 1 (CNDDB 2012 [occ. no. 2]).
Hooked popcorn-flower *Plagiobothrys uncinatus*	-	1B.2	Sandy soils in chaparral, cismontane woodland, and valley and foothill grassland; 300 to 760 meters elevation; blooms April through May	Could occur in live oak dominated portions of Monterey pine forest, grasslands.
Hickman's cinquefoil *Potentilla hickmanii*	E	E, 1B.1	Coastal bluff scrub, closed-cone coniferous forest, vernally mesic meadows and seeps, and freshwater marshes and swamps; 10 to 149 meters elevation; blooms April through August	**Known to occur** in 2 locations within the Point Lobos SNR (Palkovic, pers. comm., 2012a; USFWS 2004).

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		
Pine rose *Rosa pinetorum*	-	1B.2	Closed-cone coniferous forest; 2 to 300 meters elevation; blooms May through July	**Known to occur** along Gibson Creek in the Gowen cypress forest east of Highway 1.
Maple-leaved checkerbloom *Sidalcea malachroides*	-	4.2	Broadleaf upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodland, often in disturbed areas; 2 to 730 meters elevation; blooms April through August	Could occur in coastal prairie, coastal scrub, or riparian habitat.
Santa Cruz microseris *Stebbinsoseris decipiens*	-	1B.2	Broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland, in open areas, sometimes on serpentine soils; 10 to 500 meters elevation; blooms April through May	Could occur in open areas of Monterey pine forest, Monterey cypress forest, or coastal scrub; or in coastal prairie, other grasslands.
California screw-moss *Tortula californica*	-	1B.2	Chenopod scrub and valley and foothill grassland, in sandy soils; 10 to 1,460 meters elevation	Could occur in grasslands.
Santa Cruz clover *Trifolium buckwestiorum*	-	1B.1	Broadleaf upland forest, cismontane woodland, and coastal prairie, in gravelly soils on margins; 105 to 610 meters elevation; blooms April through October	Could occur in live oak dominated portions of Monterey pine forest or coastal prairie.
Saline clover *T. hydrophilum*	-	1B.2	Marshes and swamps, mesic areas in alkaline soils in valley and foothill grassland, and vernal pools; 0 to 300 meters elevation; blooms April through June	Could occur in freshwater seep or mesic areas in other grasslands.
Pacific Grove clover *T. polyodon*	-	R, 1B.1	Closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland, in mesic areas; 5 to 120 meters elevation; blooms April through June (sometimes July)	**Known to occur** within and adjacent to Mound Meadow (CNDDB 2012 [occ. no. 10]; Palkovic, pers. comm., 2012a; Patterson 1995).
Monterey clover *T. trichocalyx*	E	E, 1B.1	In sandy soils, openings, and burned areas in closed-cone coniferous forest; 30 to 240 meters elevation; blooms April through June	Could occur in openings in Monterey pine or Monterey cypress forest.

Table 3-3
Special-Status Plants Known from or with the Potential to Occur in Point Lobos SNR

Species	Status		Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW		

Notes:

[1] Legal Status Definitions:

U.S. Fish and Wildlife Service:

E = endangered

T = threatened

– = no status

California Department of Fish and Wildlife:

E = endangered

T = threatened

R = rare

– = no status

California Department of Fish and Wildlife California Rare Plant Ranks (these include species in the CNPS Inventory of Rare and Endangered Plants of California):

1B = plant species considered rare, threatened, or endangered in California and elsewhere.

2 = plant species considered rare, threatened, or endangered in California but more common elsewhere.

3 = plant species about which we need more information – a review list.

4 = plant species of limited distribution – a watch list.

California Rare Plant Rank Extensions:

1 = seriously endangered in California (>80% of occurrences are threatened and/or have high degree and immediacy of threat).

2 = fairly endangered in California (20–80% of occurrences are threatened and/or have moderate degree and immediacy of threat).

3 = not very threatened in California (<20% of occurrences are threatened and/or have low degree and immediacy of threat or no current threats known).

Sources: CNDDB 2012; CNPS 2012b; DPR 1979; Palkovic, pers. comm., 2012a, b; Patterson 1995; Regents of the University of California 2010; USFWS 2012; USFWS 2004; data compiled by AECOM in 2012.

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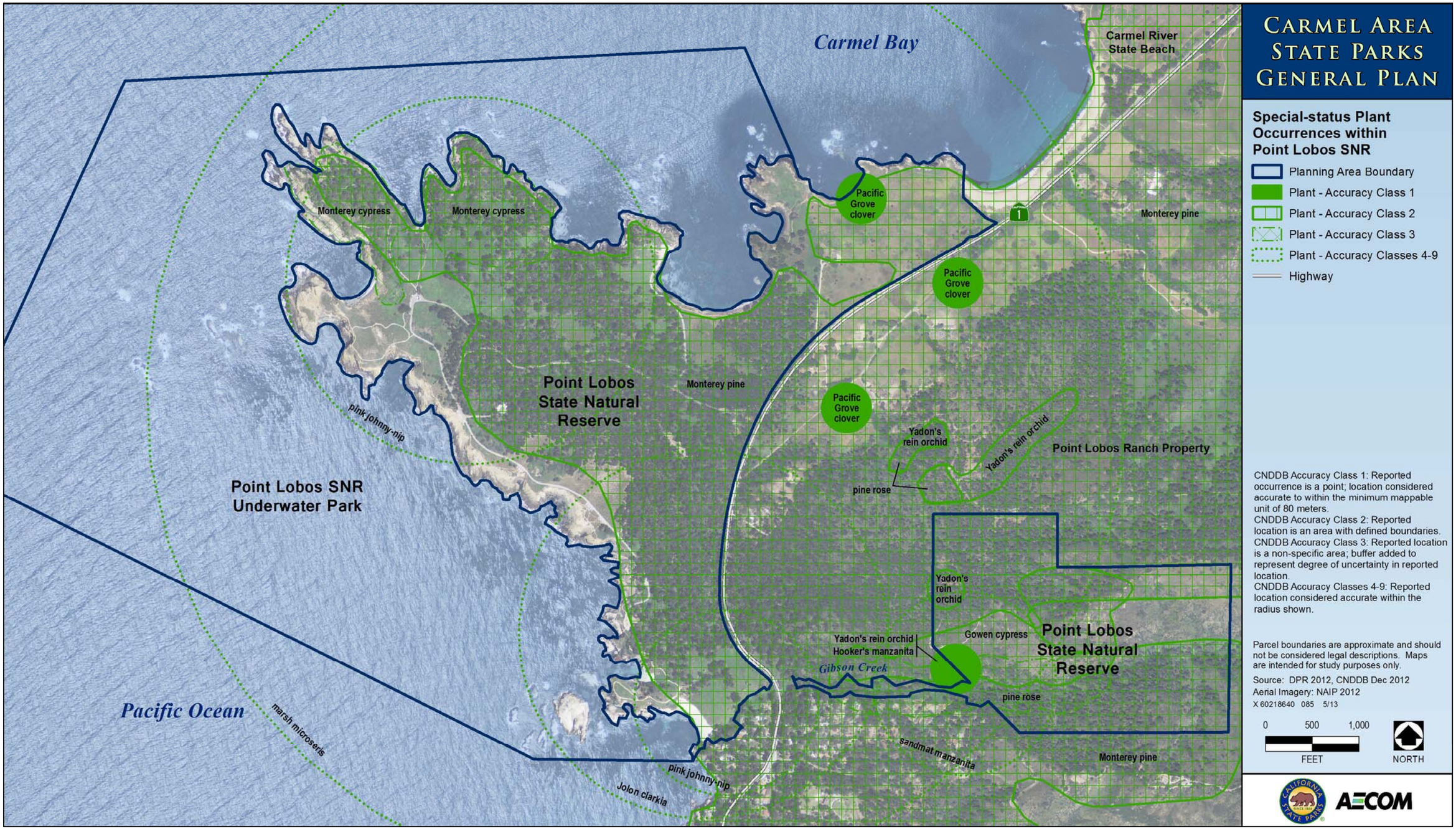

Exhibit 3-8 **Special-Status Plant Occurrences**

INVASIVE PLANT SPECIES

Several invasive plant species are known to occur at Point Lobos SNR. Current invasive plant management activities involve manual, chemical, and mechanical treatments of a variety of invasive species throughout the Reserve. French broom, cape ivy (*Delairea odorata*), and jubata grass (*Cortaderia jubata*) are targeted for removal within the Monterey pine forest. Monterey pines are also susceptible to the recently introduced pine pitch canker disease, which is caused by the fungus *Fusarium circinatum*. Panic veldt grass is treated in the Monterey cypress forest, which is also susceptible to the cypress canker caused by the fungus *Seiridium cardinale*. A variety of invasive species are treated in the coastal scrub and other grasslands, including black mustard (*Brassica nigra*), poison hemlock, fennel, iceplant (*Carpobrotus chilensis*), French broom, cape ivy, and jubata grass.

Additional invasive plant species of concern within the Reserve include kikuyu grass (*Pennisetum clandestinum*) and periwinkle (*Vinca major*), (California State Parks 2006a, 2010a). California State Parks staff have also mapped bull thistle (*Cirsium vulgare*), fireweed, milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), and velvet grass in the Reserve.

An ongoing monitoring program at invasive species removal sites includes annual inspections, photographic documentation, and mapping. Appropriate prescriptions for site maintenance are then developed based on the inspections. The ongoing efforts to control and manage these and any additional invasive species that may become a problem in the future are essential to maintaining the high habitat values of the Reserve.

VEGETATION MANAGEMENT GOALS AND RECOMMENDATIONS

The Vegetation Management Statement for Point Lobos SNR (DPR 2010a) contains park-wide Vegetation Management Goals including protection of special-status species and special plant communities, and management to support a richness of native species and sustainable populations. The Vegetation Management Strategy also has specific management actions related to these goals including managing coastal bluff erosion, and preservation of coastal prairie and coastal scrub habitats.

Wildfire Management

Historically, fires burned regularly through the Carmel area, although historic grazing in the surrounding area reduced fuel loads and fire risk. Fire hazard ratings in the immediate vicinity of Point Lobos SNR are designated as high or very high by Cal Fire. A map of the fire hazard ratings and previous fires in the region are shown on Exhibit 3-9. The absence of frequent, low intensity natural fires within the property has created fuel buildups.

Wildfire management in California State Parks is guided by Department Operations Manual (DOM) Section 0300-Natural Resources (section 0313.2.1 Wildfire Management), the Natural Resources Handbook, the *Wildfire Management Planning Guidelines and Policy* (California State Parks 2008), and the *Guidelines for Protection of Structures from Wildland Fires* (DPR 2009a). These guidelines state that parks with wildland vegetation must have a wildfire management plan, and the guidelines provide a template for preparing wildfire management plans. Key components of the wildfire management plans include managing for wildfires before, during, and after a wildfire incident (California State Parks 2008). A draft wildfire management plan for Point Lobos SNR was prepared in September 1999; however, the plan has not been finalized.

If a park unit contains structures, California State Parks is required to maintain vegetation around those structures in accordance with the *Guidelines for Protection of Structures from Wildland Fires*. The amount of vegetation clearing depends on the type of structure, the slope and distance of vegetation from a structure, and type of vegetation. These guidelines also include resource management goals to reduce fuel loads including removal of invasive species, retaining sensitive native species, and retaining snags that are not touching any structures (DPR 2009a).

Controlled burns were conducted regularly at Point Lobos SNR in the 1980s and early 1990s. The Hudson Meadow, which is dominated by Harding grass and velvet grass, was burned extensively in the 1980s for about 8 years in a row in an effort to reduce cover by these non-native grasses. These efforts were largely unsuccessful (Bachman, pers. comm., 2012b). The Monterey pine forest north of the entrance station was subject to a controlled burn in 1995. With the detection of pine pitch cancer in the park, concerns about die off and inadvertent kill of Monterey pines through controlled burns led to a halt in controlled burns. More recently, smaller scale controlled burns have been conducted. Controlled burns were conducted in Mound Meadow and Little Mound Meadow within Point Lobos SNR in 2011 (Bachman, pers. comm., 2012b).

Emergency response to wildfires is discussed in Section 7.5.5, Security and Emergency Services, below.

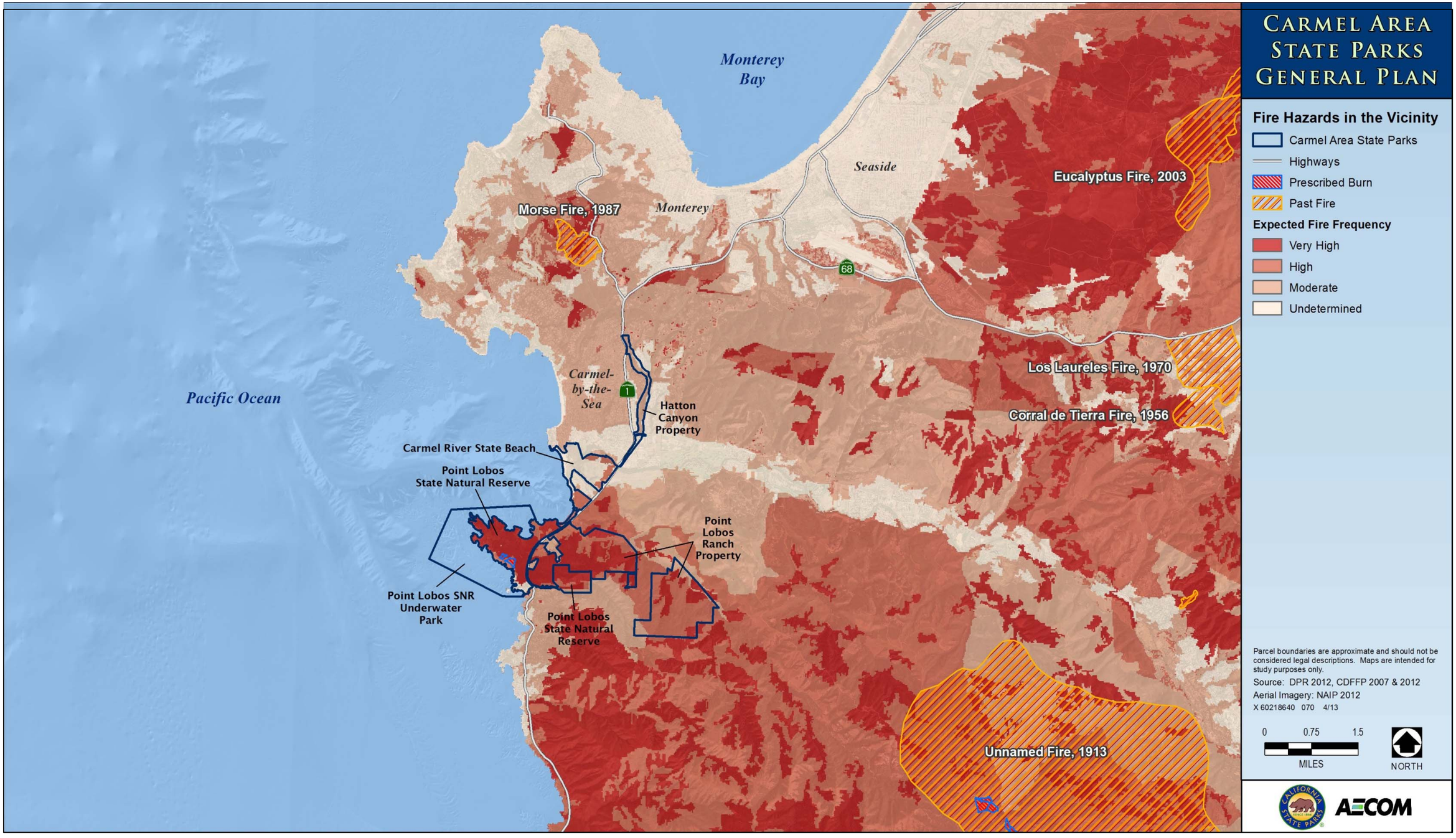

Exhibit 3-9

Fire Hazards in the Vicinity of Point Lobos SNR

3.2.2 ANIMALS

Information about the animals of Point Lobos SNR is gathered from *Vertebrate Animals of Point Lobos* (Grinnell and Linsdale 1936), the *Point Lobos State Reserve and Carmel River State Beach Resource Inventory* (Barry et al. 1977), *Birds of Point Lobos* (Frincke and Terry 1971), *A Natural History of the Monterey Bay National Marine Sanctuary* (Monterey Bay Aquarium 1999), and the Point Lobos State Natural Reserve website (DPR 2012), unless otherwise noted below.

The varied plant communities and landscape of Point Lobos provide habitat for diverse and abundant wildlife. The plant communities are so closely linked to the animal species found in the Reserve that preservation of each is of great benefit to the other. More than 176 species of vertebrate animals, including 10 amphibians and reptiles, 19 mammals, and 200 birds, have been identified at Point Lobos SNR. These include resident and migratory species. Even the developed areas provide habitat for some animals, such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), and bats. Mountain lions (*Puma concolor*), although not residents of Point Lobos SNR, will occasionally use the Reserve to hunt, as do bobcats (*Lynx rufus*).

Forests

The abundant lichens found in the Monterey pine and Monterey cypress forests provide nest materials for such birds as bushtit (*Psaltriparus minimus*), Hutton's vireo (*Vireo huttoni*), and house finch (*Carpodacus mexicanus*). Gray fox (*Urocyon cinereoargenteus*) uses quieter portions of the forests to hunt, and long-tailed weasels (*Mustela frenata*) hunt and den in rock piles, downed wood, and thick brush. The Monterey pine forest, which is a more diverse vegetation community, supports a broader array of animals than the Monterey cypress forest, which is less diverse in terms of plant species and structure.

The Monterey pine forest is dominated by Monterey pine and live oak trees, both of which provide important resources for wildlife. Pygmy nuthatches (*Sitta pygmaea*) nest on or in broken limbs of pine trees, which western bluebirds (*Sialia mexicana*) also use as perches. The fallen limbs provide shelter for meadow mice, amphibians and reptiles, Bewick's wren, dark-eyed junco (*Junco hyemalis*), California quail (*Callipepla californica*), and black phoebe (*Sayornis nigricans*). Low, dense thickets of live oak provide shelter for California quail, white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), Bewick's wren, and spotted towhee (*Pipilo maculatus*). Oaks also provide food for red-breasted sapsuckers (*Sphyrapicus ruber*), western scrub-jay (*Aphelocoma californica*), Columbia black-tailed deer (*Odocoileus hemionus columbianus*) (Photo Exhibit 3-7) and gray squirrel; and nest sites for dusky-footed wood rat (*Neotoma fuscipes*), western scrub-jay, Allen's hummingbird (*Selasphorus sasin*), rufous humming bird (*Selasphorus rufus*), and bushtit. Birds that nest in the Monterey pine forest include bushtit, Hutton's vireo, Brewer's blackbird (*Euphagus cyanocephalus*), house finch, pine siskin (*Carduelis pinus*), lesser goldfinch (*Carduelis psaltria*), dark-eyed junco, chipping sparrow (*Spizella passerina*), band-tailed pigeon (*Columba fasciata*), brown creeper (*Certhia americana*), American robin (*Turdus migratorius*), and Great blue herons (*Ardea herodias*). Red-tailed hawks (*Buteo jamaicensis*) use the pine trees as perches to hunt their prey, including black oystercatchers (*Haematopus bachmani*). Cooper's hawk (*Accipiter cooperii*) is also known to frequent the forest. Monarch butterflies (*Danaus plexippus*) have been known to inhabit the Monterey pine forest at Whalers Knoll (CNDDB 2012). Virginia opossum (*Didelphis virginiana*) also inhabit the Monterey pine forest.

Source: AECOM 2012

Photo Exhibit 3-7 **Columbian Black-Tailed Deer**

The Monterey cypress forest provides foraging grounds for dark-eyed junco, hermit thrush (*Catharus guttatus*), and winter wren (*Troglodytes aedon*) under the dense canopy. The more open tree tops are used for foraging by chestnut-backed chickadee, bushtit, pygmy nuthatch, red-breasted nuthatch (*Sitta canadensis*), Bewick's wren, ruby-crowned kinglet (*Regulus calendula*), Hutton's vireo, yellow-rumped warbler (*Dendroica coronata*), Townsend warbler (*Dendroica townsendi*), and house finch. Dusky-footed wood rat, house finch, bushtit, chestnut-backed chickadee, mourning dove (*Zenaida macroura*), American robin, and dark-eyed junco can be found nesting in the cypress. Tall cypress snags (dead trees) provide perches for many birds, including flycatchers, woodpeckers, hawks, and house finch. Band-tailed pigeons may also be seen in the Monterey cypress forest.

Grasslands

Grasslands include the coastal prairie as well as other grasslands. Grassland animal communities fluctuate due to rapid seasonal and successional changes in the vegetation, as well as fire and grazing regimes. Several kinds of birds are associated with bare ground in the grasslands, including killdeer (*Charadrius vociferus*), horned lark (*Eremophila alpestris*), American pipit (*Anthus rubescens*), American kestrel (*Falco sparverius*), and Brewer's blackbird. Mammals found in the grasslands include Columbian black-tailed deer, ground squirrel, California meadow vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), pocket mouse, coyote (*Canis latrans*), bobcat (*Lynx rufus*), and gray fox. Prairie falcons (*Falco mexicanus*) also visit the grasslands. Reptiles

found within the grasslands include western fence lizard (*Sceloporus occidentalis*) and common garter snake (*Thamnophis sirtalis*).

Coastal prairie supports resident western meadowlarks (*Sturnella neglecta*) and savannah sparrows (*Passerculus sandwichensis*), and several migrant species. Signs of the presence of mammals are few relative to other grasslands.

Other grasslands attract large numbers of seed-eating birds, including house finch, purple finch (*Carpodacus purpureus*), pine siskin, lesser goldfinch, white-crowned sparrow, and Lincoln's sparrows (*Melospiza lincolnii*). Savanah sparrows increase in number during the summer. Burrowing mammals include moles (*Scapanus* sp.) and pocket gopher, western harvest mouse (*Reithrodontomys megalotus*), California ground squirrel (*Spermophilus beecheyi*), and American badger (*Taxidea taxus*).

Coastal scrub

Coastal scrub provides habitat for white-crowned sparrow, black phoebe, western bluebird, and loggerhead shrike (*Lanius ludovicianus*). Several birds forage in the dense thickets of blue blossom, including purple finch, fox sparrow (*Passerella iliaca*), spotted towhee, California thrasher (*Toxostoma redivivum*), and hermit thrush. Other birds commonly found in coastal scrub include Anna's hummingbird (*Calypte anna*), lazuli bunting (*Passerina amoena*), wrentit, California towhee (*Melozone crissalis*), sage sparrow (*Amphispiza belli*), and rufous-crowned sparrow (*Aimophila ruficeps*). Mammals found in the coastal scrub include California ground squirrel and brush rabbit (*Sylvilagus bachmani*). Common reptiles include western fence lizard, California striped racer (*Coluber lateralis lateralis*), and western rattlesnake (*Crotalus viridis*). Butterflies observed include common ringlet (*Coenonympha inornata*), Northern checkerspot (*Chlosyne palla*), Leanira checkerspot (*Thessalia leanira*), bramble hairstreak (*Callophrys dumetorum*), and Mormon metalmark (*Apodemia mormo*).

Gibson Creek

The *Monitoring Stream Macroinvertebrates at Point Lobos State Reserve* study provides information on the invertebrates found in Gibson Creek (Swolgaard 2003). A high diversity of invertebrates was found in the creek, including may fly (Ephemeroptera), stone fly (Plecoptera), and caddis fly (Trichoptera) larvae.

Rocky Shores and Beaches

The rocky shores and beaches serve as resting places for gulls and shorebirds such as western gull (*Larus occidentalis*), willet (*Catoptrophorus semipalmatus*), whimbrel (*Numenius phaeopus*), American avocet (*Recurvirostra americana*), black turnstone (*Arenaria melanocephala*), and black oystercatcher. Coastal bluffs and cliffs provide nesting habitat for pelagic cormorant (*Phalacrocorax pelagicus*), cliff swallows (*Petrochelidon pyrrhonota*), black phoebe, pigeon guillemot (*Cepphus columba*), belted kingfisher *(Megaceryle alcyon*), white-throated swifts (*Aeronautes saxatalis*), and Peregrine falcons (*Falco peregrinus*). The islands just offshore are used by Bonaparte's gulls (*Chroicocephalus philadelphia*), Heermann's gulls (*Larus heermanni*), western gull, black turnstone, and black oystercatcher. Bird Island is home to the second largest colony of Brandt's cormorants (*Phalacrocorax penicillatus*) in California, and is also the northernmost nesting site ever recorded for brown pelicans (*Pelecanus occidentalis*), though no nesting pelicans have been observed since 1963 (Monterey County 1997). Snowy egret (*Egretta thula*) are found offshore resting on surface kelp forests. The large islands known as Seal Rocks provide hauling out locations for Stellar's and California sea lions (*Eumetopius jubatus* and *Zalophus*

californianus). Other marine mammals found along the rocky shores and beaches include southern sea otter (*Enhydra lutris*) and elephant seal (*Mirounga angustirostris*). Sea otter populations are monitored by the park docents from the shore and monitoring results indicate a general decrease in the local otter population at Point Lobos SNR (Photo Exhibit 3-8) (SIMoN 2013). Bobcat have also been observed on Bird Island hunting birds.

Source: Chuck Bancroft 2011

Photo Exhibit 3-8 **Southern Sea Otter**

Structures/Developed Areas

Some of the structures/developed areas in the Reserve support wildlife, including bats. A recent bat survey conducted in support of re-roofing the Whalers Cabin (Central Coast Bat Research Group 2012) detected the presence of three bat species, including California myotis (*Myotis californicus*), big brown bat (*Eptesicus focus*) and Mexican free-tailed bat (*Tadarida brasiliensis*) in the vicinity of the Whalers Cabin. No sign of bat use was observed at the adjacent Whaling Museum. Other buildings in the Reserve as well as trees may also provide roosting opportunities for these bats.

Subtidal and marine fauna found along the rocky shoreline are described in Aquatic Life, below.

SPECIAL-STATUS ANIMALS

The 1979 General Plan (DPR 1979) contains information on special-status wildlife within Point Lobos SNR, and California State Parks staff have also observed several species in the Reserve (Palkovic, pers. comm., 2012a). The CNDDB (2012) and USFWS Endangered Species list (USFWS 2012) were also searched to gather additional information about special-status wildlife previously documented within Point Lobos SNR (Exhibit 3-10). Regional occurrences of special-status species are shown in Appendix C. Special-status wildlife known to occur in the Reserve include black swift, southern sea otter, hoary bat, monarch butterfly, and Smith's blue butterfly.

Detailed information on special-status wildlife known from or with potential to occur within Point Lobos SNR is provided in Table 3-4. Species that are known to occur within Point Lobos SNR are shown in bold.

Southern sea otter is federally listed as threatened and Smith's blue butterfly is federally listed as endangered. Sea otters are threatened by boat traffic in their ocean habitat. Smith's blue butterfly is threatened by loss of its coastal dune and scrub habitat from invasive plant species and trampling by park visitors. Black swift is a California Species of Special Concern, meaning they are vulnerable to extinction and the CDFW has called attention to their plight in order to reverse that trend. Hoary bat and monarch butterfly have no state or federal listing status, but have international rarity rankings. No Reserve-wide comprehensive survey for special-status animals has been conducted to date, and the extent of the populations of most of the species is not known. Detailed inventory and monitoring of special-status animals is recommended.

Table 3-4
Special-Status Wildlife Known from or with the Potential to Occur in Point Lobos SNR

Class	Species	Status[1]	Habitat	Potential for Occurrence
Fish	Steelhead—South/Central California coast DPS *Oncorhynchus mykiss irideus*	AFST, CSC, FT	Streams in coastal basins from the Pajaro River south to, but not including, the Santa Maria River	Could occur in Gibson Creek.
Amphibians	California tiger salamander *Ambystoma californiense*	CSC, CT, FT	Nests in underground burrows, especially ground squirrel burrows; breeds in vernal pools and other seasonal wetlands	Could occur in coastal prairie or other grasslands near freshwater seeps where ground squirrels are present.
	California red-legged frog *Rana draytonii*	CSC, FT	Ponds and slow moving streams with overhanging vegetation	Could occur in Gibson Creek.
Reptiles	Northwestern pond turtle *Emys* (=*Clemmys*) *marmorata marmorata*	CSC, CFP	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands with low, sparse vegetation	Could occur in Gibson Creek or freshwater seeps and adjacent coastal prairie and other grasslands.
	Black legless lizard *Anniella pulchra nigra*	CSC	Moist areas in sand dunes where bush lupine and mock heather are dominant	Could occur in moist areas in beach dunes.

Table 3-4
Special-Status Wildlife Known from or with the Potential to Occur in Point Lobos SNR

Class	Species	Status[1]	Habitat	Potential for Occurrence
Birds	Western burrowing owl *Athene cunicularia hypugaea*	CSC	Burrows in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-lying vegetation; breeds in open, well-drained grasslands, steppes, deserts, prairies, and agricultural land	Could occur in coastal prairie, other grasslands, or open areas in coastal scrub.
	Marbled murrelet *Brachyramphus marmoratus*	CE, FT	Forages in coastal/ocean habitats and nest in low-elevation forest stands, near the coast dominated by large, old-growth and mature redwood trees	Could forage in Point Lobos SNR but not likely to nest there.
	Western snowy plover *Charadrius alexandrinus nivosus*	CSC, FT	Breeds/nests above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries	Could occur on beaches.
	Black swift *Cypseloides nigra*	BCC, CSC	Nest on cliffs although forage in a variety of habitats	**Known to occur** as a summer resident (CNDDB occ. no. 16; Palkovic, pers. comm., 2012a).
	Southwestern willow flycatcher *Empidonax traillii extimus*	CE, FE	Riparian woodlands	Could occur in riparian.
	California condor *Gymnocyps californianus*	CE, FE	Currently restricted to chaparral, coniferous forests, and oak savannah habitats in southern and central California. Formerly occurred more widely throughout the Southwest and also fed on beaches and large rivers along the Pacific coast. Nests in cavities in cliffs, in large rock outcrops, or in large trees. Roosts on cliffs or large trees, often near feeding sites. Forages mostly in grasslands, openings in chaparral, or in oak savannahs	Could have historically foraged on beaches and Carmel River, but not likely to occur presently.
	California brown pelican *Pelecanus occidentalis californicus*		Nests in colonies on small to moderately sized coastal islands just above the surf line	Historically known to occur (CNDDB occ. no. 9, 16).

Table 3-4
Special-Status Wildlife Known from or with the Potential to Occur in Point Lobos SNR

Class	Species	Status[1]	Habitat	Potential for Occurrence
	California least tern *Sterna antillarum browni*	FE	Nests along the coast from San Francisco Bay to northern Baja California in colonies on bare or sparsely vegetated flat areas (beaches, alkali flats, landfills, paved areas)	Could occur on beaches.
	Least Bell's vireo *Vireo bellii pusillus*	CE, FE	Riparian	Could occur in riparian.
Mammals	**Southern sea otter** *Enhydra lutris nereis*	CFP, FT	Nearshore marine environments from about Año Nuevo to Point Sal. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates	**Known to occur** in the waters off Point Lobos SNR (DPR 1988).
	Hoary bat *Lasiurus cinereus*	WBWG: M	Forages in open or patchy habitats with trees for cover; roosts in dense foliage of medium to large trees; near water	**Known to occur** (location information vague) (CNDDB occ. no. 76; Palkovic, pers. comm., 2012a).
	Monterey dusky-footed woodrat *Neotoma fuscipes luciana*	CSC	Forest and chaparral	Could occur in riparian/willow forest.
Insects	Globose dune beetle *Coelus globosus*		Coastal dunes from Sonoma county to Baja California	Could occur on beaches.
	Monarch butterfly *Danaus plexippus*	G5 S3	Roosts along the Pacific coast in winter in wind-protected tree groves with nectar and water sources nearby	**Known to occur** on Whalers Knoll (CNDDB occ. no. 248; Palkovic, pers. comm., 2012a).
	Smith's blue butterfly *Euphilotes enoptes smithi*	FE	Coastal dunes and coastal sage scrub in Monterey and Santa Cruz counties	**Known to occur** at Sea Lion Point (CNDDB occ. no. 18; Palkovic, pers. comm., 2012a).

Notes:

[1] Status Codes: BCC = US Fish and Wildlife Service Birds of Conservation Concern; CE = California Endangered; CFP = California Fully Protected; CSC = California Species of Special Concern; CT = California Threatened; FE = Federal Endangered; FT = Federal Threatened; G5 S3 = Global rank: demonstrably secure, common; State rank: restricted range; WBWG:M = Western Bat Working Group - Medium Priority.

Source: CNDDB 2012; DPR 1979; Palkovic, pers. comm., 2012a; USFWS 2012; data compiled by AECOM in 2012.

INVASIVE ANIMAL SPECIES

No invasive animal species have been documented as causing problems in the Reserve. However, wild pigs (*Sus srcof*a) have been known to cause extensive damage to lands in the adjacent Carmel River SB and invasive bull frogs (*Rana catesbeiana*) are present in the Carmel River lagoon. Both of these species have potential to occur within Point Lobos SNR. Monitoring for these species (and other potential invasives) should be conducted as part of proposed monitoring of biological resources, and, if detected, eradication of these species should be initiated while populations are still small.

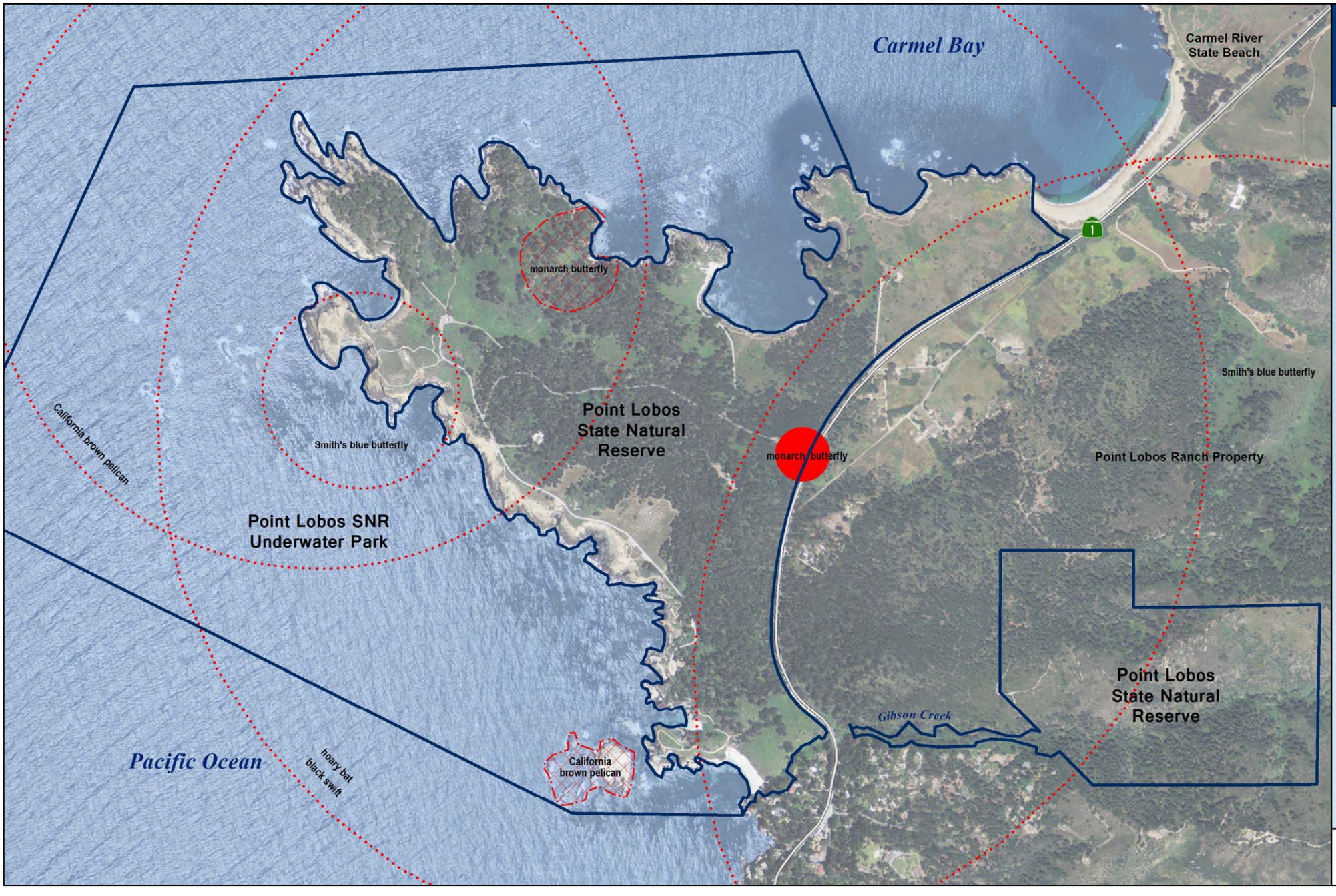

Exhibit 3-10 **Special-Status Animal Occurrences**

3.2.3 AQUATIC LIFE

Point Lobos SNR includes not only terrestrial vegetation communities and wildlife, but also a 775-acre underwater Ecological Reserve located just off-shore. This portion of the Reserve was established by California State Parks in 1960 and designated as an Ecologic Reserve, which is an area of special biological significance (Exhibit 1-4). The Point Lobos SNR Underwater Park is within a 5.36-square mile MPA managed by CDFW called Point Lobos SMR (Clifton and Johnson 2010). SMRs are part of a network of MPAs managed by the CDFW. MPAs were established to protect unique areas of special biological significance in the ocean off the California coast. No fishing and no collecting of plants or marine animals is permitted within the Point Lobos SMR underwater boundaries. However, CDFW issues some collection permits for research. In addition, the Point Lobos State Marine Conservation Area extends seaward from the Point Lobos SMR and is 8.8 square miles. The Marine Conservation Area is also managed by CDFW and there is limited commercial and recreational fishing in this area (Clifton and Johnson 2010).

The ocean at Point Lobos has been considered a significant place by a wide variety of people, from marine biologists such as Jacques Cousteau to artists and Native Americans (DPR 1979). The giant kelp (*Macrocystis pyrifera*) forest at Point Lobos is widely recognized as a special community. Although its range is quite extensive, it only occurs as a community dominant from central Baja California to Bear Harbor in Mendocino County (DPR 1979, Monterey Bay Aquarium 1999). The kelp forest produces more biomass than any plant community on earth, and provides food and shelter for a rich variety of marine life (Point Lobos Foundation and California State Parks 2009, Monterey Bay Aquarium 1999), which is described in more detail below. The northernmost recorded occurrences of the Gorgonian coral (*Lophogorgia chilensis*) are at Point Lobos SNR and Monterey Bay (Barry et al. 1977). The fish fauna is richer at Point Lobos SNR than at northern underwater parks, and includes many species of rockfish (*Sebastes* sp.), blacksmith (*Chromis punctipinnis*), kelp bass (*Paralabrax clathratus*), and sheephead (*Pimelometopon pulchrum*) (Barry et al. 1977). Whales, such as the Pacific gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), blue whale (*Balaenoptera musculus*), and Minke whale (*B. acutorostrata*), as well as orcas (*Orcinus orca*), are commonly sighted from Point Lobos (California State Parks 2006a). Eared grebe (*Podiceps nigricollis*) and surf scoter *(Melanitta perspicillata*) are common winter visitors in the waters of Point Lobos SNR (Frincke and Terry 1971). Point Lobos SNR contains rocky tidepools, giant kelp forests, sandy bottoms, and deep canyons, which provide habitat for a diverse and abundant assemblage of species.

Assemblages of species found in sandy and rocky habitats are detailed in *A Natural History of the Monterey Bay National Marine Sanctuary* (Monterey Bay Aquarium 1999), *Point Lobos State Reserve and Carmel River State Beach Resource Inventory* (Barry et al. 1977) and *Point Lobos Reserve State Park, California, Interpretation of a Primitive Landscape* (Drury 1954). Eel-grass (*Zostera marina*), Scouler's surf-grass (*Phyllospadix scouleri*), and Torrey's surf-grass (*P. torreyi*) are found in the marine waters (CNPS 2012a). Coarse sandy habitats are found in China Cove and off Gibson Beach, where snails and tube-dwelling polychaete worms are common. Fine sandy habitats, present in Whalers Cove and Bluefish Cove, are home to a more diverse assemblage of species, including several polychaete worms, peanut worms, echiuroid worms, snails, and echinoderms (sea stars, brittle stars, sand dollars, and sea cucumbers). Other species commonly found in sandy bottom habitats include crabs (Brachyura), molluscs (Mollusca), flatfishes (Pleuronectiformes), and sharks, rays, and skates (Elasmobranchii). Rocky habitats, including tidepools, host assemblages of anemones, mussels, barnacles, algae, sponges,

polychaete worms, snails, small crustaceans, isopods, amphipods, chitons, limpets, hydroids, bryozoans, sea squirts, sea cucumbers, abalone, small crabs and shrimp, and sea urchins.

The giant kelp forest is made up of a diverse assemblage of algae, as described in the *Point Lobos State Reserve and Carmel River State Beach Resource Inventory* (Barry et al. 1977) and *A Natural History of the Monterey Bay National Marine Sanctuary* (Monterey Bay Aquarium 1999). The giant kelp forest is found in waters from 20 to 100 feet deep with rocky bottoms. Giant kelp is dominant, and occasionally bull kelp (*Nereocystis leutkeana*) and chainbladder kelp (*Cystoseira osmundacea*) also reach the water surface. The understory is dominated by shorter perennial algae, including *Laminaria dentigera*, southern sea palm (*Eisenia arborea*), woody-stemmed kelp (*Pterygophera californica*), and *Dictyoneurum californicum*. A shorter "turf" below the perennial understory is dominated by articulate coralline algae (*Calliarthron tuberculosum*), annual brown algae (*Desmarestia ligulata* and *Alaria marginata*), and red algae (*Botryoglossum* sp., *Erythrophyllum delesseroides*, *Gigartina* sp., *Iridaea* sp., and *Plocamium* sp.). Deeper portions of the forest are home to relatively few species, including *Fryeela gardneri*, inarticulate coralline algae, and articulate coralline algae (*Calliarthron schmidti*). Suspension-feeders, such as bryozoans, hydrozoans, sponges, and tunicates, can be found on stable rocks. Invertebrates such as polychaetes, amphipods, decapods, and ophiuroids may inhabit the kelp itself (PLF 2012a). Upper horizontal surfaces generally do not have as rich a fauna as vertical walls and crevices, which may house sponges (*Hymenamphiastra cyanocrypta*), cup corals (*Balanophyllia elegans* and *Paracyathus stearnsi*), polychaete worms (*Eudistylia polymorhpa, Salmacina tribranchiata*, and *Serpula vermicularis*), chiton (*Placiophorella velata*), sea urchins (*Strongylocentrotus franciscanus* and *S. purpuratus*), and holothuroids (*Cucumaria miniata* and *Psolus chitinoides*). Sea urchins, octopi (Octopoda), and abalone use these crevices for refuge from sea otters and rockfish as well. Great blue herons can be observed hunting prey on top of the kelp beds (Frincke and Terry 1971). California sea lions, harbor seals (*Phoca vitulina*), sea otters, and whales hunt prey and seek shelter from storms and predators in the kelp forest (PLF 2012a). The sea otter is a keystone species in the giant kelp forest. Keystone species are species that keep an ecosystem's natural processes in order; without these species, communities are in danger of total collapse. Sea otters keep sea urchin populations under control, without which the kelp forest would succumb to overgrazing by the sea urchins, leaving behind "urchin barrens" (Monterey Bay Aquarium 1999, PLF 2012b).

3.2.4 ECOLOGY

WILDLIFE CORRIDORS

A functional network of connected wildlands is essential to the maintenance of diverse natural communities in a region. Wildlife populations depend on habitat connectivity to survive in the face of human development and climate change, and wide-ranging wildlife need unfragmented habitat and linkages between natural areas to support activities such as reproduction, foraging and migration. The presence of highways and other infrastructure can create barriers that limit access to seasonal ranges and other vital habitats, reduce genetic interchange, constrain dispersal of young, and reduce the long-term viability of wildlife populations. Maintaining connectivity between natural areas and minimizing further fragmentation is crucial to the long-term viability of California's natural heritage. Critical wildlife corridors in the area are typically north-south, connecting large open space north and south of the Carmel Valley. Point Lobos SNR and the three other park units included in this planning effort provide important habitat linkages for wildlife. Together with other protected public lands in the area, such as Palo Corona Regional Park, the Santa Lucia Preserve, Garrapata State Park, and Odello East field located on the

east side of Highway 1 directly across from the Odello West field, Point Lobos SNR, Carmel River SB, and the Point Lobos Ranch Property form an important regional network of wildland habitats (Exhibit 2-1). Palo Corona Regional Park provided a critical link for a wildlife corridor that now extends from the Carmel River to San Luis Obispo County. San Jose Creek is also a wildlife corridor for California red-legged frog, as well as other reptiles and amphibians. In addition, mammals, birds, and amphibians use the riparian areas along San Jose Creek as a wildlife corridor.

NATURAL PROCESSES

Fire

The upland vegetation communities on the Monterey Peninsula are largely shaped by fire. The structure of the pine and cypress forests is dependent on a regular fire regime. Cones of Monterey pine, Monterey cypress, and Gowen cypress will slowly release seeds once mature, but open more rapidly with fire (TMPFW 2011, Barbour 2007, Patterson 2005). Optimum seedling recruitment for the pine and cypress species takes place following a fire (DPR 1979, Barbour 2007). Cypress seeds require bare mineral soil in full sunlight to germinate (Barbour 2007, Patterson 1995), and dense stands are produced following fires (DPR 1979). Scrub communities are known to be well adapted to recurring fires; many species resprout from stumps and have long-lived seed banks which germinate following fires (DPR 1979). Since fire suppression began on the Monterey Peninsula, habitat quality of the coastal scrub has declined for special-status plants and animals dependent on a frequently disturbed scrub community (Ford and Hayes 2007). The Native Americans in the Monterey area were known to set frequent, small fires to maintain the coastal prairie (TMPFW 2011, Ford and Hayes 2007). Burning the coastal prairies eliminated woody invaders and increased herbaceous diversity, allowing for the germination of edible plants and browse for game animals (DPR 1979, TMPFW 2011). The absence of frequent, low intensity natural fires at Point Lobos SNR has created high fuel buildups, especially in the Monterey pine ecosystem. Current fire management at Point Lobos SNR includes vegetation clearing and some prescribed burns. Fire hazard ratings in the vicinity of Point Lobos SNR and previous fires in the area are shown on Exhibit 3-9.

Succession

Plant succession is a directional, cumulative change in the species that occupy a given area, through time (Barbour et al. 1987). The establishment of plants on land not previously vegetated is called primary succession, while secondary succession is described as the invasion of land that has been previously vegetated, the pre-existing vegetation having been destroyed by natural or human disturbances (Barbour et al. 1987). Over the last several hundred years the vegetation within Point Lobos SNR has undergone considerable changes, partially driven by past land uses such as logging, grazing, burning, industrial and commercial development, the film industry, and other factors. However, once these uses ceased, the vegetation in the Reserve has reverted back towards a more natural state. Pine forests have spread and grasslands/meadows have shrunk. Areas previously denuded or occupied by structures have once again been covered by thick layers of natural vegetation. These processes have been aided by the designation of Point Lobos as a reserve, making management on the land in a natural state as one of the prime management objectives. The 1979 General Plan included an assessment of succession trends at Point Lobos SNR over time. While the vegetation in the northern half of the Reserve was largely dominated by introduced annual grassland and the southern half was dominated by coastal prairie in 1936, by 1976 the annual grassland had partially converted to coastal scrub vegetation, and part of the coastal prairie had been taken over by Monterey pine forest (DPR 1979). Today, the Monterey pine forest occupies large areas of

the Reserve, and meadows and coastal prairie are being encroached upon by coastal scrub. The vegetation management statements for the Reserve (DPR 2010a) identify certain desired acreages for each of the main communities over time. Management of the sensitive communities (coastal prairie, Monterey pine forest, Monterey cypress forest and Gowen cypress forest) for long term ecological health and for the habitat values provided by these communities is a main focus of resource management at Point Lobos SNR.

Erosion

The timeless battering and grinding of the sea upon the shore is one of the most powerful, persistent, and dramatic of the natural resource processes characteristic of Point Lobos.

Frederick Law Olmsted, Jr.

Erosion is the gradual process by which rock and soil is worn away by the forces of nature, such as wind and water. Observing and experiencing the forces of nature is part of the lure of visiting Point Lobos SNR. These themes are also explored in the Reserve's interpretive materials. Erosion is a natural process typical of coastal areas. Erosion rates depend on factors such as slope, parent material, vegetation cover, and water holding capacity, and are typically higher in areas not covered by natural vegetation and exposed to the elements. Ongoing erosion has implications for natural resource management, as it may result in loss of resources such as sensitive natural communities, common and special-status species, suitable habitat for these species, loss of plants, and can negatively affect hydrology and drainage. Erosion may also have a negative effect on cultural resources. Ongoing erosion can also be exacerbated by visitor use off trails. Many of the visitors to Point Lobos SNR enjoy the scenic views and may step off trails to explore the headlands, pose for photographs or get a closer look at marine mammals in the coves below. Managing human caused erosion within the Reserve is an ongoing challenge for resource managers. Many of the trails along the headlands such as North Shore Trail, Cypress Grove Trail, and South Shore Trail have visitor guide wires the attempt to keep visitors on trails for their own safety and to prevent resource damage caused by trampling and erosion (Photo Exhibit 3-9). Erosion hazard mapping was completed as part of the 1979 General Plan. This effort identified many of the areas along the headlands near Ichxenta Point, Granite Point, the Allen Grove headlands, and Sea Lion Point as having high erosion potential (DPR 1979). Areas with compacted soils were also mapped during the prior planning effort. Compacted soils and/or vegetation denudation were identified in multiple areas of the Reserve but were particularly prevalent near Ichxenta Point, near the Hudson House, along portions of the Granite Point Trail along Whalers Cove, near the park entrance and headquarters, at some locations along the Cypress Grove Tail, along the entire South Shore Tail, at Piney Woods, and at several locations along the Bird Island Trail (DPR 1979). Many of these areas are still being impacted today and user created shoreline bluff erosion, trail conditions, and trampling of areas that once were vegetated that are now denuded of vegetation have all been identified as needing to be addressed in the current planning effort to prevent the Reserve from "being loved to death" – a theme also identified in the 1979 General Plan.

3.2.5 MONITORING

The former Inventory, Monitoring, and Assessment Program (IMAP) provided goals, guidance, and standards for California State Parks efforts to systematically evaluate the vegetation, wildlife, and physical natural resources of the state park system (California State Parks 2012). Evaluations consisted of collecting data through various scientific means in each state park system unit. Data was generally quantitative and consisted of counts and measures of natural resources.

Source: AECOM 2012

Photo Exhibit 3-9 **Guide Wires to Keep Visitors on Trail along the North Shore Trail**

The data was used to make status assessments of a unit's natural resources, such as what resources are present, where the resources are distributed, and how much of a resource is present. Data was also used to detect changes in resources over time so that trends in the unit's health can be ascertained and corrective management action can be taken.

Point Lobos SNR was one of the pilot parks for the IMAP monitoring, and aquatic resources monitoring was started in San Jose Creek and Gibson Creek (Swolgaard 2003). Due to lack of funding, however, IMAP monitoring has not been conducted in recent years. A Natural Resources Inventorying and Monitoring Program was developed for Point Lobos SNR in 1997. Priorities for inventory and monitoring natural resources were set and projects were identified, however, implementation plans were not prepared (DPR 1997). Developing and implementing a monitoring system for the long term monitoring of the natural resources in the park could build on previous monitoring efforts and document baseline conditions to measure change over time and guide management.

3.2.6 1979 General Plan Proposals

The 1979 General Plan called for cyclical closures of sections of the Reserve to allow for management and restoration activities. This has not been implemented. The plan also called for initiation of an ecological monitoring program for ongoing resource protection. This proposal has been partially implemented as described above. Finally, the plan called for the restoration of natural processes in the Reserve’s ecosystem and for limited

public access to the Gowen cypress forest east of Highway 1. Controlled burns are used in the Reserve as part of the current management. Invasive weeds area actively controlled. Public access to the Gowen cypress forest has not been provided to date because of difficulties with access to this parcel. With regards to the underwater park, the 1979 General Plan called for an expansion of the Point Lobos Ecological Reserve beyond the 20 fathom line and placement of these lands under California State Parks jurisdiction, along with improvements in interpretation of the underwater areas. Both of these recommendations have been implemented.

3.3 CULTURAL RESOURCES

3.3.1 PREHISTORIC BACKGROUND

Information on the prehistoric background presented here is summarized primarily from the following report that documented the results of test and data recovery excavations conducted at Point Lobos SNR: *Test and Data Recovery Excavations at Sites CA-MNT-261, -217/H, and -263, for the Point Lobos State Reserve Bird Island Trail Accessibility Improvements Project, Monterey County, California*, prepared for California State Parks, Monterey District by Far Western Anthropological Research Group, Inc. (FWARG) in July 2010 (Mikkelsen and Jones 2010). That work is in turn based on the most recent chronological sequence developed for the Monterey Bay area which includes five general time periods (Jones et al. 2007). Additional background and citations are provided as appropriate.

PALEOINDIAN PERIOD

The Paleoindian Period starts at the end of the Pleistocene and dates prior to 10,000 years before present in calibrated radiocarbon years (cal. BP). There are no known archaeological sites in the area of Point Lobos SNR dating to this earliest period and many important questions about settlement patterns, subsistence activities, tool making, and social organization remain unanswered (Jones et al. 2007; Mikkelsen and Jones 2010). The Scotts Valley site (CA-SCR-177), located about 50 miles north of the Point Lobos SNR yielded radiocarbon dates as early as 13,500 cal. BP, however the deposit was too mixed to allow an assignment of a specific assemblage to the time period (Cartier 1989, 1993; Mikkelsen and Jones 2010). Likely reasons so few sites dating to this period have been found include sea level rise at the end of the Pleistocene Period that submerged much of the California coast that had previously been exposed, destruction of sites by coastal erosion, and deep burial of sites by alluvial deposition (Jones and Waugh 1997).

MILLINGSTONE PERIOD

The Paleoindian Period is followed by the Millingstone Period, which lasted from 10,000 to 5500 cal. BP (Jones et al. 2007; Mikkelsen and Jones 2010). Few sites dating to this period have been identified for the same reasons that few Paleoindian sites have been found (Jones and Waugh 1997). Flooding of sloped coastline areas during this period produced estuaries that were highly utilized by prehistoric groups of this period, however interior areas were also used. Sites dating to this period tend to have shell middens containing more ground and battered stone tools relative to flaked stone tools; indicating that shellfish and seeds were more important food resources than large terrestrial and marine animals during this period. Diagnostic artifacts that are indicative of the period include eccentric crescents, long-stemmed projectile points, and thick rectangular (L-series) *Olivella* beads (Jones et al. 2007; Mikkelsen and Jones 2010). Prehistoric inhabitants of the area were likely highly mobile, moving in

accordance with the seasons to obtain both inland and coastal resources (Jones and Waugh 1997; Mikkelsen and Jones 2010).

Sites dating to this period are most often found in southern California, but Millingstone Period components have been found at Elkhorn Slough at CA-MNT-229 and CA-MNT-234, near Castroville at CA-MNT-228 and CA-MNT-1570, and at CA-SCL-178 in the southern Santa Clara Valley (Mikkelsen and Jones 2010). A Millingstone Period component was also found at the Scotts Valley Site (CA-SCR-177) and, unlike the Paleoindian component, produced three reliable radiocarbon dates from this period and a discrete component with abundant amounts of ground stone artifacts (Jones and Waugh 1997; Mikkelsen and Jones 2010).

EARLY PERIOD

The Millingstone Period is followed by the Early Period, which lasted from 5500 to 2600 cal. BP (Jones et al. 2007; Mikkelsen and Jones 2010). This period is characterized by adoption of new land use patterns, new tools, and new forms of social organization (Mikkelsen and Jones 2010). While use of estuaries remained important, settlements expanded to include open coast locales which was likely the result of environmental fluctuations and population increases (Jones and Waugh 1997; Mikkelsen and Jones 2010). This trend did not follow at Elkhorn Slough where the closing of the slough and the decline in its estuary resources probably led to the abandonment of some sites such as CA-MNT-229 (Mikkelsen and Jones 2010). Some researchers also believe that increasing aridity in the Great Basin not only put pressure on populations in that area, but caused a ripple effect putting pressure on coastal groups, triggering a greater reliance on trade networks, increased use of local resources, and more rigid territorial boundaries (Jones and Waugh 1997; Mikkelsen and Jones 2010).

Mortars and pestles first appear during this period, likely signaling the incorporation of acorns into the diet (Mikkelsen and Jones 2010). Some researchers question the link between mortars, pestles, and acorn use this early in the archaeological record; however, burnt acorn remains in an Early Period component at Morro Bay support the idea of a relationship between mortars and pestles and the intensified use of acorns in this period (Mikkelsen and Jones 2010). Researchers further speculate that acorn intensification may have occurred to balance a protein-rich marine diet (Mikkelsen and Jones 2010). Artifact assemblages also contain greater proportions of hunting and fishing tools during this period, indicating these activities were increasing in importance (Jones and Waugh 1997; Mikkelsen and Jones 2010).

Artifacts common or indicative of this period include thick rectangular (Class L), end-ground (Class B), and split (Class C) *Olivella* beads and square *Haliotis* forms; projectile points of the period include Contracting-stemmed, Rossi Square-stemmed, and Side-notched types (Jones et al. 2007; Mikkelsen and Jones 2010). There is conflicting evidence regarding whether populations were highly mobile or if they were becoming increasingly constrained (Mikkelsen and Jones 2010).

Sites in Monterey County with components dating to the Early Period include CA-MNT-108, where the abundance of fish remains has led some researchers to speculate if fish were being harvested for trade (Breschini and Haversat 1993). The site also appears to represent a large summer occupation village (Breschini and Haversat 1989). CA-MNT-14 dates to the Early Period and is located within Carmel River SB (Garlinghouse 2009). Smaller village sites in the Monterey region include CA-MNT-17C and CA-MNT-95. Other sites in the Monterey area dating to this time period include CA-MNT-116, -148, -170A, -170C, -387, and -391 (Mikkelsen and Jones 2010).

MIDDLE PERIOD

The Early Period is followed by the Middle Period which lasted from 2600 to 1000 cal. BP (Jones et al. 2007; Mikkelsen and Jones 2010). The large number of sites dating to this period most likely reflect an increase in population (Mikkelsen and Jones 2010). Not all of the changes that occurred from the former period are obvious; some changes represented continuations of previous trends; for example, mortars and pestles continued to increase in importance indicating that the use of acorns was also increasing in importance (Garlinghouse et al. 2009). At sites in Santa Clara County, however, shellfish decreased in importance possibly because of a decrease in coastal access (Mikkelsen and Jones 2010). Typical artifacts of the Middle Period include Contracting-stem, Side-notched, and Concave-base projectile points, mortars and pestles, hand stones, millingslabs, F and G series *Olivella* beads (Garlinghouse et al. 2009; Mikkelsen and Jones 2010). Probably the most important technological event during this period was the first appearance of circular shell fishhooks (Garlinghouse et al. 2009). Although, fishhooks are mostly found on rocky coasts, in slough habitats, fish were probably gathered by baskets, nets, or other methods. Fishhooks likely represent an increase in exploitation in fish (or specific kinds of fish) but also may have resulted in a decrease in the efficiency of collecting high calorie resources (Garlinghouse et al, 2009). Trade across the Sierra Nevada Mountain Range also appears to increase, with obsidian from the Casa Diablo source being very important in the Monterey Bay area while obsidian from the Coso source is important to the south (Garlinghouse et al. 2009; Mikkelsen and Jones 2010).

Archaeological sites or components of sites that date to the Middle Period have been found at many locations in the broader region including San Luis Obispo County and Santa Cruz County and possibly further inland in Merced County and Kern County (Jones et al. 2007; Mikkelsen and Jones 2010). One of the largest sites in the Monterey region is CA-MNT-12. Located to the east of the project area in Point Lobos Ranch, the site contains a large and diverse artifact assemblage and human remains (Howard and Cook 1971; Schwaderer 2004). CA-MNT-207, CA-MNT-212, and CA-MNT-216 all have components dating to the Middle Period and are located in Point Lobos SNR (Schwaderer 2005, 2007; Mikkelsen and Jones 2010). Near Little Pico Creek in San Luis Obispo County, CA-SLO-175 also had a large Middle Period component with a diverse assemblage of tools and some burials (Jones and Waugh 1995). Other Middle Period components have been found at CA-MNT-229 and CA-MNT-282 in southern Monterey County near Cape San Martin, CA-SCR-9 in the Santa Cruz Mountains, and CA-SCR-7 in Santa Cruz County also contains a Middle Period component (Jones et al. 2007). Artifacts found at these sites include Side-notched and Square-stemmed projectile points as well as Contracting-Stem and concave base types, saucer-shaped *Olivella* shell beads, mortars, pestles, hand stones, and milling stones (Mikkelsen and Jones 2010).

MIDDLE/LATE TRANSITION

The Middle Period is followed by the Middle/Late Transition, which lasted from 1000 to 700 cal. BP (Jones et al. 2007; Mikkelsen and Jones 2010). Peak use of coastal areas occurred during the beginning of this period, but was followed by abandonment of coastal sites in the region (Mikkelsen and Jones 2010). Originally, most researchers thought these changes were caused by over-exploitation of marine resources and increased population pressure leading to intensification of the use of inland terrestrial resources. There is evidence, however, that the changes may have been caused by environmental stress. At about this same time, western North America had a strong warming event, the “Medieval Climatic Anomaly” (Stine 1990, 1994).

Among the environmental changes associated with the warming event was decreased precipitation that may have had a very large impact among coastal populations. Researchers have argued that populations "de-intensified" how they gathered food resources during the climatic event. During this period population growth declined, trade systems collapsed, fewer kinds of food resources were exploited, and in Monterey County several coastal sites were abandoned in favor of areas located in the interior. Obsidian from eastern sources almost disappears from the archaeological record (Garlinghouse et al. 2009). Recent studies, however, indicate stable, seasonal use of coastal areas from the Middle to Late periods (Mikkelsen and Jones 2010).

CA-MNT-12, -17A, -17C, -107, -111, -112, -116, -117, -170A, -170C, -187, -438, -1084, and -1348 all contain components that date to the Middle/Late Transition Period. Sites within the Point Lobos SNR dating to this period include CA-MNT-203, -207, and -218 (Schwaderer 2005). Ten miles east of Carmel Valley, sites CA-MNT-1485/H and -1486/H yielded reliable data indicating they date to this period (Breschini and Haversat 1992). CA-MNT-12 is one of a small number of sites that contain components spanning from the Middle to Late periods, including the Middle/Late Transition Period (Schwaderer 2007; Mikkelsen and Jones 2010).

LATE PERIOD

The Middle/Late Transition Period is followed by the Late Period, which lasted from 700 cal. BP to European contact. Many researchers believe that during this period groups in the Monterey region maintained an inland focus and concentrated on using acorns and other terrestrial resources, though there is contradictory data as well (Garlinghouse et al. 2009). Villages were generally located in valley bottoms and near lakes or rivers, while coastal sites were used as short-term processing camps by inland inhabitants (Mikkelsen and Jones 2010). Large amounts of ground stone tools and high diversity of botanical remains signal a continuing reliance on plant processing though in inland areas there appears to be a heavy reliance on the hunting of deer (Garlinghouse et al. 2009; Mikkelsen and Jones 2010). Oxygen isotope studies and ethnographic information have been used to investigate settlement distribution in the central California coast. These studies have recognized two groups exploiting the region, one inland –focused group and the other a year-round, semi-sedentary coastal population focusing on a marine resource base with acorn having a less important role in their diet (Mikkelsen and Jones 2010).

Most of the coastal sites dating to this period represent specialized shellfish processing stations, although there are some sites that evidence a broader range of activities including marine and terrestrial mammal hunting (Mikkelsen and Jones 2010). Some researchers believe these sites may have functioned as temporary residential sites used seasonally in coordination with the shellfish processing sites and inland villages (Garlinghouse et al. 2009). Other locations show evidence of red abalone procurement by specialized task groups (Mikkelsen and Jones 2010). Very late in the period, there is evidence of changing subsistence strategies and settlement patterns either related to the resumption of past activities or as a reaction to European contact. Evidence for this includes a greater diversity of botanical remains from coastal sites than would be expected from a specialized processing camp and an emphasis on shellfish at other locations (Mikkelsen and Jones 2010). Likewise, the identified changes may be the result of a population rebound following the presumed population drop during the Middle/Late Transition Period, as evidenced by an increase in the number of burials and features (Mikkelsen and Jones 2010).

Artifacts marking the Late Period include Desert Side-notched projectile points and Class E (lipped), K (callus), and M (thin rectangular) *Olivella* shell beads (Garlinghouse et al. 2009; Mikkelsen and Jones 2010). Bead drills

and waste from bead manufacture at several sites indicate that bead manufacture was widespread but not intensive (Garlinghouse et al. 2009).

A large number of sites date to the Late Period in the Monterey region (Garlinghouse et al. 2009; Mikkelsen and Jones 2010). CA-MNT-1485/H and -1486/H may represent at least a portion of the Rumsien ethnographic village *Echilat* (Breschini and Haversat 1992). CA-MNT-12 may represent at least a portion of the Rumsien ethnographic village of *Ichxenta* (Howard and Cook 1971). CA-MNT-170 is located at the south end of Monterey Bay and consists of a large, multi-component midden site. CA-MNT-156 and -436 are coastal sites showing a broader range of activities than shellfish procurement. CA-MNT-1942 is on the Big Sur coast and contains an artifact assemblage suggesting to researchers that coastal sites during the Late Period were not as well-developed as they were prior to the Medieval Climatic Anomaly, although there appears to have been a rebound in coastal populations. Sites within Point Lobos SNR that have been dated to the Late Period include CA-MNT-216, -217/H, -218, and 263.

3.3.2 ETHNOGRAPHIC BACKGROUND

OVERVIEW

The Carmel area is located in the traditional territory of the Costanoan or Ohlone people. "Costanoan" is derived from the Spanish word for "coast dweller". Ohlone (or Alchone, Olchone, Oljon, or Olhon) was the name of a tribe between San Francisco and Santa Cruz. Ohlone has come to be used to describe a related set of languages as well as the people who speak these languages (Bean 1994; Heizer 1967; Levy 1978). Currently the Pajaro Valley Ohlone Indian Council holds a Native California Indian gathering permit to gather a variety of materials throughout the Monterey District, including within the Reserve.

Ohlone groups inhabited the San Francisco Peninsula, the eastern Bay Area south to the San Joaquin Delta, and the Santa Clara Valley to Monterey and inland south to San Juan Bautista when Europeans first arrived in the region in the 1760s. Ohlone territory encompassed a variety of ecological zones including grasslands, woodlands, chaparral, redwood forests, sea coasts, bay estuaries, and tidal marshes. Miwok people lived to the north and northeast and Yokuts groups lived to the east. South of the Ohlone territory lived Esselen and Salinan, whose languages were of the Hokan language stock. Costanoan is part of the Utian family of languages and likewise part of the larger Penutian language stock. Pentutian speakers include Maidu, Wintu, Miwok, and Yokuts people. Costanoan is divided into eight languages (Levy 1978). Esselen and Salinan speaking people would gather food in the area, and the Esselen likely occupied the Carmel area prior to the arrival of the Ohlone (Broadbent 1972, Milliken 1987).

Ohlone may have come into the San Francisco and Monterey Bay Area relatively late in time, perhaps as late as 1450 B.P., originating in the San Joaquin-Sacramento River system and displacing earlier Hokan speaking people (Levy 1978). The migration to the Bay Area may have come much earlier according to some researchers, who propose Penutian speakers may have entered the Bay Area at approximately 4950 B.P. (Whistler 1977).

Researchers disagree on the exact number of the Ohlone population at European contact. Estimates vary from 7,000 to 11,000 (Cook 1943; Heizer 1974; Kroeber 1925; Levy 1978). Modern estimates based on Mission records suggest a population density of 2.5 individuals per square mile in the San Francisco Peninsula (Milliken

1995). Milliken notes that large villages were located near the Carquinez Straight, San Francisquito Creek, and Point Año Nuevo.

European contact, through Spanish colonization, missionization, and introduction of foreign diseases, brought drastic, cataclysmic changes to California Indians. Spanish missionaries actively discouraged or banned traditional practices, and populations drastically declined because of increases in deaths and a declining birth rate. By the time anthropologists such as Harrington (1985), Kroeber (1925), and Merriam (1967) began studying California Indians many customs, rituals, and rites had been forgotten or lost. Many aspects of Ohlone culture were nevertheless passed down to later generations. Ethnographers have been able to use this information, as well as Spanish diaries, letters, and other documents and archaeological investigations, to develop a broad outline of past Ohlone culture (Bean 1994; Broadbent 1972; Kroeber 1925; Levy 1978; Milliken 1995).

The Ohlone lived in approximately 50 politically autonomous villages called tribelets (Kroeber 1925). Tribelet chiefs could be male or female, but the office was generally inherited through the male line usually passing from father to son (Levy 1978). Tribelets usually included one large, centralized, permanent village and one or more, smaller satellite villages that were occupied for several months of the year depending on what resources were available during the season. Families came together during winter months both to share food and to participate in annual ceremonies. Warfare was common, with many Spanish accounts noting tribelets battling over land rights or points of honor (Broadbent 1972; Margolin 1978; Milliken 1995).

Men and boys usually did not wear any clothing, though they covered themselves in mud on cold mornings. Ornaments included *Olivella* bead necklaces, abalone pendants, and pierced ears and nasal septums with ornaments. Men allowed their facial hair to grow out and, if it was long, would braid their hair or tie it on the top of their heads. Women braided plant fibers for a front apron and used sea otter or deer skin for a rear apron. Many women had chin tattoos, usually consisting of lines and rows of dots. Men and women wore robes woven from animal skins when it was cold. Men often applied dyes and other decorations to their bodies during rituals or warfare (Levy 1978; Milliken 1995).

Ohlone followed a seasonal round of resource availability, hunting and gathering whatever food resources were available depending on the season. Family groups were generally spread out across their territory, but came together whenever a large number of people were required to harvest large amounts of food resources, which were usually stored for winter and early spring when the tribelet would gather (Levy 1978).

The most important food source for the Ohlone consisted of acorns (Beechy 1968; Bickel 1981; Broadbent 1972; King 1974; Milliken 1995). The favorite acorns of the Ohlone came from tanbark oak, valley oak, coast live oak, and California black oak. Preparing acorns so they could be eaten was a long process. The acorns were collected during the fall season and then ground into flour using pestles and either bedrock mortars or portable mortars. The flour was then leached in streams to remove tannic acids. The acorn meal was made into cakes or mush and eaten during the winter. Other important foods included buckeye nuts and dock, gray pine, and tarweed seeds. Gooseberries, blackberries, madrone, and wild grapes were among the berries harvested. Roots that were eaten included wild onion, cattail, and wild carrot. Kelp, which was sundried and roasted, was eaten by groups living on the coast (Broadbent 1972).

Shellfish were also immensely important in the Ohlone diet, as evidenced by large shell mounds and Spanish accounts of Ohlone collecting and processing shellfish. Various shellfish species that were collected and eaten by

the Ohlone included mussels, abalone, clam, oyster and scallop species. Many of these species were gathered year-round with prying sticks or by hand, but were likely mostly collected during winter. Clams would have been dug from tidal flats while a variety of fish such as salmon, sturgeon, steelhead, and others would have been taken with nets or spears (Broadbent 1972; Levy 1978). Marine mammals such as sea lions, seals, and sea otters were clubbed on beaches and meat from beached whales was also taken and roasted (Baumhoff 1963).

Land animals that were hunted included deer, pronghorn, and tule elk (Baumhoff 1963). Controlled burns were used in grassland and woodland settings to help in hunting activities. Controlled burns also helped clear dense vegetation and increased the productivity of grasses which attracted game animals. Other animals that were hunted included rabbits, which were taken using nets in large communal drives, squirrels, woodrat, mice, and moles (Levy 1978).

CONTACT PERIOD

When contact was first made with Spanish explorers, the Rumsien, the local Ohlone group, occupied Point Lobos and the lower Carmel River Valley. A study of Spanish mission registers shows that there were between 400 and 500 Rumsien with a population density of between two and two and a half people per square mile. Accounts by Spanish explorers indicate that the Rumsien lived inland and only came to the coast for fish and shellfish, with a heavy reliance on deer and acorns (Mikkelsen and Jones 2010).

Milliken, using census information from the Mission San Carlos baptismal register for 1770, estimates that the Rumsien were distributed between five villages much of the year. Baptized village populations ranged from 40 to 150 individuals. The villages included *Tucutnut,* likely located 4 miles inland along the Carmel River; *Socorronda*, located approximately 7 miles up the Carmel River; *Echilat*, located 5 miles southwest of the Carmel River Valley; *Achasta*, located either at the San Carlos Mission or at Monterey; and *Ichxenta*, generally associated with the San Jose Creek/Point Lobos area. There were at least four other campsites and likely numerous more that were never recorded (Mikkelsen and Jones 2010).

The local Rumsien were bordered by three other Rumsien-speaking peoples and an Esselen-speaking group. Their populations were likely divided among multiple villages. Despite borders usually being defended, there were at least certain occasions or times of the year when neighboring tribes were allowed to enter their neighbor's territory and collect resources. Traditional food sources declined greatly, however, because of the introduction of Spanish cattle herds, and alteration of the landscape to make it more accommodating for grazing and agriculture. Although introduced diseases were the major cause for Rumsien population decline, the impact upon local food resources was also factor (Mikkelsen and Jones 2010).

3.3.3 ARCHAEOLOGICAL INVESTIGATIONS

EARLY INVESTIGATIONS

Point Lobos SNR was initially surveyed by Waldo Wedel in 1935 under the sponsorship of the Save-the-Redwoods League. The purpose of the survey was to formally document resources, develop a regional context, and plan for their protection. Wedel described two kinds of sites, shell deposits and bedrock mortars. He noted that artifacts were sparsely distributed on the surface, and did not note any evidence of structures, burials, or petroglyphs. He summarized the majority of the sites at Point Lobos SNR as extensive, but shallow deposits

containing primarily abalone and mussel. Wedel thought the sites represented debris from short, frequent task-specific visits to exploit shellfish, or possibly they were the remains of infrequently used camp sites. Wedel identified one site that he thought was a "true" shell mound located in a sheltered area near a freshwater source, and displaying a diverse artifact assemblage. Wedel described this site as a seasonal village occupied during spring and summer. Wedel observed that the lack of freshwater at Point Lobos SNR and the seasonal fog and winter storms made interior locations more suitable for long-term habitation. He also noted that Chinese fisherman in the area used flat locations to dry large amounts of abalone during the late 19th century, making it sometimes difficult to distinguish prehistoric deposits from historic-era deposits, though the historic-era abalone deposits tended to be thin (Wedel 1935).

Since Wedel conducted his survey in 1935 there have been other surveys, probably most notably Pilling and Meighan in 1949 and 1950, (as noted in Kelly et al. 1976a), and a limited number of excavations. Additional research in the region has developed avenues of inquiry and data generation not possible in Wedel's time. Some sites that Wedel documented have not been relocated, often because of limited surface visibility related to thick vegetation.

RECENT INVESTIGATIONS

There are currently a total of 35 documented archaeological sites dating from, or containing components dating from, the prehistoric period within the Point Lobos SNR. Five of these sites have historic period components. Two additional sites contain only historic period deposits. A few of these sites have not been relocated since their initial recordation, and only about 20% have been evaluated for eligibility for listing in the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP). Cultural resources are considered significant if they are listed or eligible to be listed in either the CRHR or NRHP. To be listed or considered eligible for listing resources must meet criteria presented in the California Environmental Quality Act and Section 106 of the National Historic Preservation Act of 1966, as amended. Although most of the sites appear to have retained integrity, some sites adjacent to the immediate coastline have suffered from erosion. Likewise, trails and associated pedestrian traffic has contributed to erosion of several resources. (Schwaderer pers. comm., 2012). A summary of the archaeological sites in the Reserve is provided below. This summary is based partly on surface evidence and partly on subsurface testing of a small percentage of the sites.

The bulk of the sites at Point Lobos SNR are shell middens. "Midden," indicative of past human activity, is a dark, highly organic soil containing the decomposed remains of plants, shellfish, animal bones, and other food refuse along with charcoal, ash, and broken, fire-blackened rock from campfires. "Shell middens" are areas of midden where shell is a major component. Most of these shell middens are what is known as "Late Period Shellfish Processing Sites." These are sites dating to the last 700 years or so where shellfish—predominantly abalone or mussel—were gathered from the rocks below the coastal bluff and shelled, dried or cooked on the bluff. Occasionally, fish, sea mammals or birds were also taken. Little other than shell, dark midden soil, and a small amount of burnt bone and stone tool chipping debris are found at these sites. Still, the sites provide valuable information on diet, gathering and processing techniques, season of use, and cultural changes through time.

At least two sites date to the Middle/Late Transition, and are similar to the Late Period sites but contain more abundant evidence of fish, birds, and mammals being taken. One site dating to the Middle Period indicates at least short-term habitation and a wider variety of activities (milling, stone tool-making, and hunting).

One site contains a bedrock mortar feature (also known as a "grinding rock"), and others have been reported but not relocated. Two sites contain "cupule rocks," boulders with small regular depressions across the surface, like tiny mortars. These features are thought to have had ceremonial uses rather than being used for food-processing.

Several of these pre-contact shell midden sites are overlain with historic period deposits or features representing late 19th to early 20th century use of the sites by Chinese fishermen, Japanese abalone divers, and Portuguese shore whalers, as well as use of the area as a granite quarry and shipping point for granite, coal, sand, and gravel. Historic refuse at other sites is likely associated with early 20th century use of the Reserve by picnickers, artists, and the movie industry. One site consists of domestic refuse likely associated with U.S. Army and Air Force activities in the area during the 1940s.

3.3.4 HISTORIC BACKGROUND

SPANISH SETTLEMENT

Sebastián Vizcaíno, a successful merchant trader, was appointed by the Viceroy of New Spain, Monterey, to head the exploratory party to map the coast of California. Vizcaíno sailed into Monterey Bay in 1602 and thought it was an ideal harbor where Spanish ships could rest, make repairs, and take on supplies. Vizcaíno gave an exaggerated description of the bay and its harbor when he recommended that Monterey Bay be the site of a Spanish colony (Beck and Haase 1974:14). The Viceroy Monterey was succeeded by Marqués de Montesclaros who distrusted Vizcaíno and did not believe Vizcaíno's report of a splendid harbor and thus never allowed for a colony's establishment (Bean 1973:23). One hundred and sixty-seven years later, the Don Gaspar de Portolá-Father Crespi expedition arrived in the Monterey Bay area with plans to establish a permanent settlement in Upper California. The expedition left San Diego on July 14, 1769, to find Monterey Bay. After a difficult passage over the Santa Lucias Mountains they followed the Salinas River and reached the ocean on September 30, 1769. The expedition mistook the Salinas River as the Carmelo River described by Vizcaíno. Therefore, the landmarks, the peninsula and Point Pinos, described by Vizcaíno were not in the correct location and the bay did not resemble Vizcaíno's description. The expedition also anticipated that their ship, *San José*, would be waiting for them. Each of these factors convinced the expedition that they were not at Monterey Bay (Beck and Haase 1974:17; Bean 1973:38).

The expedition was short on supplies and the decision was made to return to San Diego. Before leaving, they erected a cross on a knoll near the lagoon near the Carmel River SB. Buried beneath the cross was a letter inside a bottle with instructions for the San José to look for them along the coast and the explanation that they had decided to return to San Diego because a lack of supplies made it too difficult to continue. A second cross was erected at the northeast side of the Point Pinos where the harbor was supposed to have been located. The expedition reached San Diego on January 24, 1770 (Brown 2001:633; Bean 1973:39).

Portolá, still seeking the location of Monterey Bay, set out on a land expedition to the bay on April 17, 1770. The ship *San Antonio* carried Father Junipero Serra, Lieutenant Pedro Fages and Miguel Costansó, a cartographer and engineer, towards Monterey Bay. Portolá followed practically the same route as the previous year. On May 24th, the party reached Monterey Bay and discovered the cross that was placed in 1769 at Point Pinos. The cross was surrounded by feather-topped arrows, sticks and other artifacts, which were placed there by the Native Americans. The expedition camped in the same location as they had previously. As the fog burned off they had a clear view of the region and realized that the bay, which they had previously mistaken for a lake was actually Monterey Bay

(Engelhardt 1912:72–73; Brown 2001:733). After Portola left the area, Serra established a permanent presence in the area with the construction of Presidio of Monterey and Mission San Carlos de Borromeo in Monterey. Later in 1771, Father Serra moved the Mission San Carlos de Borromeo in Monterey to Carmel Bay, north of the mouth of the Carmel River (Hoover and Kyle 1990:214–215; Stammerjohan 1980:1). Herds of cattle and flocks of sheep were raised at the Mission and with the establishment of nearby ranchos an early industry developed. Meanwhile, a marine resource centered industry was also established centering on hunting otter and seal. Eventually, the point south of the Carmel River was named *Punta de los Lobos Marinos* or Point of the Sea Wolves after the numerous sea lions living in that area (Stammerjohan 1980:1).

RANCHO PERIOD

After the secularization of California's missions in 1834, Teodoro Gonzales applied for a land grant for 8,876 acres of land that stretched from the Carmel River to Big Sur. Gonzales was likely interested in the land because he owned a commercial otter hunting license (Lydon 2006:3). Although the grant was issued, Gonzales did not keep it and settled elsewhere under a different land grant. In 1839, Marcelino Escobar was re-granted the land and named it Rancho San Jose y Sur Chiquito. Escobar bequeathed the rancho to his two oldest sons in 1840. They in turn sold it to Josefa de Abrego in 1841. By 1844, the rancho was owned by Captain Jose Castro (Stammerjohan 1980:2–3).

After California became a state in 1850, the California Lands Commission was established to determine the validity of land claims granted during Mexican rule. Castro petitioned for a land patent, but before one was issued he sold the rancho to Joseph S. Emery and Abner Bassett (Stammerjohan 1980:3). The process for determining the legal status of ranchos was long. Castro pursued his claim to Rancho San Jose y Sur Chiquito with the California Lands Commission to have the title verified and transferred to Emery and Bassett. The claim was denied and Emery and Bassett were left to pursue the claim (Stammerjohan 1980:3; Lydon 2006:4).

EARLY AMERICAN PERIOD

As Emery and Bassett continued the legal process to have their rancho title confirmed others started to settle on their land. None of these groups paid rent to Emery and Bassett because doing so would be an admission that the two were the legal owners. These squatters were hoping that Emery and Bassett's claim would be rejected and the land opened for homesteading. For the next several decades more claimants came forward as the rightful owners of Rancho San Jose y Sur Chiquito. Finally in 1888, the land patent was settled and the title listed a series of owners (Stammerjohan 1980:4; Lydon 2006:4).

During these years of uncertain land ownership, a group of Chinese citizens settled at the cove at Point Lobos and a larger village was established at Point Alones. At Point Lobos, the Chinese fisherman constructed small shacks at what is today known as the Whalers Cabin (Photo Exhibit 3-10). These first Chinese immigrants came by boat and were from Southeastern China where they lived and worked as fishermen.

Soon after their arrival they began harvesting abalone. The main industry was harvesting and drying to send back to China. By the 1860s, they expanded to other activities including line fishing from boats, kelp harvesting, and collecting squid and sea urchins. The Chinese villages were comprised of fishermen and their families and were hubs of commercial and social interaction. Point Alones was the most important of the villages in the region and it included temples, stores, restaurants, and gambling halls (Lydon 1985:29, 32, 35, 48).

Source: AECOM 2012

Photo Exhibit 3-10 **Whalers Cabin Museum**

19TH CENTURY COMMERCIAL DEVELOPMENT

Quarrying and Mining

Shortly after Emery and Bassett purchased their rancho land they established a granite quarry, located west of Whalers Cove at Point Lobos. Both men were stonemasons from New England and they won a contract to supply granite for the construction of Fort Point in San Francisco. Granite from their operation was also used in the construction of the U.S. Mint in San Francisco, and the jail adjacent to Colton Hall in Monterey, the Point Sur Lighthouse and the Navy shipyards at Mare Island in San Francisco Bay (Lydon 2006:4; Stammerjohan 1980:3). The quarry employed approximately 35 people in 1854 and by 1858 there were approximately 60 employees. The quarry operated until at least the early1860s and was one of several business enterprises of Emery and Bassett (Stammerjohan 1980:3; Motz 1987:5).

The San Carlos Gold Mining Company was established in 1863 after rumors of abundant gold at Point Lobos. Despite searching and prospecting, no gold was ever found and the company closed in 1866 (Stammerjohan 1980:5). Coal, however, was discovered in the hills to the west of Point Lobos (Stammerjohan 1980:5). In 1878, William Strader leased land from Emery and the other owners of the rancho and established a coalmine in Malpaso Canyon, south of Point Lobos, but Strader's company went bankrupt the next year. After Emery received title to the rancho, he and his partners established the Carmelo Land and Coal Company (CLCC) (Lydon 2006:6–7). In 1890, the CLCC made many improvements to its mining operation including constructing a hoisting station, a railroad or horse car track, and a coal chute built at Whalers Cove (Stammerjohan 1980:5). The coal mining

venture operated successfully until 1896 when competition from coal in the east and the generally poor quality of the Point Lobos coal drove the company out of business (Stammerjohan 1980:6).

Whaling and Abalone Fishing

Portuguese whalers from the Azores islands established a shore whaling station in 1862 on the edge of present-day Whalers Cove. A community of approximately 60 people soon developed that relied solely on the local whaling industry. For several years, whales were caught, towed to shore, and rendered for oil. The whaling industry in the region declined in the 1890s with the introduction of kerosene lamps, but at Point Lobos it may have ended as early as 1880. The 1880 census records indicate that the most prominent whalers were working in other industries and the whaling station seems to have been deserted by 1884. Portuguese families like the Victorines, Vierras, Nunes, Silavas and Machados operated small farms and dairies in the region because shore whaling was a seasonal occupation (Motz 1987:6; Stammerjohan 1980:4; Starks 1922:22).

Although the whaling industry was declining in the 1890s, the abalone industry remained robust. In 1895, a Japanese fisherman in Monterey alerted the Agricultural Ministry of Japan to the vast amounts of red abalone along Monterey's coast. The Japanese government enlisted Keio University's recent graduate, Gennosuke Kodani, a young Japanese marine biologist to investigate the fisherman's claim. Kodani arrived in Monterey and identified Whalers Cove as a prime location for his abalone operation because it offered good harvesting opportunities and was close to steamship transportation to move his product. He first rented land from the CLCC in 1897 (Hirahara 2003:104–105).

In 1898, Kodani became partners with local landowner Alexander Allan, who had purchased 640 acres at Point Lobos from the CLCC. Together they built the Point Lobos Canning Company which constructed its cannery at Point Lobos in 1903 (Motz 1987:16; Stammerjohan 1980:8). Allan supplied the capitol for their enterprise and Kodani supplied the manpower. He recruited professional Japanese abalone divers to come to Whalers Cove and work for his company. The water in Monterey was much colder than in Japan and the divers could not wear their usual diving attire of lightweight shorts and shirts. Kodani, asked his father in Japan to send him deep-sea diving equipment. Kodani and his team of divers introduced hard-hat diving, which allowed divers to retrieve deep-water red abalone (Motz 1987:16; Hirahara 2003:105). In 1903, Kodani identified another rich source for abalone in Cayucos, south of Monterey. They established a harvesting and drying operation in Cayucos and by 1903 the company was canning at that facility. Within a year, the firm produced 60 cases of canned abalone for local use; 200 for the Japanese, and 400 for the Chinese markets (Hirahara 2003:106). In time, the Point Lobos Canning Company canned three-quarters of the abalone sold in California.

Kodani and his family lived at Point Lobos for 30 years. He resided in the Whalers Cabin before constructing his own residence. The professional divers also built residences and created a small village with gardens, abalone drying racks, bunkhouses, cookhouses and laundry lines. This small village was located across the cove from the canning facilities. None of the buildings, except of the Whalers Cabin, remain in their original location and were either moved or dismantled in the 1930s (Hudson and Wood 2004:48-49).

Government regulations banned the exportation of abalone in 1913, and in 1915 drying abalone was also prohibited. However, there were no regulations against processing abalone as abalone steak. The abalone steak was introduced by Pop Ernst Doelter who would purchase fresh abalone from Kodani and Allan and sell the steaks to restaurants in San Francisco before opening his own restaurant in Monterey (Hirahara 2003:106; Motz

1987:18). By 1928, J. G. Burnett was listed as the co-owner with Allan and the canning industry operated under the name Allan-Burnett and then Burnett. Kodani and Allan both died in 1930 and the cannery closed in 1933 (Motz 1987:16; Stammerjohan 1980:8). The end of the cannery coincided with state laws establishing restrictions on abalone fishing (Rogers-Bennett 2002:100).

19TH CENTURY SETTLEMENT AND DEVELOPMENT

The idea to subdivide Point Lobos and the surrounding land was first developed by William Strader in 1878 and was put into fruition in 1890 by the CLCC. The CLCC planned a subdivision with more than 1,000 lots surrounding Whalers Cove. The subdivision, known as Carmelito, was envisioned as a resort community (Exhibit 3-11). Land was subdivided and sold. Sales of lots slowed, however, in 1891 by a financial recession and competition of a neighboring subdivision, Carmel-by-the-Sea. Facing mounting debt, the CLCC decided to sell the remaining 700 acres it still owned. Six hundred of those acres were purchased by businessman and engineer, Alexander MacMillan Allan (Lydon 2006:7–8; Stammerjohan 1980:6).

Allan received a degree in engineering from the University of Illinois and opened a business as a contractor. He became well known for, among other things, building racetracks. Allan and his wife, Satie, moved to San Francisco in 1894 at the request of Adolph Spreckels who asked him to build California's first racetrack. Allan arrived in Point Lobos in 1898. After acquiring the 600 acres from the CLCC, Allan purchased lots that were previously sold to private individuals. He also owned a parcel on the east side of what is now Highway 1 and it contained a ranch house where he and his family resided (Bloner 2007 1–4). Shortly after acquiring his property, Allan established the Point Lobos Ranch and Dairy and the operations of the dairy were managed largely by his daughter, Eunice. Eunice and her husband Thomas Riley continued to modernize the dairy to adhere to changes in laws. Like most dairies in the area the Point Lobos Dairy originally concentrated on making cheese, but in 1924, the focus changed to milk production. By the early 1950s, small, family dairies were unprofitable and the Point Lobos Dairy closed (Lydon 2006:18; Hudson and Wood 2004:30).

Allan recognized the natural beauty of Point Lobos and limited any further large development. Over the years, Allan and his descendents repurchased all of the lots that had been sold by the CLCC; the last lot was acquired in 1950 (Bloner 2007 1–4). Allan recognized the scenic value of Point Lobos and that it attracted many visitors to his property. To maintain control on his property and to capitalize on the scenic beauty of Point Lobos, Allan erected a gate in 1899 and charged a 50 cent fee to enter Point Lobos. Throughout Allan's ownership of Point Lobos he allowed and welcomed visitors and groups to picnic and enjoy his property (Hudson and Wood 2004:85–94). Allan died in February 1930 at Point Lobos and his property passed to his second wife, Florence. Allan's family continued to live at Point Lobos and another of his daughters, Margaret and her husband Adam L. J. Hudson built their home on the property currently known as the Hudson House, in 1949 (Hudson and Wood 2004:68).

POINT LOBOS SNR ACQUISITION AND DEVELOPMENT

Allan and others were interested in preserving the natural beauty of Point Lobos. Save-the-Redwoods League (League) was created in 1917 and focused on the preservation of California's redwood forests. By the early 1920s, the League recommended that the preservation movement be expanded to include redwood forests across the state and land that could be used for future parks. The League envisioned a system of state parks and a statewide commission to coordinate all matters related to state parks (Engbeck 1980:45). This was the start of a

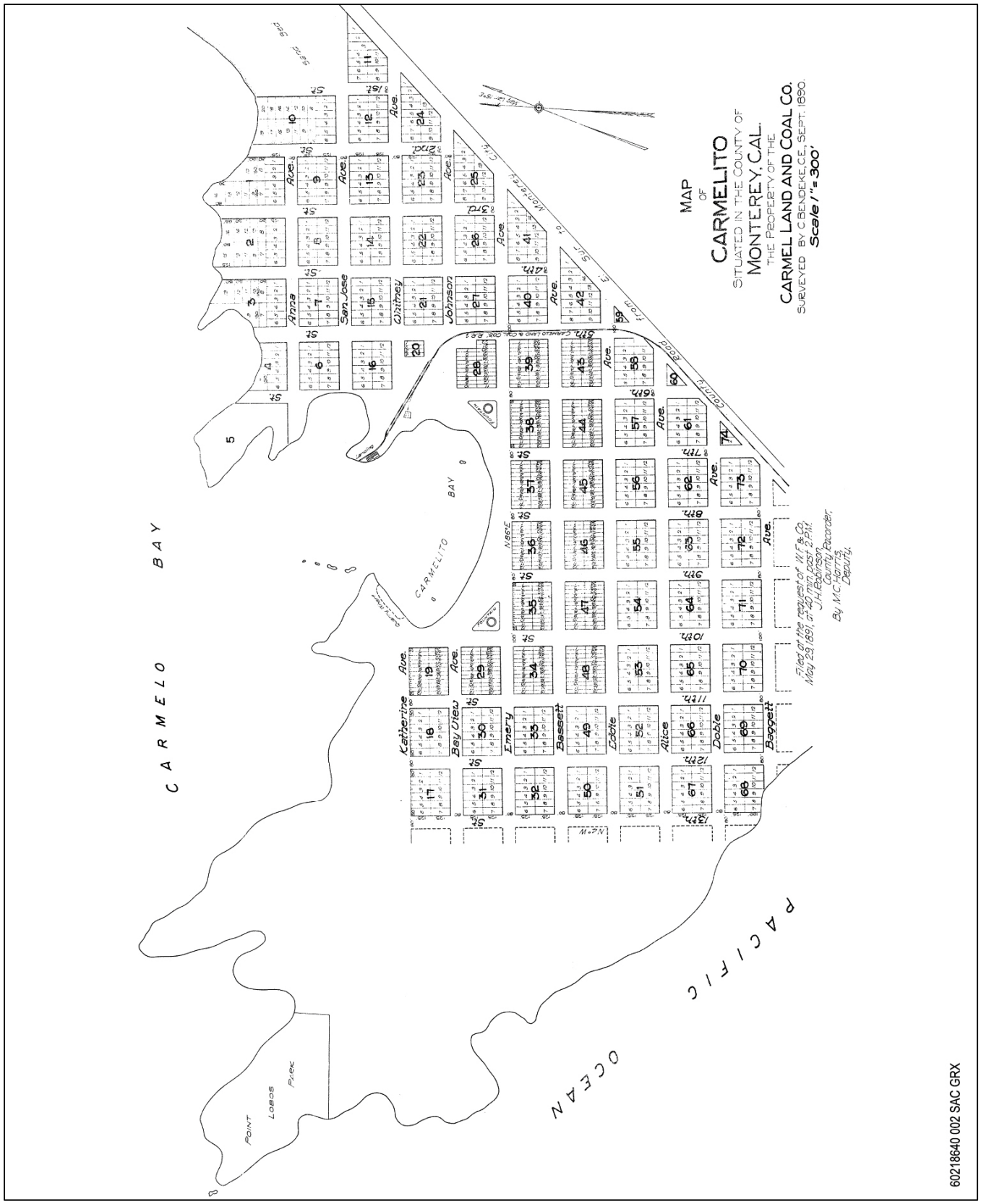

Exhibit 3-11 **Map of Proposed Carmelito Subdivision**

movement to create a state park system. In 1928, California voters approved a bond measure to create the California Division of Beaches and Parks. The California State Parks Commission hired landscape architect Frederick Law Olmsted, Jr. to conduct a survey and provide recommendations on which lands would be best for acquisition and development as a state park. Point Lobos was one area Olmsted promoted because he considered it to be one of the most significant scenic and scientific areas that should be acquired by the state (Roland 2003:7; Engbeck 1980:62).

In 1932, the League raised the necessary matching funds to allow California to acquire Point Lobos. A map of the proposed State Park, as envisioned in 1932, is shown in Exhibit 3-12. The following year Florence Allan deeded the property to the state (DPR 1969:1). Not long afterwards, a 14-acre cypress grove, located on southeast of the Pinnacle, was gifted by the Allan family as a memorial to Alexander and Satie Allan. In 1934, the League re-hired Olmsted to prepare a master plan for Point Lobos, which took 2 years to complete (Engbeck 2002:87). The primary objective of the master plan was to maintain and preserve the natural conditions of Point Lobos for the enjoyment, education, and inspiration of others. The plan made specific recommendations that included: protection from fire, minimal amount of automobiles, and the reduction of roads, simple and unobtrusive trails, the preservation of the Whalers Cabin, no new construction of residences, and no planting to be done except as prescribed in Olmsted's plan (Save-the-Redwoods League 1936:1–5). The Master Plan was adopted in 1936 and served as the guiding principles for the Reserve. The plan was implemented soon after it was adopted. Trails, roads and parking lots, entrance gate and ranger quarters were constructed. Implementation of the Master Plan created a cultural landscape at Point Lobos SNR.

Civilian Conservation Corps

The Civilian Conservation Corps (CCC) was created in March 1933 as part of the Emergency Conservation Work Act, an act designed to provide unemployment relief during a period of the Great Depression when 30 million people were jobless (Engbeck 2002: 3–4). Young men between the ages of 18 and 25 were recruited and placed in camps in national forests to plant trees, build fire roads, and fire lookout stations. It was quickly realized that the national parks could benefit from similar projects and administration of CCC projects was given to the National Park Service (NPS). In May 1933, NPS created a thorough state park planning program that used NPS architects and landscape architects to design state parks. The CCC workers were the labor force used to implement the designs of the professionals. By March 1934, California had 37 CCC camps and 19 were working in California State Parks (Engbeck 2002:6–8).

During the early 1930s, the development of California's state parks was completely dependent on the CCC because the 1928 State Park Bond Act only afforded funds for the acquisition of park land. Therefore, the NPS took the leadership role in state park design and planning using principles and practices it had cultivated between 1918 and 1933. Many of these practices evolved from mid-19th century gardening design principals, and the emphasis on naturalistic gardening, wilderness, and rustic architecture, the standard architectural style for national parks (Engbeck 2006:15; McClelland 1993). In 1934, NPS produced an illustrated handbook that emphasized basic design principles that allowed buildings and structures to blend into the natural setting of the parks. The handbook covered museum buildings, park entrances, amphitheaters, campgrounds, picnic sites, culverts, footbridges, roads, and buildings (McClelland 1993; Engbeck 2002:11). California State Parks adopted this approach and the Park Rustic architectural style became the dominant architectural style in California State Parks. Park Rustic style derived from a variety of styles, but its emphasis was to ensure that the buildings blended into the park's landscape to create a harmony between what was human-made and natural (Engbeck 2002:12).

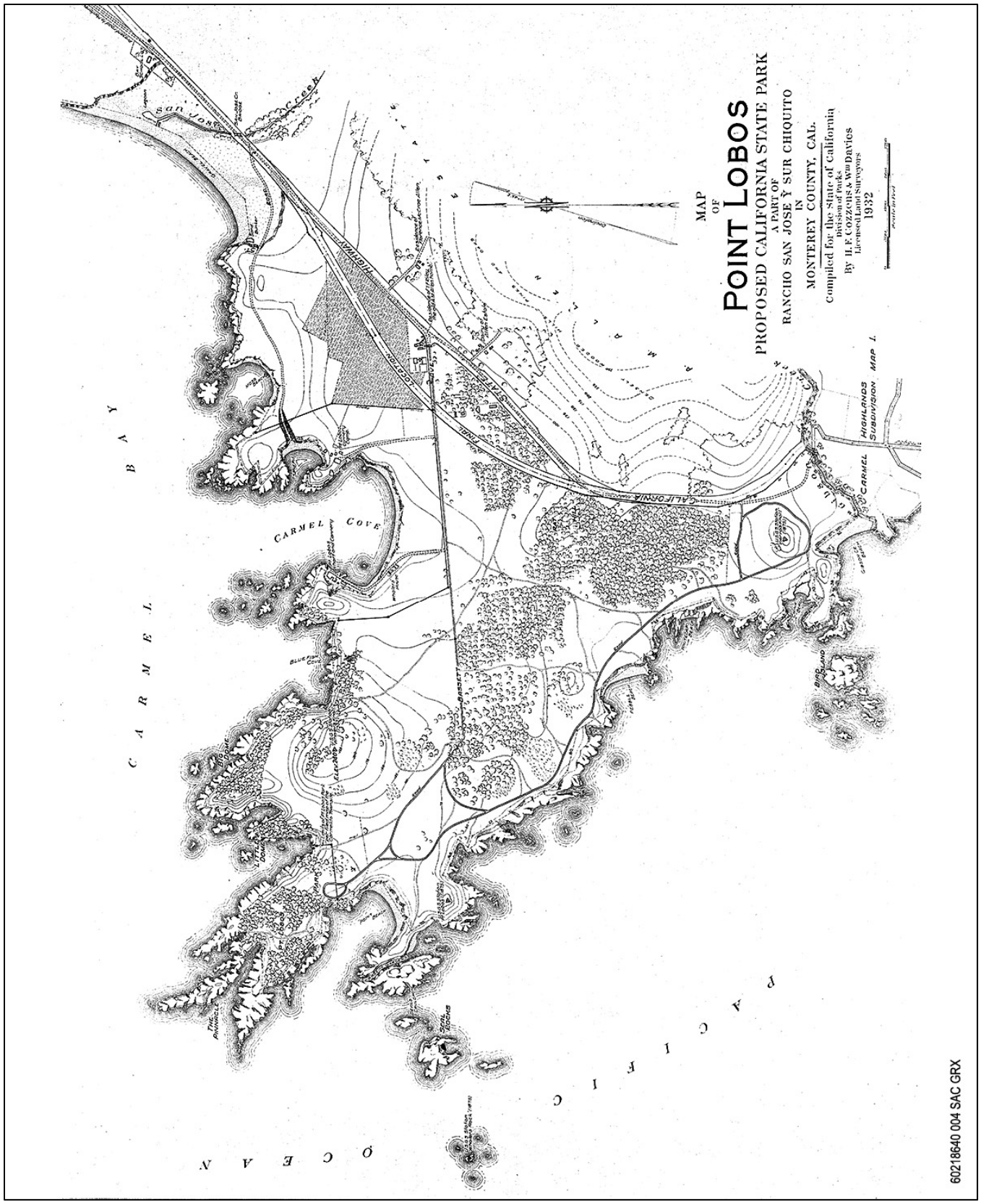

Exhibit 3-12 **Map of Proposed Point Lobos State Park 1932**

The Master Plan adopted for Point Lobos SNR limited the CCC projects. As a result, the only CCC-related projects were the re-modeling of residences, located at the entrance of the park; building some new staff housing, an office and maintenance center; a stone walkway at Whalers Cove; and various picnic areas (Engbeck 2002:87–88). CCC workers were based at Pfeiffer Big Sur State Park, located south of Point Lobos. Unlike at other California State Parks where landscape architect Daniel R. Hull approved the majority of CCC projects, CCC projects at Point Lobos SNR were approved by Fredric Law Olmsted, Jr. (Roland 1991:25; Engbeck 2002:87).

The CCC operated for 9 years and in California State Parks CCC workers completed projects in 48 parks (Engbeck 2002:143).

Film Industry

Motion picture filming at Point Lobos began in 1914, with the movie *Valley of the Moon*. Point Lobos has served as the location for scenes in nearly 50 movies, half of which were filmed before Point Lobos SNR became part of the state park system. In the early 1920s, some of the movie sets incorporated existing buildings into the set (Hudson and Wood 2004:103). For a scene in the 1929 production of *Evangeline* a set designed as a village was burned to the ground. Nearby trees were burned and large sections of grasslands were destroyed (Hudson and Wood 2004:106). It took decades for these damaged sections of the park to recover. This prompted the State Park Commission in 1944 to pass a resolution mandating that public hearings be held before a film permit was granted. The damage caused by the film industry also spurred the creation of the Point Lobos League, an organization created to protect Point Lobos during film production (PLF 2012c).

World War II

Because of the threat of war, the U.S. military undertook efforts to patrol California's coastline as early as 1941. U.S. Army reserves were housed at Point Lobos and in 1942 the Army Signal Corps installed radar on Whalers Knoll. The radar installation was eventually relocated further down the coast. Military personnel also occupied the Whalers Cabin, and approximately 100 soldiers were housed in tents at Point Lobos. By 1943 the Whalers Cabin was used by eight sergeants of the 543rd Regiment, 3rd Amphibious Brigade. The military also utilized Whalers Cove and conducted Landing Craft, Personnel, Ramp training to prepare personnel for amphibious landings. Military operations at the Whalers Cabin and Point Lobos SNR ended after the war and the cabin was returned to the Reserve to be used for rangers' quarters (Motz 1987:19; PLF 2010:6; Hudson and Wood 2004:108).

Post World War II

After World War II there was tremendous support for expanding and developing a large state park system in California. The legislature passed bills to allocate General Fund monies to preserve the existing parks, and to expand and acquire more land to create new state parks. In 1944, California State Parks developed a series of standard plans to be used in designing all new park facilities, including residences, service areas and recreational structures. In 1945, California State Parks hired Colonel Edward Kelton, a former U.S. Army Corps engineer, to implement the first post-CCC construction program (Roland 1993 9–10). By 1948, it was realized that the program needed to be expanded to include residences for the increasing field employees. In response, the State Park Residence Program built 54 employee residences and garages. At Point Lobos SNR, two residences and garages were constructed as part of this program (Bischoff 2007a:3). The buildings constructed during this early post-World War II period followed a standard set of plans and were a variation of the 1930s adopted Park Rustic

style (Roland 2003:17). Unlike other state parks, little further construction was done at Point Lobos SNR because the Master Plan was strictly adhered to even during a time when the state park system was rapidly expanding (Bischoff 2007a:3). In 1960, 775 underwater acres was added to Point Lobos SNR. This created the first marine reserve in the United States. In 1973, the Reserve was dedicated as an Ecological Underwater Reserve (Hudson and Wood 2004:122).

3.3.5 ARCHITECTURAL RESOURCES

There are 10 architectural resources located in Point Lobos SNR. Four, the Whalers Cabin, Shop Building, Custodian's Lodge, and the Hudson House are considered historical resources for the purposes of CEQA. Information on each resource is discussed below:

1) **Whalers Cabin (CA-MNT-1346H/ NPS #07000406).** The Whalers Cabin is the last standing building of the Chinese fishing village dating to circa 1851 and is located at Whalers Cove. The cabin is a one-story, wood frame building with board-and-batten wood siding. It was listed as a site in the National Register of Historic Places (NRHP) in 2007. Listing in the NRHP automatically places the Whalers Cabin on the California Register of Historical Resources (CRHR). The resource was listed in the areas of archaeology and exploration/settlement, under Criterion D, with a period of significance of 1850 and 1933. The cabin and its immediate surroundings are rich in ethnic associations, including early Chinese and Portuguese history in the Monterey Bay region (Loesch and Runyon 2007:8-1). It is currently used as a museum.

2) **Shop Building**. The Shop Building is located in the center of the headquarters area of Point Lobos SNR near the entrance to the park. The building was designed in the Park Rustic style and was built in 1934 and received an addition in 1946. The Shop Building is a wood frame building, rectangular in plan with board-and-batten siding. In 2007, California State Parks evaluated the Shop Building for the NRHP as part of a CCR 5024 review. The evaluation determined the building appeared eligible for the NRHP under Criterion A for its association with CCC projects and park development in California State Parks. Its period of significance was defined as the years 1933-1942 (Bischoff 2007b:2). The California State Historic Preservation Officer (SHPO) concurred with these findings and the Shop Building was added to the Master List of State Owned Properties (Office of Historic Preservation 2012). It is currently used as an office for employees.

3) **Custodian's Lodge**. The Custodian's Lodge is located north of the Shop Building. It was also constructed in 1934 in the Park Rustic style and is similar in architectural detailing to the Shop Building. The Custodian's Lodge was evaluated in 1991 by California State Parks as appearing individually eligible for the NRHP as a significant representative of CCC construction in a California state park. The Shop Building may also be a contributing resource to the adjacent Custodian's Lodge (Bischoff 2007b:2).

4) **Hudson House**. The Hudson House was designed by builder Hugh Comstock and constructed in ca. 1949 for the Hudson Family. The house is T-shaped and designed in the post adobe Ranch style. In 2001, the Hudson House was evaluated as part of a general reconnaissance-level survey by California State Parks. The resource was evaluated for the NRHP and the evaluation concluded that the house met Criterion A, for its association with the growth and early settlement of the Carmel Bay region, and Criterion C, as a significant example of the "post adobe" construction technique developed by Comstock (Doniger, Osanna

and Smith 2001:2). The building is currently used as a residence for the California State Parks Monterey District Superintendent.

5) **Residences 4 and 5**. Residence 4 was built in 1949 and Residence 5 in 1953. Both were designed from a standard set of plans by the California Division of Beaches and Parks' architect Edwin Kelton. Employee residences were built with minimal features following the traditions of the Park Rustic style developed in the 1930s. (Bischoff 2007a). Residence 5 was evaluated in 2007 by California State Parks. The evaluation found that the building did not appear to meet the criteria for the NRHP. Residence 4 has not yet been evaluated for the NRHP or the CRHR. Each residence has an associated garage constructed during the same time periods as the residences. The garages have also not been evaluated for the NRHP or the CRHR (Bischoff pers. comm., 2012).

6) **Rat Hill Residence.** Located in the Rat Hill area of the Reserve is a single-story residence with a front gable roof featuring exposed rafter tails, stovepipe chimneys and composite shingles. The house is sheathed in wood shake shingles and has replacement vinyl sliding windows. The corner entrance is set with a single-entry, glazed wood door. It is currently used as a residence for California State Parks staff. It has not been evaluated for the NRHP or the CRHR.

7) **Shed.** Northeast of the Rat Hill Residence is a shed building. It is rectangular in plan with a side-gable roof with a shed overhang on the west elevation. This is a wood-frame building with board-and-batten wood siding, aluminum sliding windows, and a single-entry wood panel door. It is currently used for storage. It has not been evaluated for the NRHP or the CRHR.

3.3.6 COLLECTIONS

The Whalers Cabin Museum and Whaling Station Museum, located at Whalers Cove, contain a diverse collection of objects, including objects from indigenous peoples, Chinese fisherman, Japanese abalone fisherman, and Portuguese whalers. Fewer than 100 catalogued California State Park museum objects and approximately 206 loaned objects make up the Reserve's museum collections. Additional detail is provided in the Final Scope of Collections Statement in Appendix E.

The Whalers Cabin Museum contains displays documenting the cultural history of the Reserve including the early settlers, Japanese and Chinese fishermen, military history, and the history of movies that have been filmed within the Reserve. It also includes a view "through the floor" of the museum that documents artifacts from various periods.

The Whaling Station Museum is the only on-site whaling museum on the West Coast and the collections focus on whaling equipment and the lives of whalers and their families (Thomson 1997). It documents the historic whaling activities in the area and contains a collection of whale bones, baleen, harpoons, whale-oil barrels, an oil barrel display, a model of a shore whaling boat, diagrams of whale-oil processing, and photographs of the old Monterey Peninsula whalers (Photo Exhibits 3-11 and 3-12). The Whaling Station Museum, opened in 1994, is housed in a building that was a former garage (PLF 2012).

Source: AECOM 2012

Photo Exhibit 3-11 **Whalers Cabin Floor Exhibit**

Source: AECOM 2012

Photo Exhibit 3-12 **Whalebone Art at Whaling Station Museum**

3.4 AESTHETIC RESOURCES

Scenic resources can provide a unique sense of place to an individual park, and to specific areas within a park unit. Scenery can be defined as the general appearance of a place and the features that contribute to its views or landscapes. Scenery consists of biophysical elements (landforms, water, and vegetation) and cultural or human-made elements (structures, water features, and managed landscapes). In many instances, the resources referred to as "scenery" or "scenic resources" also may be considered cultural landscape features (e.g., viewsheds, landforms, water vegetation, human-made elements). Scenic quality is an important and valuable resource, especially on public lands. Many people value the quality of the scenery and have high expectations of scenic quality when visiting California State Parks.

3.4.1 VISUAL RESOURCES AND VIEWSHEDS

Groups with views of Point Lobos SNR include motorists and bicyclists along Highway 1, residences in Carmel Highlands and Carmel Meadows subdivisions, as well as other developments at higher elevations, and recreational users within the Reserve including hikers, painters, naturalists, divers, school groups, docents, photographers, and California State Parks staff. Point Lobos SNR is known for its outstanding scenic qualities and was acquired primarily to preserve its scenic beauty and the unusual natural landscape. The unique and significant visual resources within the Reserve have been recognized for decades as evidenced by the Olmsted Master Plan

developed for the Reserve that describes the outstanding and unique visual resources within the Reserve in depth. Some of the outstanding visual features acknowledged early on by the Olmsted Master Plan include granitic headlands, coastal and interior cypress forests, the saddle south of Big Dome, pine covered knolls, and north-facing sea bluffs (Olmsted Brothers 1935). The spectacular combination of unique geology, vegetation, and ocean has created a world renowned place to visit and was characterized as the "… the greatest meeting of land and water in the world," by landscape artist Francis McComas. The 1979 General Plan identifies the entire shoreline of the Reserve as having high scenic value and the majority of the interior of the Reserve as having medium scenic value (DPR 1979).

Scenic resources at Point Lobos SNR include the presence of the most outstanding natural grove of Monterey cypress. Once widely distributed, this picturesque tree is found in its natural state only in the Monterey area. Within the Reserve, there are many scenic vistas and overlook sites that are accessible via trails including Whalers Cove, Cypress Grove/Sea Lion Point, and Bird Island. Vistas provide panoramic views of the Pacific Ocean and shoreline, Carmel Bay, white sand beaches and emerald-green waters, wildlife, and the many sea stacks and coves of the Reserve (DPR1979). Exhibit 3-13 shows some of the many scenic viewsheds within and of Point Lobos SNR.

The Reserve also includes a series of 20 hand-carved benches located at strategic viewpoint locations throughout the Reserve. These benches were created by local woodcarver, Leland Petersen, and are adorned with carvings of wildlife. These benches add to the unique scenic character of the Reserve and provide visitor with places to rest and enjoy the vistas (Photo Exhibit 3-13).

The Reserve also has significant underwater viewsheds that are available to divers. There are views of dramatic underwater geology and kelp forests that are abundant with marine life including sea lions, otters, fish, and other marine organisms. Brightly colored marine life such as anemones, corals, and sea stars are so abundant that they completely envelop rocks and stone formations. Underwater geologic features include large pinnacles, reefs, and

Source: AECOM 2012

Photo Exhibit 3-13 **Carved Bench on Whalers Knoll**

granite walls. Bluefish Wall, which is an undersea mountainous mass of granite, is completely carpeted with life (Davis 2010, Thomson 1997). The 1979 General Plan identifies the underwater area from Sea Lion Cove around to Cannery Point as having a high marine scenic value (DPR 1979).

The unique landscape and its special aesthetic qualities and inspiring nature have been an inspiration for artists, photographers, poets and writers for many generations. The Point Lobos Foundation (PLF) website provides a platform for artists to post fine art, photography, poetry, writing, videos and student work to share them with the community (PLF 2012). The unique landscape of the Reserve also changes seasonally. Summer fog is frequent, producing a cool, misty, and quiet quality to the Reserve. The changing seasons and a variety of weather conditions (e.g., fog, wind, rain) contribute to a transformation of vegetation in form, texture, and color, with the most pronounced changes in the spring. Wildflower displays in the spring create a sea of brightly-colored California golden poppy, Douglas iris, lilac, and blue-eyed grass (Bancroft 2011). The predominant sounds at Point Lobos SNR are natural: the ocean waves and surf, wind, birds, and marine mammals such as the northern elephant seals and sea lions. There is also some noise produced by traffic within the Reserve and from Highway 1, and from various visitor activities, including school groups. However, much of the noise from traffic is reduced by intervening vegetation.

Negative views are typically of human-made elements that intrude on the natural environment. Although there are few negative views within the Reserve, they include parking areas and roadways within scenic viewsheds. Adjacent to the Reserve, negative views include vehicles parking along Highway 1.

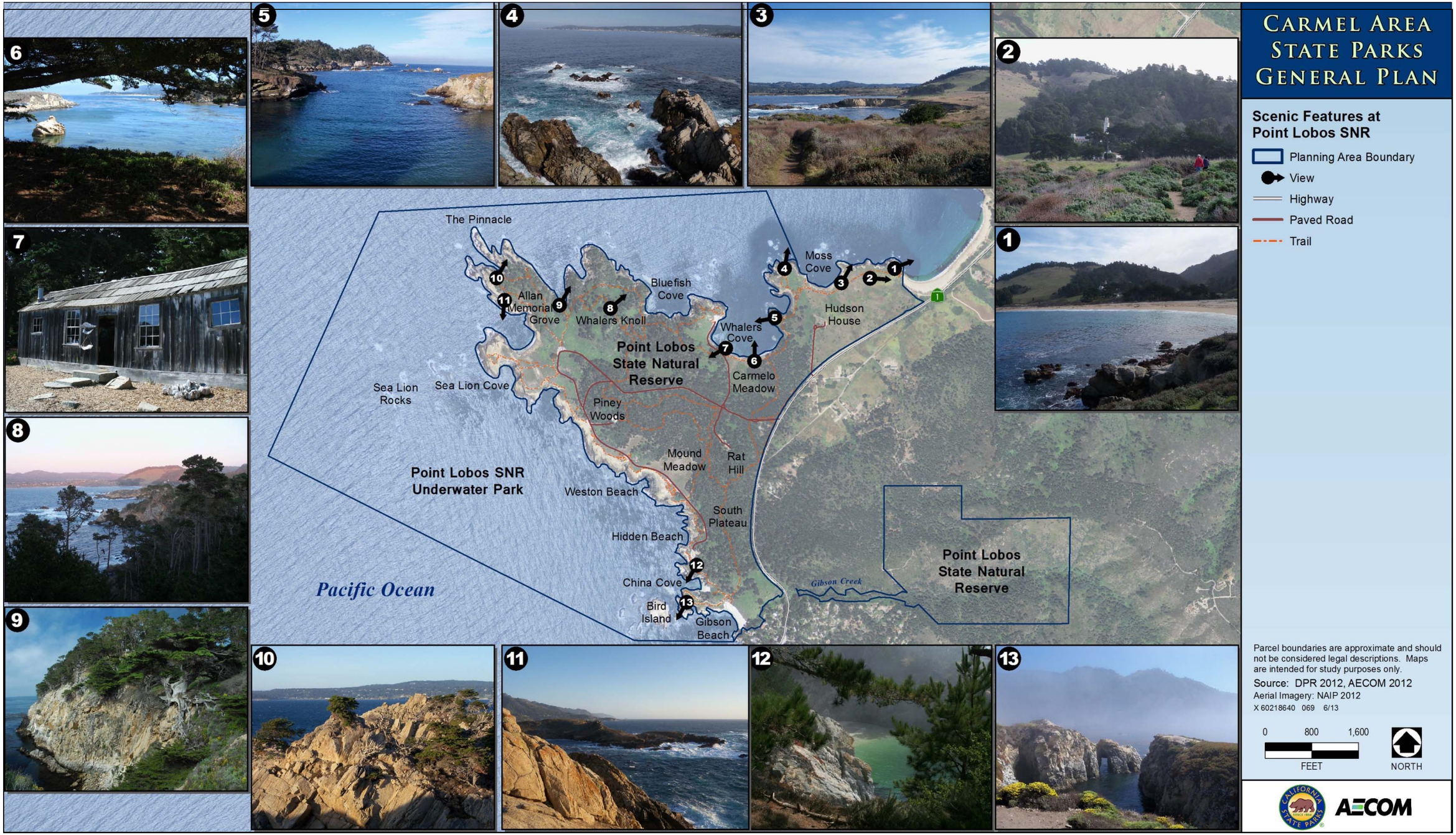

Exhibit 3-13 **Scenic Features within Point Lobos SNR**

3.4.2 DESIGNATED SCENIC AREAS AND ROUTES

Highway 1 is designated as an All-American Road by the National Scenic Byways program and was designated as the first State Scenic Highway in California. The 1996 All-American Road designation was limited to the 72-miles of coast within Monterey County; in 2002, the designation was extended south to the City of San Luis Obispo. To be designated as an All-American Road, a roadway must meet the criteria for at least two of the following intrinsic qualities: scenic, historic, recreational, cultural, archaeological, and/or natural (FHWA 1995). The portion of Highway 1 with the All-American Road designation is recognized as having the following four intrinsic qualities: scenic, natural, recreational and historic. All-American Roads are so distinctive they are themselves considered a destination (Caltrans 2004). Advertisements along designated scenic byways are restricted (FHWA 2005). The goal of the State Scenic Highway program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. Official designation requires a local jurisdiction to enact a scenic corridor protection program that protects and enhances scenic resources. In addition, *Carmel Area Land Use Plan* contains policies that the existing forested corridor along Highway 1 shall be maintained as a scenic resource and any new development along the highway shall be sufficiently set back to minimize visual impact (Caltrans 2004).

The most vivid images along Highway 1 within Point Lobos SNR are of steep rocky cliffs with the ocean crashing at the shore. Natural features of the corridor such as the geology, climate, streams, vegetation, and wildlife all contribute to the viewshed.

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4 RECREATION RESOURCES

4.1 REGIONAL RECREATION

4.1.1 FEDERAL PARKS

BLM lands in the Monterey vicinity provide a variety of recreation opportunities including mountain bike events, hiking, birding, wildlife viewing, and equestrian events. The recently designated Fort Ord National Monument is approximately 14,650 acres, with 7,200 acres currently administered by BLM for recreation, and the another 7,450 that will be administered by BLM once environmental remediation is completed by the U.S. Army. This property has 86 miles of trail for hiking, mountain biking, equestrian use, and wildlife/wildflower photography (BLM 2012). The Juan Bautista de Anza National Historic Trail, which is managed by the National Park Service, is also in Monterey County and transverses the Fort Ord National Monument. This trail follows the historic route of the 1775-1776 Anza expedition throughout Arizona and California. Portions of the 1,200-mile trail are accessible by automobile, and 300 miles of the trail are accessible for hiking, biking, and equestrian use (NPS 2013).

The Los Padres National Forest, which is owned and managed by the U.S. Forest Service (USFS), has 1,257 miles of maintained trails that provide both day-use and extended backpacking opportunities. Los Padres National Forest has 10 congressionally-designated wildernesses comprising approximately 875,000 acres or about 48% of the forest. The Ventana Wilderness portion of the Los Padres National Forest is the closest of those wildernesses and is more than 240,000 acres. The Ventana Wilderness is located approximately 30 miles southeast of the Reserve. Because it is a wilderness area, recreation opportunities are limited to activities that will not alter the natural qualities of the area including camping, backpacking, and hiking (USFS 2012).

4.1.2 CALIFORNIA STATE PARKS

California State Parks properties in the immediate vicinity of Point Lobos SNR include Carmel River SB and the unclassified Hatton Canyon property to the north, the unclassified Point Lobos Ranch property immediately to the east, and Garrapata State Park located along Highway 1 south of Point Lobos SNR. California state parks slightly farther to the north of Point Lobos SNR include Asilomar State Beach and Conference Grounds, Monterey State Historic Park, Monterey State Beach, Fort Ord Dunes State Park, Marina State Beach, and Salinas River State Beach. These areas provide important open space and recreational opportunities and areas for resource protection (Caltrans 2004). There are also a number of state parks in the Big Sur area, approximately 30 miles south of the Carmel Area, including Point Sur State Historic Park, Andrew Molera State Park, Pfeiffer Big Sur State Park, Limekiln State Park, and Julia Pfeiffer Burns State Park.

4.1.3 REGIONAL PARKS

The MPRPD operates a number of regional parks in the vicinity of the Reserve including Garland Ranch Regional Park, Thomas Open Space, Blomquist Open Space Preserve, Cachagua Community Park, and Carmel Valley Community Park. The MPRPD also owns Palo Corona Regional Park, part of Palo Corona Ranch, which is 10,000 acres of open space (MPRPD 2012a).

The Monterey County Parks Department owns several parks in the area including the 525 acre Jacks Peak County Park, Toro Regional Park, and Martin Canyon, which provides a vital corridor to Jacks Peak County Park. The Monterey County Parks Department also owns the Laguna Seca Raceway, which provides camping. Mission Trails Regional Park, owned by the City of Carmel, is also a well-used corridor connecting the Carmel Mission to surrounding neighborhoods (Monterey County Parks 2012).

Regional recreation in the area also includes trail connections such as BSLT's South Bank Trail. The South Bank Trail is a 1.5-mile ADA accessible trail south of Carmel River connecting the area near Quail Lodge in Carmel Valley to Palo Corona Regional Park. This trail is an important milestone in the BSLT's "Experience Carmel River" program, a community-based program to extend access to and enjoyment of the Carmel River. Additional trail connections are proposed as part of this program including trail connections throughout the Whisler-Wilson Ranch (BSLT 2011). BSLT is also evaluating the feasibility of constructing the San Jose Creek Trail project, which would include construction of a 1.75 mile trail, three creek crossings, a 30-car parking area, a picnic facility, and interpretive signage along San Jose Creek.

4.2 PARKWIDE RECREATION

4.2.1 RECREATIONAL ACTIVITIES

Recreation activities within the Reserve are restricted because of its classification as a Natural Reserve. Activities allowed within the Reserve must interfere as little as possible with the natural processes, and restrictions are placed on visitors to limit their impact on the environment. The types of recreational activities in the Reserve have been limited to passive types of recreational facilities to protect the resources. The underwater park portion of the Reserve is an Ecological Reserve and; therefore, there is no fishing and no collecting of plants or marine animals within its underwater boundaries (DPR 1979).

Point Lobos SNR has outstanding passive recreation values such as sightseeing, walking/hiking, photography, painting, whale watching, tidepooling, nature study, bird watching, and picnicking (only in designated areas). Active recreation activities include, jogging and aquatic recreation including snorkeling, kayaking, swimming, and SCUBA diving. Bicycling is also allowed on paved roads and posts for locking up bikes are available at all of the major parking areas (Thomson 1997) (Photo Exhibit 4-1).

Equestrian access is not allowed within the Reserve. All recreation activities taking place within Point Lobos SNR are currently limited to day uses (DPR 1979, 1988). Snorkeling, kayaking, SCUBA diving, and paddle boarding are available by reservation only (PLF 2012b). Fifteen SCUBA diving teams are allowed per day in the Reserve with two people per team. Diving is limited to Whalers and Bluefish Coves. Kayak launching is also limited to Whalers Cove.

Active recreation activities that could have a negative effect on resources and are incompatible with the reserve designation such as frisbee, softball, and fishing are not allowed in the Reserve (Thomson 1997). Geocaching, which is a sport where participants use global positioning system (GPS) receivers to locate caches hidden in various locations by other GPS users, is not currently allowed in the Reserve.

Source: AECOM 2012

Photo Exhibit 4-1 **Bicycle Posts near the Information Station**

4.2.2 RECREATION FACILITIES AND TRAILS

Visitors stop at the entrance station to get information, pay the day-use fee, and then proceed to their destination within the Reserve and park in one of the parking areas available. When all of the parking areas are full, signs are posted in both directions on Highway 1 indicating that the Reserve is at capacity. Additional visitors are allowed into the Reserve as parking spaces become available. Visitors also walk into the Reserve after parking along the shoulders of Highway 1. Recreational facilities available in the Reserve include trails, benches, picnic areas/tables, an information station, diver access ramp at Whalers Cove, stairs for beach access, restrooms, and interpretive displays (Photo Exhibits 4-2 and 4-3). There are also approximately 100 signs within the Reserve including metal enforcement signs and wooden trail signs. The Whalers Cabin Museum and Whaling Station Museum together are a cultural history museum that includes exhibits on the whaling era and the early history of Point Lobos SNR. The names and location of recreation facilities in the Reserve are shown in Exhibit 4-1.

TRAILS

There are approximately 12 miles of trails located within the Reserve. Descriptions of each trail and their current condition are listed in Table 4-1 below, including six ADA accessible or partially accessible trails. California State Parks is currently evaluating extension and rehabilitation of the Lace Lichen Trail within the Reserve. This project would construct ADA accessible trail from the Information Station at Sea Lion Point Parking area to Rat Hill Road, and rehabilitate the existing Lace Lichen Trail to ADA standards.

Source: AECOM 2012

Photo Exhibit 4-2 **Information Station**

Source: AECOM 2012

Photo Exhibit 4-3 **Cypress Grove Trail**

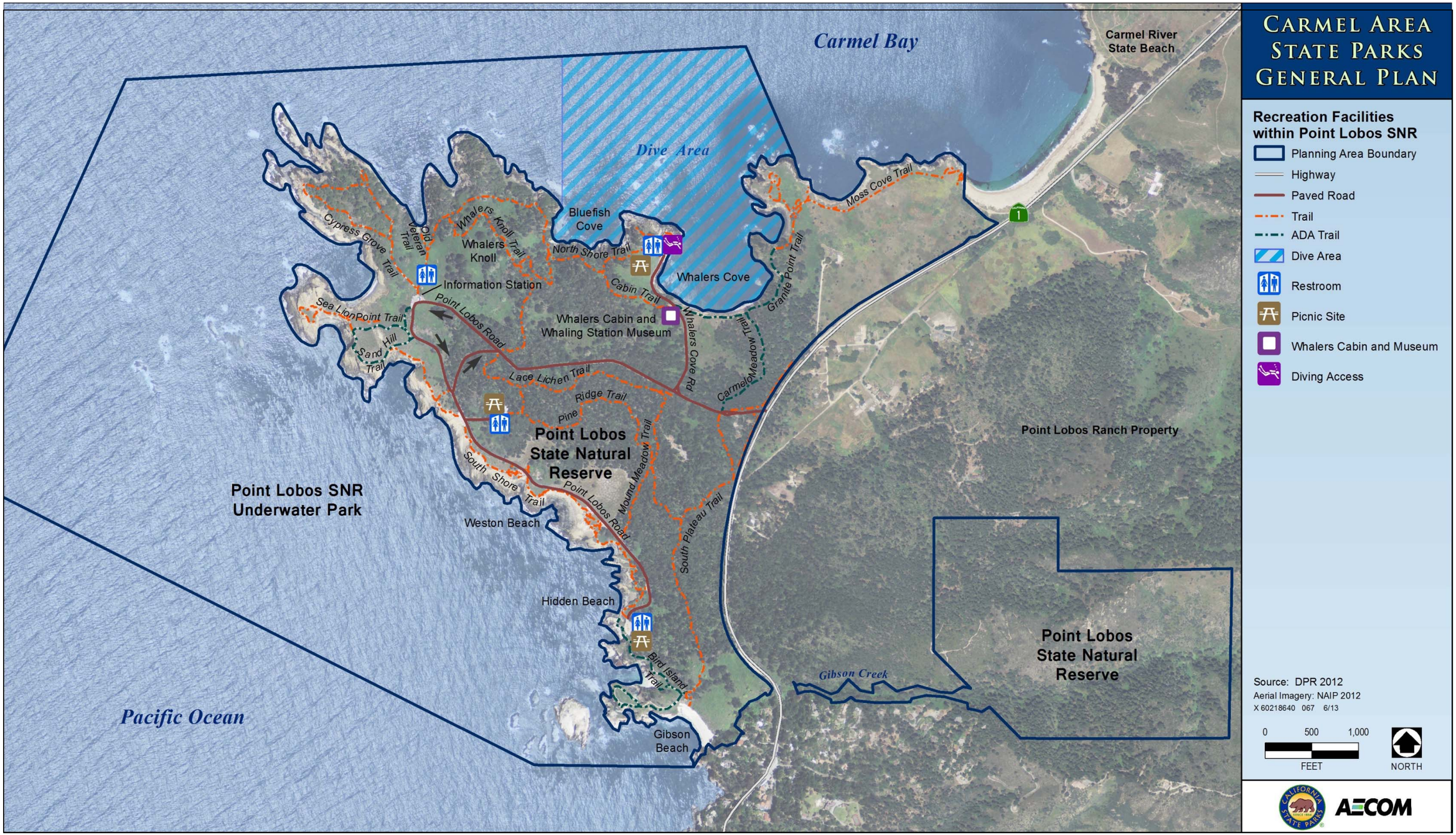


Exhibit 4-1 **Recreational Facilities within Point Lobos SNR**

Table 4-1
Trails within Point Lobos SNR

Trail Name	Trail Length	Description	Condition[1]
ADA Accessible Trails			
Cypress Grove Trail	0.8 mile (500 feet is ADA accessible)	Offers scenic views of Headland Cove, along with an ADA accessible comfort station and parking area. Also provides excellent views for whale watching.	Good condition.
Sand Hill Trail	0.6 mile	Loop trail that begins on the west side of the Sea Lion Point parking area and finishes at Headland Cove, a portion of which overlaps with Sea Lion Point Trail. Provides an excellent vantage point for viewing marine mammals.	Good condition.
Sea Lion Point Trail	0.4 mile	The portion of Sea Lion Point Trail that overlaps with Sand Hill Trail is ADA accessible including views of Headland Cove, Sea Lion Cove, Sea Lion Point, Devil's Cauldron, and Sea Lion Rocks. Provides excellent vantage point for viewing marine mammals.	Poor condition. Degradation is potentially compromising public safety because of the potential for slope failure. Continued erosion and construction of the trail too close to the cliff's edge, have resulted in the degraded condition of the trail.
Carmelo Meadow Trail	0.25 mile	Begins at the entrance station and provides accessible linkage to the Granite Point Trail and Whalers Cove. ADA accessible parking is also available near the Carmelo Meadow Trailhead at the park entrance. Provides access to Monterey pine forest.	Good condition.
Granite Point Trail	1.1 mile	Begins at Whalers Cabin, connects with Carmelo Meadow Trail, and continues on to Moss Cove. Trail provides views of Whalers Cove and travels through an area rich and history.	Good condition.
Bird Island Trail	0.8 mile	Begins at the southern most parking area and provides views of spectaular cliffs, China Cove, and Bird Island, which provides excellent views of nesting birds during the spring and summer.	Good condition. New trail opened to the public in 2012.
Other Trails			
Cabin Trail	0.1 mile	Connects Whalers Cabin to the North Shore Trail and Bluefish Cove. The trail provides access to coastal scrub and Monterey pine forest.	Good condition.
North Shore Trail	0.75 mile	Connects Whalers Cove to the Sea Lion Point parking area. Provides access to Monterey cypress and close views of nesting sea birds on Guillemot Island.	Overall good condition, with localized entrenchment and exposed roots.

Table 4-1
Trails within Point Lobos SNR

Trail Name	Trail Length	Description	Condition[1]
Lace Lichen Trail	0.5 mile	Connects the Pine Ridge Trail with the Mound Meadow Trail and provides hikers a direct route from the entrance station to the Piney Woods Picnic Area. Extension of the trail is currently being evaluated.	Good condition.
Mound Meadow Trail	0.3 mile	Begins at the entrance road and connects to the Pine Ridge Trail. Travels along the edge of Mound Meadow and provides access to Monterey pine forest.	Good condition.
Moss Cove Trail	0.6 mile	Provides a loop from Granite Point to the northern boundary of the Reserve. Travels through Hudson Meadow, which is covered with wildflowers during the spring and summer. The trail ends and Ichxenta Point where there are excellent views of Carmel Bay.	Good condition.
Pine Ridge Trail	0.5 mile	Connects the Piney Woods picnic area and the South Plateau Trail. Provides access to Monterey pine forest and views of Mound Meadow.	Good condition.
South Plateau Trail	0.7 mile	Connects the entrance station with Gibson Beach/Bird Island Trail. Provides access to Monterey pine forest and breathtaking views of the ocean and rocky headlands south of the Reserve.	Good condition.
South Shore Trail	1 mile	Connects Sand Hill Trail/Sea Lion Point Trail and the Bird Island parking area. Provides scenic views of coves along the south shore of the Reserve including the photogenic Weston Beach. This trail also provides access to tidepools along the south shore.	Overall good condition, with minor entrenchment.
Whalers Knoll Trail	0.5 mile	Connects to the North Shore Trail. Provides scenic views of Big Dome, the ocean and on clear days, views of the Carmel coastline and Pebble Beach Golf Course.	Overall good condition, with minor entrenchment.
Old Veteran Trail	400 feet (approx.)	Spur trail off of North Shore Trail that provides access to the Veteran Cypress.	Good condition.

Note:

[1] Source: Hiles pers. comm., 2013

PICNIC AREAS/BENCHES/RESTROOMS

There are three picnic areas at the Reserve, all of which have accessible features including Whalers Cove, Piney Woods, and Bird Island. Whalers Cove has eight picnic tables, one restroom, and a washing area with a hose bib. The Piney Woods area has 15 picnic tables including and an accessible restroom near the parking area. The picnic area at Bird Island has 10 picnic tables and one restroom (DPR 1979, 1988, 2012; PLF 2012b). Accessible features are discussed in more detail below.

BEACH/TIDEPOOL ACCESS

Stairs or trails that enable beach access are located at Moss Cove, south of Granite Point, China Cove, Hidden Beach, and Gibson Beach. Visitor also access smaller pocket beaches by climbing over rocks. The primary areas to access tidepools are along the southern shore of the Reserve including Weston Beach and at Sea Lion Point.

DIVING AND KAYAKING ACCESS

Diving and kaking access are only available at Whalers Cove, and the dive ramp was recently resurfaced with a non-slip surface.

4.2.3 ACCESSIBILITY

The Americans with Disabilities Act, commonly known as ADA, is the federal law that prohibits discrimination on the basis of disability, and applies to all actions by the states, including the preparation of state park general plans. In compliance with the ADA, California State Parks published the *Accessibility Guidelines* (DPR 2009b), which states that accessibility is influenced by the location and type of park and that basic services and experiences need to be accessible to all people with disabilities, while maintaining the intrinsic qualities of the place.

The *Accessibility Guidelines* detail the procedure to make California state parks universally accessible while maintaining the quality of park resources. Also included in the guidelines are recommendations and regulations for complying with the standards for accessibility. California State Parks has also published the *All Visitors Welcome: Accessibility in State Park Interpretive Programs and Facilities* (DPR 2011a), which provides guidance on developing accessible interpretive programs and facilities.

California State Park's *Transition and Trail Plans for Accessibility in State Parks* (DPR 2003a) outlines California State Park's commitment to achieving programmatic access throughout the state park system and in each of the parks.

Within Point Lobos SNR, there are six accessible trails which are described above in Table 4-1, and California State Parks is currently evaluating rehabilitating the Lace Lichen Trail to ADA standards. As described above, there are also ADA accessible picnic areas and restrooms at Whalers Cove, Piney Woods, and Bird Island. The Whalers Cove picnic area has one accessible table on a stable surface. The path to the picnic area at Whalers Cove is accessible and the restroom with two ADA accessible stalls. The Piney Woods picnic area has one ADA accessible table that is usable during dry weather and a restroom with two accessible stalls. The picnic area at Bird Island has four ADA accessible tables and recent improvements were made to the restroom with two accessible stalls. All three of these picnic areas, in addition to the Reserve entrance and Sea Lion Point parking area, have at

least one ADA accessible parking space each. See Table 6-1 below for additional details on accessible parking. There are ADA accessible benches along the accessible trails for relaxation and wildlife viewing (DPR 1979, 1988, 2012; PLF 2012b).

4.3 PATTERNS AND LEVELS OF RECREATIONAL USE

4.3.1 REGIONAL PATTERNS AND USE

STATEWIDE TRENDS

As recorded within the *Complete Findings of the Survey on Public Opinions and Attitudes on Outdoor Recreation in California* (DPR 2009c), respondents to a 2008 recreation survey were asked about the activities in which they participated. The top 10 activities mentioned by the highest percentage of participants were the following:

- Walking for fitness or pleasure (74.2%)
- Picnicking in picnic areas (67.0%)
- Driving for pleasure, sightseeing, driving through natural scenery (59.8%)
- Beach activities (59.2%)
- Visiting outdoor nature museums, zoos, gardens or arboretums (58.4%)
- Attending outdoor cultural events (56.3%)
- Visiting historic or cultural sites (54.8%)
- Wildlife viewing, bird watching, viewing natural scenery (45.9%)
- Jogging and running for exercise (39.8%)
- Camping in developed sites (39.0%)

The majority of the most popular activities are available at Point Lobos SNR except for visiting outdoor museums, zoos, gardens or arboretums, and camping. In addition, the top four recreation activities that survey respondents would like to participate in more often include walking for fitness or pleasure, camping in developed sites, bicycling on paved surfaces, and day hiking on trails. The most common facilities and amenities used by respondents included the following:

- Community/facility buildings (64%)
- Open spaces to play (59%)
- Picnic tables/pavilions (58%)
- Unpaved multipurpose trails (53%)
- Paved trails (50%)

REGIONAL PATTERNS AND USE

Monterey County is a tourist destination that attracts visitors year round; however, peak visitation in the Monterey region is between Memorial Day weekend and Labor Day weekend. Almost 14% of the County's land area is devoted to parks and recreation facilities operated by various governmental agencies. The County parks system makes up about 10% of the County's total park acreage (Monterey County 2010). Visitation to state parks in the Monterey region is shown in Table 4-2.

Table 4-2 Annual Visitation to Regional State Parks			
	2008 / 2009	2009/2010	2010/2011
Monterey SB	558,490	443,641	458,313
Monterey SHP	318,547	171,161	136,795
Asilomar SB	787,040	622,790	657,555
Garrapata SP	147,662	132,109	119,156
Andrew Molera SP	45,647	58,955	62,741
Julia Pfeiffer Burns SP	53,376	75,705	78,192
Total	**1,910,762**	**1,504,361**	**1,512,752**
Source: DPR 2010b, 2010c, 2011b			

Overall visitation to state parks in the region declined between the 2008/2009 and 2009/2010 fiscal years, but increased slightly in fiscal year 2010/2011 (DPR 2010b, 2010c, 2011b). The *Complete Findings of the Survey on Public Opinions and Attitudes on Outdoor Recreation in California* reports recreation trends for regions within California including the Central Coast region that encompasses Monterey. The type of park that Central Coast region respondents visited most frequently was highly developed parks and recreation areas. The majority of Central Coast region respondents reported driving for 5 minutes or less or walking to reach their most visited recreation destination (DPR 2009c).

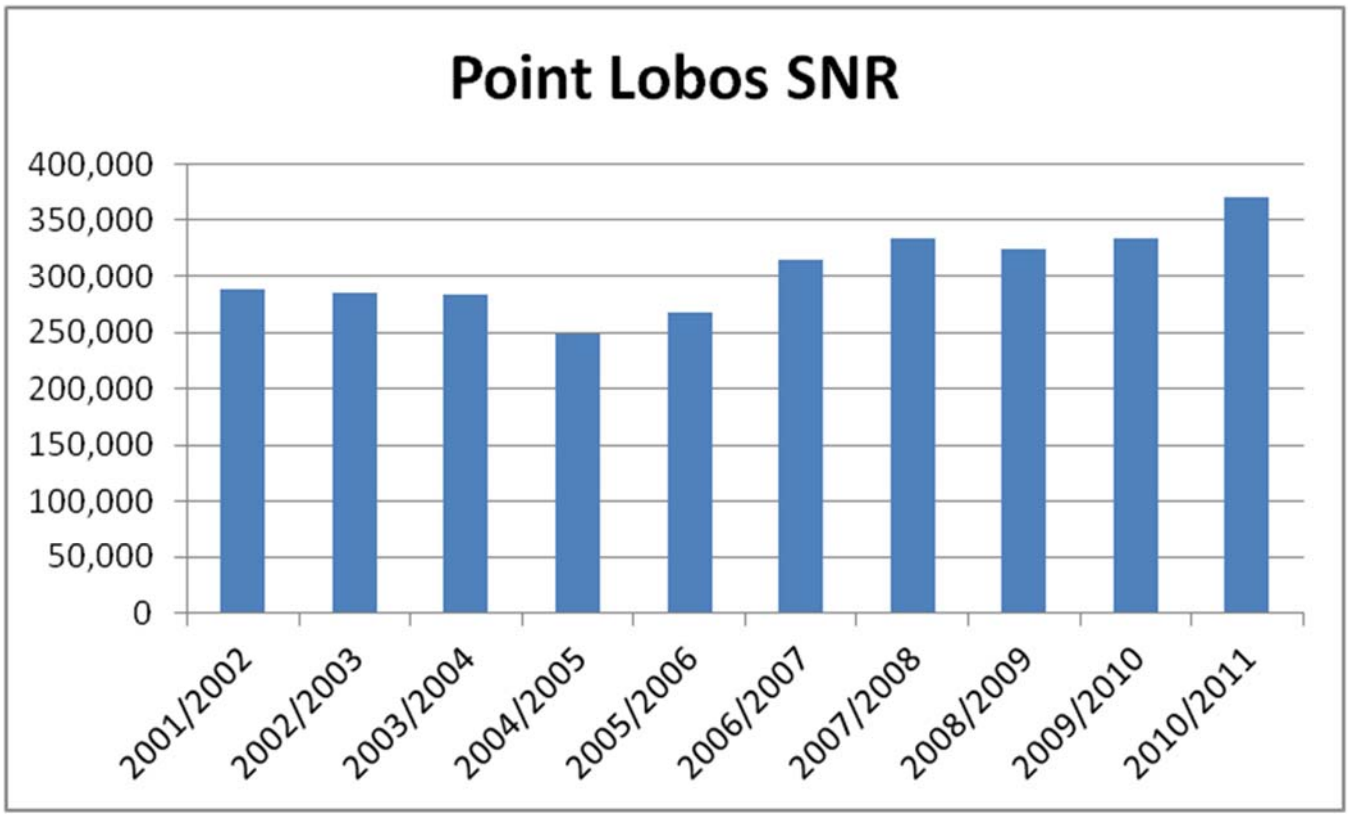
The top five activities that Central Coast participants would like to participate in more often include the following (DPR 2009c):

- Camping in developed sites;
- Day hiking on trails;
- Walking for fitness or pleasure;
- Beach activities (i.e., swimming, sunbathing, surf play, wading, playing on beach); and
- Visiting historic or cultural sites.

4.3.2 PATTERNS AND USE AT POINT LOBOS SNR

The pattern of recreational use at Point Lobos SNR is seasonal with the peak visitation between Memorial Day weekend and Labor Day weekend, although the Reserve can also experience spikes in visitation on holidays and weekends during the non-peak season. Visitor attendance is collected at the entrance station for Point Lobos SNR. Visitor attendance for Point Lobos SNR between 2001 and 2011 is listed in Table 4-3 and Exhibit 4-2. Visitation by vehicle is limited by the 150-car capacity of the parking areas within the Reserve. When the 150-car limit is reached, cars are turned away, but walk-in and bike-in visitation continues. The weekend of June 8-9, 2013 was a record weekend with 1,100 visitor walk-ins (James pers. comm., 2013).

Table 4-3 Visitor Attendance for Point Lobos SNR between 2001 and 2011	
Year	Point Lobos SNR Attendance
2001/2002	287,741
2002/2003	285,032
2003/2004	283,752
2004/2005	249,024
2005/2006	267,549
2006/2007	314,722
2007/2008	334,192
2008/2009	324,449
2009/2010	331,431
2010/2011	370,409
Source: DPR2003b, 2005a, 2005b, 2006b, 2006c, 2007, 2009d, 2010b, 2010c, 2011b	



Source: DPR2003b, 2005a, 2005b, 2006b, 2006c, 2007, 2009d, 2010b, 2010c, 2011b

Exhibit 4-2 **Visitor Attendance at Point Lobos SNR**

A visitor questionnaire conducted as part of the original 1979 General Plan process indicated that approximately 42% of visitors to Point Lobos SNR were from Monterey County, 44% from elsewhere in California, and 18% were from out-of-state. The questionnaire also indicated that the majority of visitors at the Reserve had visited six or more times, with only 17% having visited only once (DPR 1979).

Special events can also be held by permit within Point Lobos SNR including weddings, dinner parties, and corporate events. Weddings began being held in the Reserve in the summer of 2012 and since that time there have been fewer than five weddings (Abma pers. comm., 2012). All special events, including weddings, can be held at two locations within the Reserve: South Shore Terrace and Piney Woods. The South Shore Terrace site can accommodate up to 50 people and Piney Woods can accommodate up to 100 people. Special events are not allowed between 11:30 a.m. and 3:00 p.m. on weekends because of high public demand during those times. Corporate events are rare, but have included activities such as catered lunches and guided walks. In addition, adherence to strict permit conditions is required to ensure that special events do not have a negative effect on sensitive resources within the Reserve (California State Parks 2012). In 2011, the Reserve held 204 paid tours with an attendance of 4,080 people; 13 workshops with an attendance of almost 360 people; 12 photo shoot tours with an attendance of approximately 40 people; 4 special events with an attendance of 1,360 people; and hosted 157 school groups with attendance of 6,230 people. Paid tours and tours for school groups are the most popular special events.

There are also public walks and roving interpretation (trail watch/spotting scopes) guided by docents. Seasonal visitation varies related to specific seasonal activities such as whale watching, which occurs between December and May (Thomson 1997).

Within the Reserve, some of the most popular areas include tidepool areas during low tides, the new ADA trail to Bird Island, Whalers Cabin, and Sea Lion Point/Cypress Grove. Bird Island attracts birders during the Brandt's cormorants nesting season. In addition, Sea Lion Point/Cypress Grove is a popular destination in the Reserve and the parking area is often the first to fill to capacity. This area provides access to Sea Lion Point Trail, Cypress Grove Trail, the Information Station, and is particularly popular between December and May for whale watching. In contrast, the Piney Woods parking area and picnic area are generally not well used because of the isolated location, and this parking area is typically the last to fill to capacity.

5 INTERPRETATION AND EDUCATION

Interpretation and education heightens and increases public understanding, appreciation, and enjoyment of natural, cultural, and recreational values. Providing meaningful, powerful, and inspiring experiences and opportunities is one of the core initiatives of California State Parks. The educational and interpretive programs and facilities provided by Point Lobos SNR attempt to describe the Reserve's physical and cultural aspects in such a way as to create relevant meaning for visitors and foster personal and lasting connections to the natural resources and history of the Reserve. The interpretive opportunities and facilities within the Reserve are described in more detail below.

5.1 FACILITIES/MEDIA

The following interpretive resources are currently available at Point Lobos SNR.

FACILITIES

- Whalers Cabin Museum exhibits
- Whaling Station Museum exhibits
- Information Station displays and literature
- Interpretive trails
- Interpretive shelter and displays at Whalers Cove (Underwater Reserve)
- Information shelter by entrance
- Bulletin board by entrance
- Marine Protected Area interpretive panel (to be installed at Bird Island)
- Docent/staff building and library and interpretive collections (e.g., mounts, pelts)

MEDIA

- Audio-visual films at the Whalers Cabin Museum
- Free publications
- Sales publications (PLF)
- Websites (California State Parks website and PLF website)

The Point Lobos SNR has a number of available interpretive and education facilities and media resources that help promote the history and culture of the Reserve to visitors.

Two of the primary interpretive facilities at Point Lobos SNR are the Whalers Cabin Museum and Whaling Station Museum, which are staffed by docents. The Whalers Cabin Museum was built by Chinese fishermen in the 1850s and functions as the Reserve's cultural history museum. Located north of the Reserve entrance at Whalers Cove, the 760 square foot Whalers Cabin Museum includes displays and artifacts documenting the cultural history of the Reserve including the early settlers, Japanese and Chinese fishermen, military history, and the history of movies that have been filmed within the Reserve. The Whaling Station Museum, which opened adjacent to the Whalers Cabin Museum in 1994, functions as an extension of the Whalers Cabin Museum, as docent staffing permits. Many exhibits and artifacts are part of the Reserve's museums. These diverse collections represent hundreds of years of occupation of Whalers Cove by indigenous people, Chinese fishermen, Japanese

abalone fishermen, Portuguese whalers, and others. The Whaling Station Museum contains a collection of whale bones, baleen, harpoons, rendering pots, and other artifacts from the whaling industry.

Besides the museums and underwater park, the Reserve also has a number of interpretive nature trails including Cypress Grove Trail, Sea Lion Point Trail, and South Plateau Trail. There are also several interpretive panels located throughout the Reserve, including those located at Whalers Cove, Bird Island restrooms, and the Information Station. There is an outdoor exhibit shelter at Whalers Cove with three interpretive panels featuring photos of invertebrates, a map of the diving areas, and the Marine Protected Area. There is also a low profile interpretive panel by the restrooms at the Bird Island features the Marine Protected Areas near the Reserve, and interpretive panels at the Information Station. There is also an information station near the Sea Lion Point parking area that is staffed by California State Parks docents and has interpretive materials such as posters of scenery and wildlife, postcards, books and booklets on wildlife and natural resources, and field guides. The Information Station also has animal fur to touch, a collection of wildlife skulls, and information on guided walks, weather, and tides.

A number of interpretive media resources can also be found regarding Point Lobos SNR. An audio-visual film about the Reserve is available at the Whalers Cabin Museum. Free publications in many languages and sales publications can be downloaded regarding the Reserve from various online websites, including California State Parks websites and PLF website. The PLF also publishes the quarterly Point Lobos Magazine about the Reserve and the foundation's work.

Interpretive topics for the Reserve that are covered in brochures include the following:

- Welcome to Point Lobos
- Observation Checklist (including plants, animals, and geologic features)
- Whalers Cabin
- South Plateau Guide
- Cypress Grove Walk
- Sea Lion Point Nature Walk
- Please Don't feed the Wildlife
- Exploring Tidepools
- Living in Mountain Lion Country
- Diving at Point Lobos
- Camping (Santa Cruz to the Big Sur Coast)
- The Southern Sea Otter
- Whales
- Indian Uses of Plants

These brochures are also available on PLF's website (PLF 2012).

5.2 THEMES

Interpretive themes are broad categories that describe the most significant aspects of the Reserve's history. They are used by Rangers and docents as guidelines for interpretive talks and serve to guide the development of future interpretive facilities. The draft interpretive themes for the Reserve currently are:

UNIFYING INTERPRETIVE THEME:

This oasis of biological diversity has provided livelihood, inspiration, and spiritual renewal to people throughout the ages.

PRIMARY THEME #1:

Point Lobos State Natural Reserve is the “greatest meeting of land and water in the world” (Frances McComas). The effects of the sea on the geological formation, on the climate, and on the biota of the Reserve are significant.

Secondary Theme:

The geology of Point Lobos is unique and appealing. The younger “Carmelo Foundation” is rare and geologists from all parts of the world come to study these deposits.

Secondary Theme:

Marine mammals such as sea lions, seals, and sea otters are abundant at the Reserve and whales can be seen during their migrations.

Secondary Theme:

Scuba divers discover the unique sub tidal world on their trips beneath the sea and visitors can observe the intertidal zones at low tides throughout the year.

Secondary Theme:

The landscape (flora and fauna) has changed over time by natural and human causes. Plant succession continues to play a role.

PRIMARY THEME #2:

Point Lobos also has a rich and diverse human history dating back more than 2,000 years.

PRIMARY THEME #3:

The natural beauty of Point Lobos has inspired naturalists, artists, authors, photographers, and regular citizens for many years. And the Reserve’s sublime scenic qualities and unique landscape led to calls for its preservation setting the stage for Point Lobos to become a state reserve.

Secondary Theme:

The Reserve is a model of stewardship through community involvement such as the docent program and the partnership with the PLF.

5.3 PROGRAMS

Educational programs within Point Lobos SNR include the Point Lobos Summer Adventures Program. The Summer Adventures Program consists of two 2-week sessions of 30-35 children during each session. The

Experiencing Point Lobos School Program includes a pre-visit introduction by a docent and school walk led by docents and regular school walks. In 2011, a total of 157 school groups with attendance of 6,230 people visited the Reserve.

5.3.1 OFFSITE INTERPRETATION AND EDUCATION

Educational outreach to schools is an important commitment of California State Parks and the PLF. Off-site education includes team teaching to students in a classroom setting. Currently, there are two programs, with the expectation that it will be expanded as resources permit. The Carmel River School and the All Saints School programs began in 1991 and 1992, respectively. The third grade social studies curriculum addresses the students and their community. Point Lobos SNR staff are involved in many field trips and classroom presentations.

In addition, the Point Lobos Docent Coordinator administers Outreach Programs that are intended to meet the needs of underserved groups in the community. Educational programs are taken to groups that cannot visit the Reserve including groups such as school children, adults, senior citizens, and special needs groups.

5.4 REGIONAL INTERPRETATION

Major interpretation topics in the region are recreation; marine life and its protection, including marine mammals and tidepools; wetlands; Native California Indians; special-status species; and geology.

Following is a list of interpretive and educational programs in the regional area, with their primary topics, listed:

- California State Parks Monterey District – natural history field trips; cultural history field trips; environmental studies programs; Junior Rangers Programs; Litter-Getter Programs (engages children in trash collecting activities while explaining the environmental value of acting responsibly in parks); Monterey District Habitats Van; and the Junior Lifeguard Programs (California State Parks 2008);
- MPRPD Interpretive walks/hikes – includes hikes through various MPRPD parks focusing on natural and recreation resources;
- MPRPD Let's Go Outdoors Program – environmental education and outdoor related programs, classes, and activities on topics such as photography, star gazing, hiking, kayaking, wildlife watching, art and writing, gardening, composting, and horseback riding;
- MPRPD Nature Camp – camps include hands-on activities and outdoor adventures such as camping and hiking (MPRPD 2012b);
- BSLT education programs – include science and environmental camps, art-in-nature classes, Plant-a-Thons, wilderness challenge experiences, and interactive history, agriculture and nature exhibits (BSLT 2012a);
- Pacific Grove Museum of Natural History – includes field trips and classroom visits, summer camps, Science Saturdays, Long-term Monitoring Program and Experiential Training for Students, and Monarch butterfly monitoring (Pacific Grove Museum of Natural History 2013);
- Carmel Mission – includes museums, exhibitions, and tours (Carmel Mission Basilica 2013);

- Monterey Bay Aquarium – includes field trips, classroom curriculum, Teen Conservation Leaders volunteer program (Monterey Bay Aquarium Foundation 2013);
- Monterey County Toro Park field trips for grades 1-4 (Monterey County Parks 2007); and
- CSU, Monterey Bay Camp Sea Lab – programs include day and residential summer camps for ages 8-17, outdoor school for ages 3-8, workshops/curriculum for teachers to incorporate marine science in the classroom, and family workshops for children of all ages (CSU, Monterey Bay 2010).

Other interpretive and educational facilities in the region include the following:

- Monterey State Historic Park – classrooms, a collection of significant historic houses and buildings including the Pacific House Museum;
- Julia Pfeiffer Burns SP Information Center;
- MPRPD Garland Ranch Visitor Center;
- Monterey County Visitor Center;
- Monterey County Agriculture and Rural Life Museum; and
- Monterey County Toro Park Environmental Center.

Interpretive and educational opportunities in the region are similar to those offered at Point Lobos SNR and are primarily related to natural and cultural resources in the area and provide opportunities for educational hikes and programs for school groups and families.

5.5 1979 GENERAL PLAN PROPOSALS

The 1979 General Plan called for the conversion of the Whalers Cottage for use and as an interpretive facility. This proposal has been implemented. The 1979 General Plan called for an expansion of the interpretive program to enhance visitors understanding and appreciation of the Reserve. The docent program has greatly expanded since the adoption of the plan and continues to expand. A school program has also been initiated. The plan also called for implementation of a more flexible carrying capacity to accommodate visitors from distant locations. This has been implemented in that visitors are still allowed to walk into the Reserve when parking is at capacity. The plan also explored strict maintenance of a 450 person instantaneous carrying capacity, which would limit visitation within the Reserve to 450 persons at any one time. This is not being implemented because currently there is no method for limiting the number of persons per vehicle or number of visitors that walk in to the Reserve.

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6 ACCESS, CIRCULATION, AND TRANSPORTATION

6.1 ACCESS

Point Lobos SNR is located 3 miles south of the City of Carmel-by-the-Sea and approximately 20 miles north of Big Sur along Highway 1. The only public entrance to Point Lobos SNR is from Point Lobos Road that is accessed directly from Highway 1. There is also a private entrance to the Reserve directly from Highway 1 that provides access to the Hudson House.

6.2 ROADS/CIRCULATION

Highway 1 is the primary roadway in the vicinity of Point Lobos SNR. The highway varies in width from as narrow as 20 feet (10-foot travel lanes with no paved shoulders) to 40-feet (12-foot lanes and 8-foot shoulders). The transportation concept for Highway 1 would consist of two 12-foot lanes with 4-foot paved shoulders (Caltrans 2004). The transportation concept for a roadway is defined as long-range improvements needed to bring an existing facility up to the standards needed to adequately serve 20-year traffic forecasts (Exhibit 6-1).

Point Lobos Road provides a loop through the Reserve that begins and ends at the Reserve entrance. Point Lobos Road provides access to all of the parking areas within the Reserve. There are also two spur roads off of Point Lobos Road that are available to the public; Whalers Cove Road, which leads to Whalers Cove parking area, and an unnamed road, which provides access to the Piney Woods Picnic Area. The speed limit throughout the Reserve is 15 mph. The road leading to Rat Hill is open to staff only, with the exception of visitors parking boat trailers at Rat Hill to provide additional space at Whalers Cove. Pedestrians often walk on the roadways within the Reserve, which creates a safety hazard between pedestrians and vehicles.

6.2.1 PLANNED ROADWAY IMPROVEMENTS

The *Monterey Bay Area Mobility 2035* is a long range transportation plan for Monterey, San Benito, and Santa Cruz counties. The plan contains projects which can be implemented anytime over the span between Year 2010 and 2035. There are no roadway improvements planned in the immediate vicinity of the Reserve (AMBAG 2010a).

6.3 PARKING

There are currently ten parking areas with a total of 150 parking spaces within Point Lobos SNR. Once the Reserve reaches capacity, no additional vehicles are permitted until another vehicle leaves the Reserve. Six of the parking areas, which are located at Whalers Cove, Sea Lion Point, Piney Woods, Bird Island, Rat Hill, and the Reserve entrance, are paved. Rat Hill is restricted to trailer parking for visitors using the Whalers Cove dive access ramp. The other five parking areas, which are pull-outs along Point Lobos Road, are unpaved. A description of each parking area is provided in Table 6-1. These unpaved parking areas provide access to vistas along Point Lobos Road and South Shore Trail. Currently visitors also park along Highway 1 and walk into the Reserve. The condition of the parking areas is fair with some areas being damaged by tree roots.

Table 6-1 Parking Areas within Point Lobos SNR			
Parking Area	Total # of Parking Spaces/Size	# of ADA Accessible Parking Spaces	# of Staff/Restricted Parking Spaces
Paved			
Entrance	3	1	2 spaces are 15 minute parking
Whalers Cove	22	2	--
Sea Lion Point	40	2	--
Piney Woods	15	1	--
Bird Island	13	2	--
Rat Hill	4	--	4 trailer parking spaces
Unpaved[1]			
Hidden Beach	9	--	--
Bird Island Unpaved #1 & #2	9	--	--
Piney Woods Unpaved	17	--	--
Weston Beach	8	--	--
Weston Beach Unpaved #1 & #2	22	--	--
Total	**158**	**8**	**10**

Note:

[1] Number of parking spaces within unpaved parking areas is approximate and varies depending on the size of cars using the parking area; parking capacity at the Reserve is generally stated as 150 parking spaces.

6.4 TRAFFIC VOLUMES

Based on 2011 Caltrans traffic counts, the annual average daily traffic (AADT) volumes on Highway 1 in the vicinity of Point Lobos SNR was 14,200 in 2011. The AADT is the total volume for the year divided by 365 days. The peak hour volume along Highway 1 in 2011 was 1,550 (Caltrans 2011). As compared to the past 3 years, the AADT at this location has slightly decreased.

Highway 1 from Carmel to Carmel Highlands is the only roadway segment in the Carmel area identified as being congested or that are projected to be congested based on the 2010 Metropolitan Transportation Plan. The portion of Highway 1 adjacent to Point Lobos Ranch is not identified as a congestion area (AMBAG 2010b). In addition, Caltrans' *Transportation Concept Report for State Route 1 in District 5* characterizes Highway 1 in the Monterey area as having intense local and regional traffic in addition to through traffic bound for the Big Sur Coast and recreational attractions, and long wait times for turns at intersections with Rio and Carmel Valley Roads (Caltrans 2006).

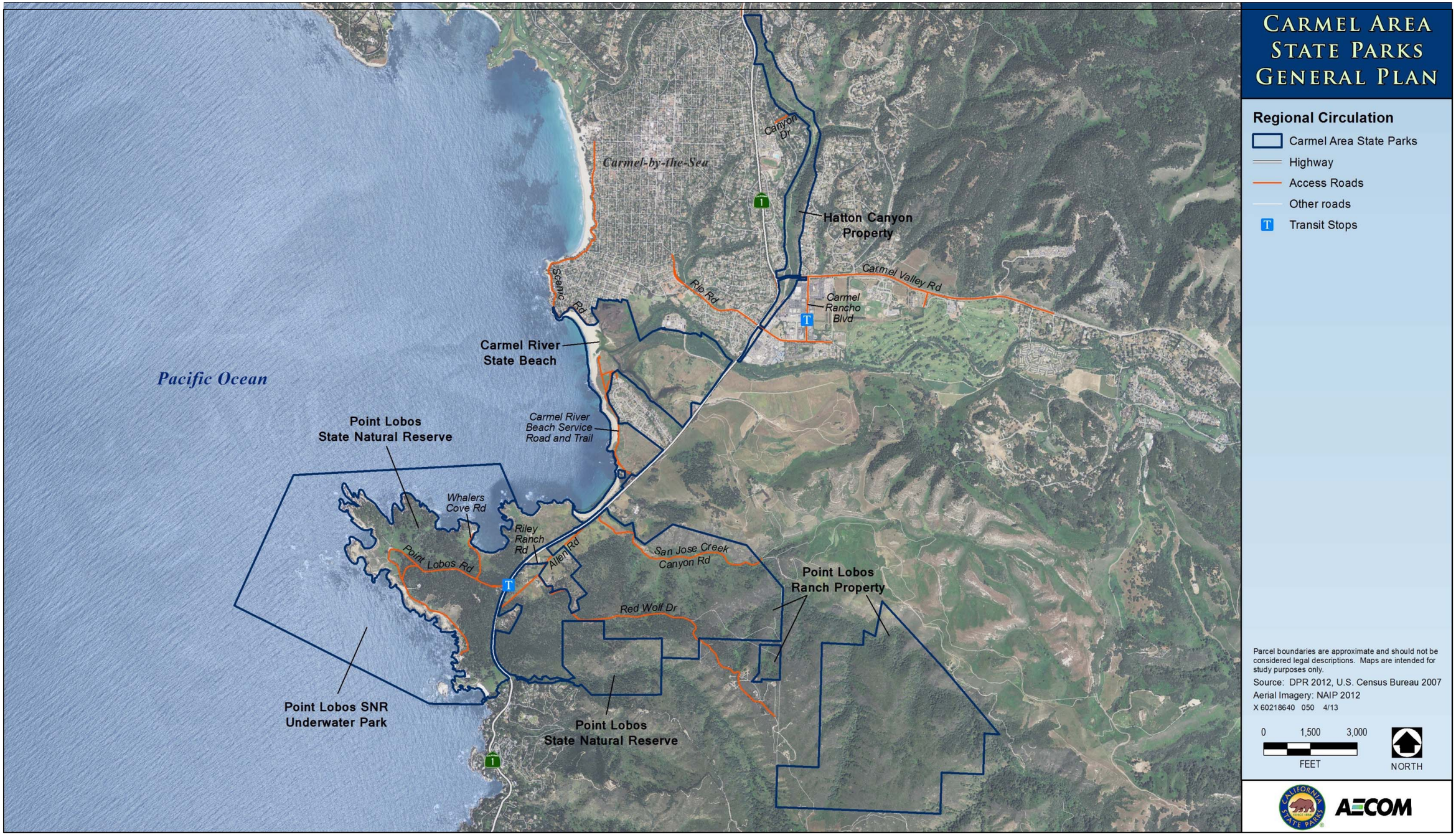


Exhibit 6-1

Regional Circulation

6.5 ALTERNATIVE MODES OF TRANSPORTATION

Point Lobos SNR can also be accessed via bicycle and public transportation. Highway 1 is classified as a Caltrans Class III Bikeway (Bike Route), which provides for shared use with pedestrian or motor vehicle traffic (there is not a designated bike lane). This designation allows bicycles access to the Reserve. Bicycles are also allowed on paved roads within the Reserve. Posts for locking up bikes are provided at all of the major parking areas within the Reserve (Thomson 1997).

In addition, the Monterey-Salinas Transit (MST) operates Line 22 seasonally and runs between Big Sur and Monterey. Line 22 operates between 10:15 AM and 7:05 PM from Memorial Day weekend to Labor Day and a bus stop is located just outside the Reserve entrance (MST 2012) (Exhibit 6-1). This bus stop is used by the northbound route for Line 22.

6.6 1979 GENERAL PLAN PROPOSALS

The 1979 General Plan included a proposal for a tram system with stops at Whalers Cove, Cypress Grove and Bird Island for visitor circulation. The plan also called for the reduction, and, if necessary, eventual elimination of automobile traffic and potential removal of the road along the south shore and associated parking to curtail resource damage. None of these proposals were implemented, as scenic driving through the Reserve is a very popular activity. The plan also called for a visitor orientation area near the entrance station, with parking for 150 cars. This proposal also was not implemented, due to lack of space and support, and the presence of sensitive resources. The General Plan also explored seven new locations for potential parking and visitor services, some of which were on property not owned by California State Parks. None of these locations were used.

7 PARK OPERATIONS AND MAINTENANCE

7.1 OPERATIONS AND MAINTENANCE FACILITIES

Operations and maintenance facilities within Point Lobos SNR are primarily located near the Reserve entrance and at Rat Hill (Photo Exhibits 7-1 and 7-2). Recreation facilities within the Reserve are described above in Section 4, Recreation Resources. The area adjacent to the Reserve entrance serves as the park headquarters and facilities at this location include offices, Docent Center/Library, and three staff residences. Rat Hill is located in the interior of the Reserve and includes a maintenance shop, a storage yard, and one staff residence. Rat Hill is the primary maintenance and storage location for equipment used for operation of the Reserve. This area is not open to the public except for trailer parking for visitors. There are also two boat sheds at the Whalers Cove parking area where boats for emergency rescues are stored. Staff parking is available at Rat Hill and the Reserve Entrance. There are a total of five residences within the Point Lobos SNR, including the Hudson House (Exhibit 7-1).

7.2 STAFF AND SERVICES

California State Park's facilities maintenance staff maintains the existing structures and infrastructure (water, sewer, electric, gas, and telecommunication services). California State Parks maintains all utilities in coordination with the respective utility providers. Facilities maintenance staff also maintain roads, trails, interpretive signage, and other facilities needed to maintain a safe and comfortable park experience. California State Park Peace Officers are primarily responsible for public safety and law enforcement at Point Lobos SNR.

7.3 CONCESSIONS

Presently, there is only one operational concessionaire at the Point Lobos SNR called the Philip Sammet dba Underwater Company with a contract through April 30, 2016 (DPR2011c). This concessionaire provides guided SCUBA dive tours. Reservations can be made through the PLF website.

7.4 CONTRACTS AND AGREEMENTS

There are currently no contracts or agreements within Point Lobos SNR.

7.5 UTILITIES AND SERVICES

7.5.1 WATER AND WASTEWATER SERVICES

Water is supplied to the Reserve by Cal Am. The main waterline serving the Reserve is a 4-inch asbestos-cement pipe that runs through the Reserve and is fed by two separate locations on Highway 1. Water lines branching off the main line are galvanized steel pipe. These pipes were installed between 1951 and 1953, and are nearing the end of their useful life.

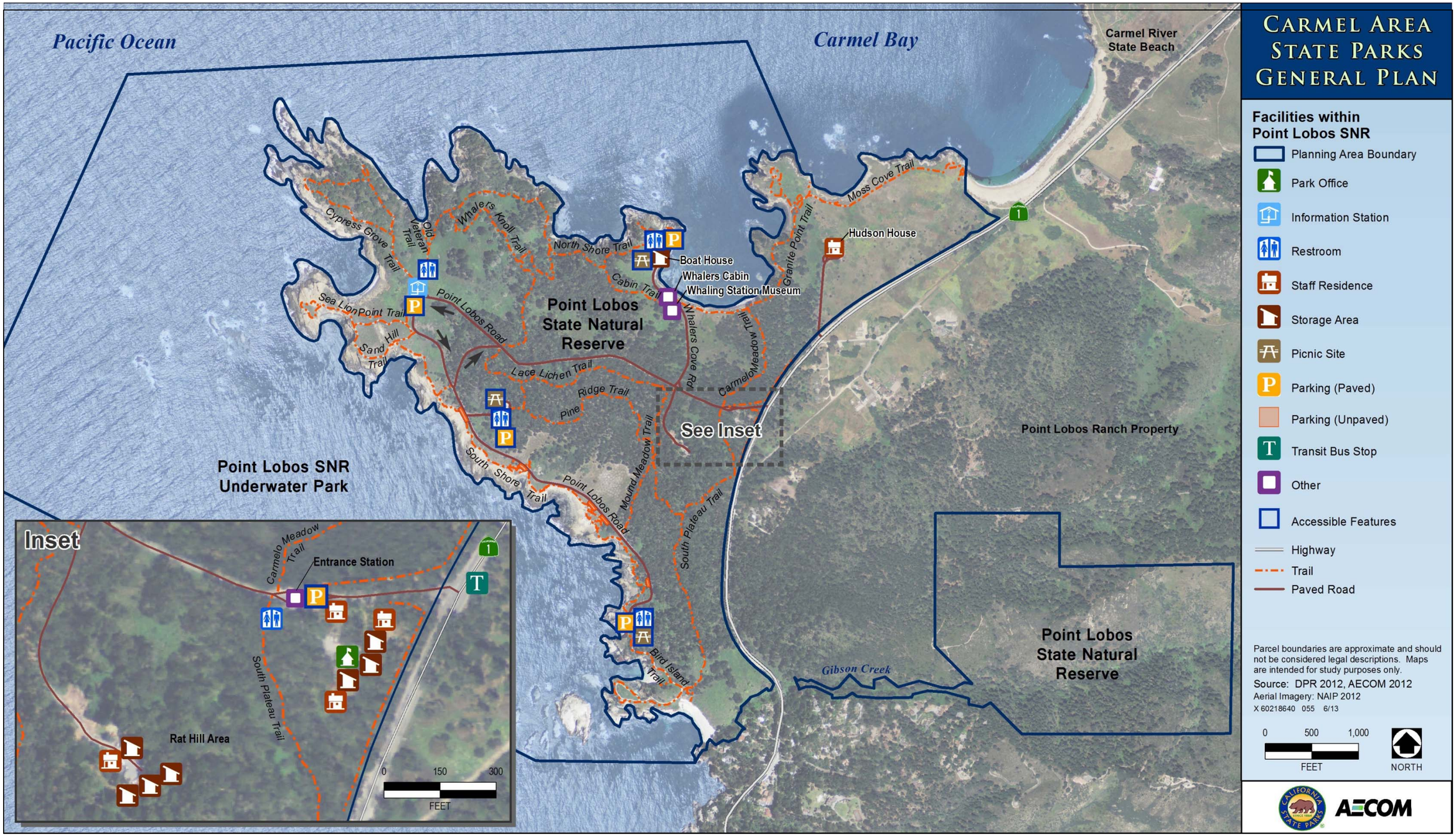
There are five restroom facilities within the Reserve including those at Whalers Cove, Sea Lion Point, Piney Woods, Bird Island, and the park entrance. All restrooms and residences are connected to a wastewater collection system except the Rat Hill residence and Bird Island restroom, which are on septic tanks. Although the Bird Island restroom is newly constructed, it is connected to an old leach field system with two leach fields and a diversion

Source: AECOM 2012

Photo Exhibit 7-1 **Entrance Station**

Source: AECOM 2012

Photo Exhibit 7-2 **Storage Sheds at Rat Hill**



Carmel Area State Parks General Plan

Facilities within Point Lobos SNR

- Planning Area Boundary
- Park Office
- Information Station
- Restroom
- Staff Residence
- Storage Area
- Picnic Site
- Parking (Paved)
- Parking (Unpaved)
- Transit Bus Stop
- Other
- Accessible Features
- Highway
- Trail
- Paved Road

Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

Source: DPR 2012, AECOM 2012

Aerial Imagery: NAIP 2012

X 60218640 055 6/13

0 500 1,000
FEET

NORTH

Exhibit 7-1

Facilities within Point Lobos SNR

valve. The pumps that are used to move sewage from the restrooms at Sea Lion Point and Piney Woods are on generators. These generators are high maintenance, and it would be beneficial to replace them with underground electric. In 2001, California State Parks constructed substantial sewer improvements, including the restrooms at Sea Lion Point and Piney Woods. The restrooms at Bird Island were recently constructed. The Hudson House residence also connects to the highway sewer force main. There are approximately 15 storm drains that flow under the roadways within the Reserve. All of this collected sewage continues from Ribera Road in CAWD owned facilities to the CAWD treatment plant near Carmel River where it is treated.

7.5.2 ELECTRICITY

Pacific Gas & Electric (PG&E) provides electrical service to the Carmel area. Electrical service to this area is via a 12 kV overhead electrical line adjacent to Highway 1. All electricity in the Reserve is provided via one connection behind the office area at the office Reserve entrance. From there, one distribution line provides electricity to the facilities at the entrance station, residences and restroom at the entrance, and the information station. A separate 480 v distribution line follows the entrance road, providing electricity to Rat Hill, Whalers Cove restroom, and Whalers Cabin Museum where a separate transformer reduces it to 240 v. There are also seven propane tanks within the Reserve, including two that are underground. Piney Woods and Seal Lion Point do not have electricity and are served by propane generators that power the sewage lift stations.

7.5.3 PHONE AND TELECOMMUNICATIONS

Phone lines adjacent to Highway 1 provide connections for phone service within the Reserve. Facilities within the Reserve with phone service include the entrance station, office areas, Whalers Cabin Museum, staff residences, and most of the restrooms. There are also wireless internet capabilities at the entrance station, office areas, and staff residences; however, wireless internet is not available to visitors. The residence at Rat Hill within the Reserve does not currently have phone service, and all of the phone and communication facilities in the Reserve need to be upgraded.

7.5.4 SOLID WASTE

Solid waste in the Monterey area is transported to the Monterey Peninsula Landfill and Recycling Facility in the City of Marina, which is operated by the Monterey Regional Waste Management District (MRWMD). This facility serves the solid waste and recycling needs of an estimated 170,000 residents. The facility accepts basic solid waste, liquid waste and sewage sludge (biosolids), wood waste, yard waste, concrete, tires, appliances, and furniture. The facility also has off-site local recycling centers that collect household recyclables (glass, aluminum, paper, and plastics).

The MRWMD Landfill and Recycling Facility receives approximately 300,000 tons of solid waste per year. The Monterey Peninsula Landfill and Recycling Facility has a remaining capacity of approximately 40 million tons or 74 million cubic yards. Assuming MRWMD continues to achieve the State-mandated 50% recycling goal, the landfill will continue to serve the present service area through the year 2107 (MRWMD 2007).

Solid waste is collected throughout the Reserve by California State Parks staff. There are 15 33-gallon solid waste containers located throughout the Reserve, and the staff residences have their own solid waste containers. All of

the smaller solid waste containers are then emptied into two dumpsters that are serviced by the contracted waste hauler. Recycling stations are located at the Reserve entrance and the three picnic areas within the Reserve.

7.5.5 SECURITY AND EMERGENCY SERVICES

California State Parks Rangers and Lifeguards are trained peace officers that help to operate and manage the California State Park units. They provide public safety law enforcement, aquatic rescue services, and public education through interpretation (DPR 2010d).

California State Parks Peace Officers have the primary public safety and law enforcement responsibility for Point Lobos SNR. The Monterey County Sheriff's Office has concurrent law enforcement jurisdiction for park property that is located in the unincorporated area of Monterey County. The California Highway Patrol has concurrent law enforcement jurisdiction for all state facilities. California State Parks Peace Officers occasionally are called to assist or back up a local police officer, California Highway Patrol officer, or other law enforcement officers. California State Parks Peace Officers also provide emergency medical response for all of the California State Parks properties. California State Park Peace Officers routinely patrol Point Lobos SNR. Safety for visitors that park along Highway 1 to visit the Reserve is a major safety concern for California State Parks. SCUBA safety is also a top priority for Point Lobos SNR and Carmel River SB. In Point Lobos SNR there were two fatalities and seven rescues in the last 5 years related to SCUBA diving. The majority of enforcement citations at Point Lobos SNR are related to dogs in the Reserve (dogs are not allowed in the Reserve). There were also three arrests in the Reserve in the last 5 years related to poaching.

Cal Fire provides the primary fire protection services for Point Lobos SNR; however, California State Parks staff conducts vegetation clearing for fire management to maintain defensible space. The nearest fire station to the Reserve is the Carmel Highlands Fire Protection District located approximately 1 mile southeast of the Reserve. This Fire Protection District is operated under a cooperative agreement with Cal Fire (Cypress Fire Protection District 2012). There are also approximately 18 fire hydrants within the Reserve for fire control.

7.6 1979 GENERAL PLAN PROPOSALS

The 1979 General Plan called for the temporary use of the Hudson House as a docent station, Advisory Council study center, ranger residence, and educational staging unit. While the house is currently used as a residence for the district superintendent and his family, none of the other uses have been implemented. The plan also called for the removal of the staff residence, storage yard and access road at Rat Hill. All of these facilities are still in place and actively used for operation of the Reserve.

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8 PARK SUPPORT

8.1 VOLUNTEERS AND DOCENTS

There are approximately 165 active docents (i.e., docents that volunteer 7 or more hours per month) who are part of the California State Parks Volunteers in Parks Program (VIPP) at the Point Lobos SNR. They work to enhance visitor's experience and knowledge about Point Lobos SNR. Some of the docents have been volunteering for more than 25 years and new recruits are regularly added to the group. Approximately 21,000 hours were volunteered by the docents in 2011 (California State Parks 2012).

The docents provide many services to the visitors of the Reserve, such as:

- leading nature walks for visitors and school groups
- staffing the Information Station which includes providing interpretation and information services to visitors, including free brochures about the Reserve, and selling a variety of publications and other items relevant to the Reserve
- staffing and providing visitor interpretation of the Whalers Cabin Museum and Whaling Station Museum
- providing helpful services to Reserve visitors on the trails, for example, by setting up spotting scopes to enhance the views of the Reserve's wildlife

California State Parks holds regular trainings and meetings with the docents to keep them up-to-date with park-related information. Docents are required to meet certain service standards and to attend monthly training sessions to keep current and expand their knowledge. These meetings are held the first Saturday of each month. Training classes, which offer a unique opportunity to learn about the natural and cultural history of this magical place, are offered at the beginning of each year.

8.2 COOPERATING ASSOCIATIONS

8.2.1 POINT LOBOS FOUNDATION

The PLF, previously known as the Point Lobos Natural History Association and later, the Point Lobos Association, is the non-profit organization supporting Point Lobos SNR. PLF assists California State Parks in several ways, such as:

- supporting continuous trail maintenance and improvements,
- providing a cleaning service for the Whalers Cabin Museum, Whaling Station Museum, Docent Center, and Information Station,
- publishing free visitor brochures encompassing all facets of the Reserve,
- funding the quarterly Point Lobos Magazine which is provided without charge to PLF members and to the public at the Reserve,

- funding various school outreach programs,
- maintaining interpretive collections,
- purchasing and maintaining spotting scopes,
- providing a library for historical and field research, and
- funding invasive plant eradication.

The PLF also provides funding for interpretive training and financial support for the Information Station, the Whalers Cabin Museum and Whaling Station Museum, and the Docent Center/Library. Since its founding in 1978, the PLF has raised over $1 million for various restoration, education, and interpretive activities at the Reserve. Some of the major projects that have been funded through the PLF memberships are (PLF 2012b):

- Financially supports the interpretive program at Point Lobos SNR.
- A new docent center and administrative office that provides meeting space for the Point Lobos volunteers and other personnel, houses the docent library, and is the home for the interpretive equipment used for educational programs.
- Replacement of the roof on the Whaling Station Museum.
- Interpretive and educational services provided at the Information Station and Whalers Cabin Museum, and through guided walks.
- A month-long 75th Anniversary Celebration.
- Map brochure sold by the PLF at the Reserve, which is expected to generate about $60,000 per year for Point Lobos trail maintenance.
- $50,000 for an archaeological survey for a new easy access trail at Bird Island.
- Provided funding for school buses and hands-on materials for the Experiencing Point Lobos School Program.
- Continuation of the school outreach program.
- $34,700 to support providing 6-months of training for all new docents; maintenance of the Docent Center, the Information Station, and the Whalers Cabin Museum; provision of interpretive resources such as binoculars, reference books, and audio-visual equipment; and administrative support.
- Support for the Point Lobos Summer Adventures Program, an environmental camp for youths of middle school and high school age.
- Support for docent-led, monthly census of sea otters at Point Lobos.
- 30 different brochures are available to visitors at no charge to aid in their enjoyment and education.

- Stewardship of trails, habitat (including removal of invasive plants), historical buildings, and other Reserve infrastructure (PLF 2012b).

8.3 PARTNERSHIPS

8.3.1 BIG SUR LAND TRUST

The BSLT's mission has been to conserve the significant lands and waters of California's Central Coast for all generations. The BSLT recently adopted a new mission, which is to inspire love of the land and conservation of our treasured landscapes. The BSLT partners with government agencies in a variety of ways including sharing technical expertise, providing funding, and partnering on innovative projects (BSLT 2012b). The BSLT acquired the 317-acre Whisler-Wilson Ranch in December 2010 located adjacent to the Point Lobos Ranch property. The Whisler-Wilson Ranch was recently sold to the MPRPD. California State Parks is in the process of coordinating with the BSLT to address resources, features, facilities and recreation opportunities for properties in the immediate vicinity of Point Lobos SNR.

In 2013 the BSLT, California State Parks, MPRPD, and Point Lobos Foundation initiated a partnership effort known as the "Big Sur Gateway" to support the creation and implementation of a collaborative, long-term regional vision for the collective landscape of state and local parklands and open space located adjacent to or nearby one another, from Carmel south to Garrapata State Park. The Gateway partners are working together to develop a model partnership that will result in improved coordination and enhanced land management practices, trail planning and networks, public access and safety, and visitor educational and recreational experiences across the landscape that will better serve the community and the land. This planning effort will create a significant recreation and open space experience and enhance management opportunities by linking the Palo Corona lands with BSLT and State Parks adjoining park and open space lands.

8.3.2 MONTEREY PENINSULA REGIONAL PARK DISTRICT

The MPRPD's mission is to acquire and maintain open space in the District for preservation and use, working with partners and the community, for public benefit, enjoyment and environmental protection. One of the MPRPD's values is to foster new and creative collaborative partnerships and projects to better meet their mission and serve the community (MPRPD 2012a). California State Parks continues to work with MPRPD to coordinate recreational uses on the nearby park properties so there are similar uses on similar pieces of property (using a landscape relevant approach) and maintaining continuity between properties.

8.3.3 MONTEREY BAY AND CHANNEL ISLANDS SANCTUARY FOUNDATION

The Monterey Bay and Channel Islands Sanctuary Foundation partners with the National Marine Sanctuary Program and other ocean and coastal management agencies to help facilitate their work. As a fiscal sponsor, the Sanctuary Foundation is able to solicit funds from many sources and implement projects to aid in the understanding and protection of the Monterey Bay and Channel Islands National Marine Sanctuaries, and other coastal and ocean resources in California (MBSF 2011). Monterey Bay and Channel Islands Sanctuary Foundation has also been an active partner of the California State Parks properties by funding community outreach programs and workshops to raise awareness about the marine protected areas that are part of Point Lobos

SNR and Carmel River SB. Volunteers from the Monterey Bay National Marine Sanctuary Foundation also participate in beach monitoring activities.

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APPENDIX A

1979 General Plan Proposals

Table A-1 1979 General Plan Proposal by Topic and State of Completion				
Proposal	Completed	Why/Why Not	Challenges	Current Opportunities and Constraints
PLSNR				
Facilities				
Temporary public use for Hudson House such as docent station, Advisory Council Study Center, Ranger Residence, Educational Staging Unit, other	yes for residence, no for other uses	Used as District superintendent residence	Combined use would be challenging	Consider other uses such as rental facility for special events; continue use for supervisor residence; revisit use for educational activities
Remove staff residence, storage yard and access road	no	Need these facilities for park operation and maintenance	Would be difficult to service park from offsite only	Access current uses/facilities at Rat Hill; explore if other services would be better use; explore alternative locations for maintenance equipment including other units in the vicinity
Visitor Capacity				
Implement more flexible carrying capacity to accommodate distant visitor use	yes	Visitor are allowed to walk in when parking capacity is reached	Parking on highway, crowding in park	Additional parking on other parcels; joint use with Palo Corona Regional Park; over or undercrossing of highway
Strict maintenance of a 450 person instantaneous carrying capacity	no	Car limit is enforced but walk ins and bike ins are not	Denial of entry to visitors from far away who may not get another opportunity to visit	Revisit numbers; develop a more flexible approach based on monitoring and adaptive management
Circulation				
Tram system with stops at Whaler's Cove, Cypress Grove and Bird Island for visitor circulation	no	Funding; opposition from park visitors who prefer to drive	Shuttle staging; support from park visitors; funding; overall feasibility	Reconsider shuttle idea (unlikely); consider other options for alternative circulation
Reduction and, if necessary, eventual elimination of automobile traffic	no	Public opposition; park visitor prefer to drive	Would appear to discriminate against visitors with limited mobility; scenic driving has long been a part of the Point Lobos experience	Reconsider current number of cars allowed; consider options for peak visitation times?
Potential removal of South Shore Road if resource damage necessitates	no	feasibility	feasibility	Revisit best use of road and need for circulation for visitor use and operations and maintenance
Remove all parking along South Shore Road except Bird Island	no	Non-paved parking needed to accommodate the number of cars allowed in the park	resource damage; parking capacity	Reassess need and capacity of all paved and unpaved lots/pull outs

Table A-1 1979 General Plan Proposal by Topic and State of Completion				
Proposal	Completed	Why/Why Not	Challenges	Current Opportunities and Constraints
Redesign entrance station to provide more back up space and turnaround	Yes for improvements; no for location and way of entrance	Demonstrated need; lack of space for redesign	Traffic still backs up considerably during busy times	Assess function of overall area and need for further adjustments; look for creating solutions through use of multiple parcels
Visitor Orientation area near entrance with shuttle stop, 150 car parking, visitor orientation facility; removal of maintenance building and residences; planting of native trees to screen parking	no	Area includes the docent library and office space, has been remodeled. Some of buildings are from CCC era and are considered sensitive resources in themselves; shuttle system did not get implemented	Limited space; sensitive resources (buildings); need for housing and office space; home for docent library and meeting space	Assess if current uses in this area are best use or if additional improvements/changes are needed
Natural Resource Management				
Cyclical closures of park for sections to allow for management and restoration	no	unknown	Enforcement, visitor education; justification; need for access for park visitors	Use ongoing resource management for education opportunities and interpretation
Initiation of an ecological monitoring program for ongoing resource protection	yes (partial; San Jose and Gibson Creek aquatic inventory); docent monitor sea otter populations and burn plots	Natural resource management is important part of overall management of the Reserve; PLSNR was one of the pilot parks for State Parks IMAP project	Funding; staffing	Discuss need for reinstating formal monitoring program and changing or updating monitoring protocols
Restoration of natural processes in the reserve's ecosystem	partial	Controlled burns are part of current management, but are used on limited basis; more burns in 80s and early 90s; invasive weed control	Visitor safety, cost, area closures needed; resources present; permitting issues; air quality concerns; limited success with some controlled burns; concerns about high fuel loads due to pint pitch cancer	Continue current program; build on program through partnerships; explore opportunities for volunteers

Table A-1 1979 General Plan Proposal by Topic and State of Completion				
Proposal	Completed	Why/Why Not	Challenges	Current Opportunities and Constraints
Cultural Resource Management				
Stabilization of various archaeological sites	unclear	unclear	Lacking of detailed location; dense vegetation; some sites are difficult to relocate	Conduct additional re-inventory, recordation and evaluation of sites; access needs for specific management
Interpretation				
Expansion of interpretive program to enhance visitor's understanding and appreciation	yes	Docent program and training greatly expanded; information station; school program; no for visitor facilities	Lack of facilities for a visitor orientation center	Look at regional opportunities; revisit Hudson House; look at offsite/alternative/virtual offerings; build on existing offerings by PLF
Public Access				
Limited public access to Gowen Cypress Area	no	No physical opportunity	Disconnection from main part of preserve; with interconnecting piece in separate ownership for some time; need to use private road to get to access point	Explore alternative ways to access through PLR property; explore potential for easement or permits; re-evaluate access through PLR; continue to expand guided tours; consider sign-ups for visits; use offsite interpretation
Recently acquired area south of San Jose State Beach	yes	Area added to preserve?	none	No need to revisit?
Visitor Services				
GP explored 7 new location for potential parking and visitor service areas (map 21), some of which were on property not owned by State Parks at the time	no	Various feasibility issues	Constraints in ownership; accessibility of site; presence of sensitive resources; support from visitor and neighbors	Explore opportunities on multiple properties; re-access need in light of changes that have occurred since '79 plan; opportunity for regional visitor serving facilities
Convert Whaler's cottage for use as an interpretive facility	yes	Need for facility; good location	Aging structure (roof recently replaces); structure is a listed resource, requiring special management	Confirm current use; explore opportunities for additional services that could be accomplished with advanced technology
Piney Woods – remove parking and provide walk-in access only; retain picnic tables	No; (yes for picnic tables)	Shuttle system not implemented; strong need for picnic area	Area is last to fill in the park; not as well-known as other areas	Explore best and most efficient use of Piney Woods; revisit lay out of picnic area

Table A-1 1979 General Plan Proposal by Topic and State of Completion				
Proposal	Completed	Why/Why Not	Challenges	Current Opportunities and Constraints
Underwater Area				
Expansion of boundaries of the Point Lobos Ecological Reserve beyond the 20 fathom line and placement of both underwater ecological reserves under the jurisdiction of the Department of Parks and Recreation	yes	Importance of underwater resources is widely recognizes; unique diving experience	Visitor capacity; strong control needed to avoid resource damage through overuse	Confirm adequate nature of existing boundary in light of other marine resource designations in the area; confirm reservation system/allowable uses
Improve interpretation of underwater areas	yes	Additional interpretive panels; outreach for divers through PLF website	Traditional interpretive materials do not work for divers	Explore additional venues/ways to enhance interpretation of underwater portion of the park
CRSB				
Parking				
Removal of shoulder parking at San Jose State Beach; alternative parking at eucalyptus grove or Polo Field (preferred location)	no	Cultural resource sensitivities at polo field; lack of public support and potential neighbor conflicts at eucalyptus grove	Safe parking remains a very limiting factor for visitation	Explore opportunities for joint use of parking area with Palo Corona; explore opportunities on Point Lobos Ranch; explore opportunities for offsite solutions; expansion of regional transit?
Development of a 75 car parking lot with restrooms, a few picnic tables, and an improved interpretive program	No; restroom was developed later in new acquisition area	See above	See above	See above
Land Use				
Classification of the Carmel River Lagoon as a Natural Preserve (part of Carmel River SB)	yes	None regarding land use designation	None regarding land use designation	None – current designation is well accepted
Retention of the agricultural use of the Odello property as an important historic activity (part of Carmel River SB)	Partial; organic farm on part of Odello West; Odello East changed (but not part of ’79 plan?)	Need for restoration to address flooding issues	Multiagency interest in lagoon management; presence of federally listed species; feasibility of farming	Partnerships with multiple agencies to address complex issues such as flooding, resource protection; listed species management

APPENDIX B

Checklist of Plants for Point Lobos State Natural Reserve (CNPS Monterey Chapter)

CALIFORNIA NATIVE PLANT SOCIETY – VASCULAR PLANTS
POINT LOBOS STATE RESERVE

Abronia latifolia - yellow sand verbena
Abronia umbellata - pink sand verbina
Achillea millefolium - common yarrow
Acmispon americanus var. americanus - Spanish clover
Acmispon cytisoides - Bentham's lotus
Acmispon glaber - deerweed
Acmispon heermannii var. orbicularis - woolly lotus
Acmispon junceus - rush lotus
Acmispon parviflorus - small-flowered lotus
Acmispon strigosus - Bishop's lotus
Acmispon wrangelianus - Chile lotus
Adenostoma fasciculatum - chamise
Agoseris apargioides var. apargioides - sandhill dandelion
Agrostis exarata - western bent-grass
Agrostis hallii - Hall's bent-grass
Agrostis pallens - leafy bent grass
Aira caryophyllea - silvery hair-grass
Amaranthus blitoides - prostrate amaranth
Ambrosia chamissonis var. chamissonis - beach bur
Amsinckia intermedia - common fiddleneck
Amsinckia spectabilis - seaside fiddleneck
Anagallis arvensis - scarlet pimpernel
Anagallis minima - chaffweed
Anaphalis margaritacea - pearly everlasting
Anthemis cotula - dog fennel/mayweed
Antirrhinum multiflorum - sticky snapdragon
Aphanes occidentalis - lady's mantle
Apiastrum angustifolium - wild celery
Apium graveolens - celery/smallage
Aquilegia formosa - crimson columbine
Arceuthobium campylopodum - western dwarf mistletoe
Arctostaphylos hookeri ssp. hookeri - Hooker's manzanita
Arctostaphylos tomentosa ssp. tomentosa - shaggy-barked manzanita
Armeria maritima ssp. californica - sea pink/Calif. thrift
Artemisia californica - California sagebrush
Artemisia douglasiana - mugwort
Artemisia dracunculus - dragon sagewort/tarragon
Artemisia pycnocephala - beach sagewort
Astragalus nuttallii - Gray's locoweed
Athyrium filix-femina var. cyclosorum - western lady fern
Atriplex californica - California saltbush
Atriplex leucophylla - beach saltbush/sea-scale
Atriplex prostrata - fat hen
Baccharis glutinosa - Douglas' baccharis
Baccharis pilularis - coyote brush
Baccharis pilularis ssp. consanguinea - coyote brush
Bowlesia incana - bowlesia
Brassica oleracea - cabbage
Brassica rapa - field mustard
Briza maxima - rattlesnake grass
Briza minor - little quaking grass
Brodiaea terrestris - dwarf brodiaea
Bromus carinatus var. carinatus - California brome
Bromus diandrus - ripgut grass
Bromus hordeaceus - soft chess
Bromus sterilis - sterile brome
Bromus tectorum - cheat grass
Calamagrostis nutkaensis - Pacific reed-grass
Calandrinia ciliata - red maids
Callitriche marginata - California water starwort
Calochortus albus - globe lily
Calochortus uniflorus - large-flowered star lily
Calystegia macrostegia ssp. cyclostegia - coast morning-glory
Camissoniopsis cheiranthifolia - beach evening primrose
Camissoniopsis hirtella - small primrose
Capsella bursa-pastoris - shepherd's purse
Cardamine oligosperma - bitter-cress
Cardionema ramosissimum - sand mat
Carex globosa - round-fruited sedge
Carex harfordii - Monterey sedge
Carex praegracilis - clustered field sedge
Carex tumulicola - foothill sedge
Carpobrotus chilensis - sea fig
Carpobrotus edulis - Hottentot fig
Castilleja affinis - coast paint-brush
Castilleja ambigua - paintbrush owlclover
Castilleja exserta - escobita
Castilleja latifolia - seaside painted cup
Caulanthus lasiophyllus - California mustard
Ceanothus papillosus - warty-leaved ceanothus
Ceanothus rigidus - Monterey ceanothus
Ceanothus thyrsiflorus - blue blossom
Ceanothus thyrsiflorus var. griseus - Carmel ceanothus
Centaurea melitensis - tocalote
Cerastium arvense ssp. strictum - field chickweed
Cerastium glomeratum - mouse-ear chickweed
Chenopodium album - lamb's quarters/white goosefoot
Chenopodium californicum - California goosefoot/soap plant
Chenopodium murale - wall goosefoot/nettle-leaved goosefoot
Chenopodium rubrum - red goosefoot
Chlorogalum pomeridianum - soap plant/amole
Chorizanthe diffusa - diffuse chorizanthe
Chorizanthe douglasii - Douglas' spine-flower
Cicendia quadrangularis - American microcala
Cicuta douglasii - western water hemlock
Cirsium brevistylum - Indian thistle
Cirsium vulgare - bull thistle
Clarkia lewisii - Lewis' clarkia
Clarkia unguiculata - elegant clarkia
Claytonia perfoliata ssp. perfoliata - miner's lettuce
Clinopodium douglasii - yerba buena
Collinsia bartsiifolia var. bartsiifolia - white Chinese houses
Collinsia heterophylla - Chinese houses
Conium maculatum - poison hemlock
Convolvulus arvensis - field bindweed
Corethrogyne filaginifolia - common corethrogyne
Cornus sericea ssp. occidentalis - western red dogwood
Cortaderia selloana - pampas grass
Cotula coronopifolia - brass buttons

Cotyledon orbiculata var. oblonga - round-leaved cotyledon
Crassula connata - sand pygmyweed
Cryptantha clevelandii - Cleveland's cryptantha
Cryptantha leiocarpa - coast cryptantha
Cryptantha microstachys - Tejon cryptantha
Cuscuta occidentalis - western dodder
Cyperus eragrostis - tall cyperus
Danthonia californica - California oat-grass
Daucus pusillus - rattlesnake weed
Deinandra corymbosa - coast tarweed
Deschampsia cespitosa ssp. holciformis - California hair-grass
Desmazeria rigida - stiffgrass
Dichondra donelliana - California dichondra
Distichlis spicata - salt grass
Drosanthemum floribundum - magic carpet
Drymocallis glandulosa - sticky cinquefoil
Dryopteris arguta - Calif. wood fern
Dudleya caespitosa - sea lettuce
Dudleya farinosa - bluff lettuce
Dudleya lanceolata - lance-leaved dudleya
Dysphania ambrosioides - Mexican tea
Eleocharis macrostachya - pale spike-rush
Elymus condensatus - giant ryegrass
Elymus glaucus - western ryegrass
Elymus triticoides - beardless ryegrass
Epilobium ciliatum ssp. ciliatum - Calif. willow-herb
Epilobium ciliatum ssp. watsonii - San Francisco willow-herb
Equisetum telmateia ssp. braunii - giant horsetail
Ericameria ericoides - mock heather
Erigeron canadensis - horseweed
Erigeron glaucus - seaside daisy
Eriogonum nudum var. auriculatum - coast buckwheat
Eriogonum parvifolium - dune buckwheat
Eriophyllum confertiflorum - golden yarrow
Eriophyllum staechadifolium - lizard tail
Erodium cicutarium - red-stemmed filaree
Erodium moschatum - white-stemmed filaree
Eryngium armatum - coast eryngo/prickly eryngo
Eschscholzia californica - California poppy
Eschscholzia californica var. maritima - California/beach poppy
Euphorbia crenulata - chinese caps
Eurybia radulina - rough-leaved aster
Festuca bromoides - six-week fescue
Festuca myuros - rattail fescue
Festuca perennis - perennial ryegrass
Foeniculum vulgare - sweet fennel
Fragaria vesca - wood strawberry
Frangula californica - California coffeeberry
Fritillaria affinis - checker lily
Galium aparine - goose-grass
Galium californicum - California bedstraw
Galium porrigens - climbing bedstraw
Gamochaeta ustulata - purple cudweed
Garrya elliptica - coast silk-tassel
Gaultheria shallon - salal
Genista monspessulana - French broom
Geranium core-core - New Zealand geranium
Geranium dissectum - cut-leaved geranium
Gilia achilleifolia ssp. multicaulis - many-stemmed gilia
Gilia clivorum - gilia
Grindelia stricta var. platyphylla - coastal gumplant
Hainardia cylindrica - thintail
Hazardia squarrosa - sawtooth goldenbush
Helenium puberulum - sneezeweed/rosilla
Helianthemum scoparium - rush-rose
Heliotropium curassavicum var. occulatum - Chinese pusley
Hesperocyparis goveniana - Gowen cypress
Hesperocyparis macrocarpa - Monterey cypress
Heuchera micrantha - alum root
Heuchera pilosissima - seaside heuchera
Hieracium albiflorum - white hawkweed
Hirschfeldia incana - summer mustard
Holcus lanatus - velvet grass
Hordeum brachyantherum ssp. brachyantherum - meadow barley
Hordeum brachyantherum ssp. californicum - California barley
Hordeum jubatum - foxtail barley
Hordeum marinum ssp. gussoneanum - Mediterranean barley
Hordeum murinum ssp. leporinum - barnyard foxtail
Horkelia californica - California horkelia
Horkelia californica var. frondosa - leafy horkelia
Horkelia cuneata var. cuneata - wedge-leaved horkelia
Hosackia gracilis - coast lotus/witch's teeth
Hypericum anagalloides - tinker's penny
Hypochaeris glabra - smooth cat's ears
Hypochaeris radicata - hairy cat's ears
Iris douglasiana - Douglas iris
Isolepis carinata - keeled club rush
Isolepis cernua - low club rush
Juncus bufonius var. bufonius - common toad rush
Juncus hesperius - bog rush
Juncus patens - spreading rush
Juncus phaeocephalus - brown-headed rush
Juncus tenuis - slender rush
Juncus xiphioides - iris-leaved rush
Koeleria macrantha - Koeler's grass
Lasthenia californica - coast goldfields
Lasthenia minor - goldfields
Lathyrus vestitus - common Pacific pea
Lathyrus vestitus var. vestitus - San Gabriel or canyon pea
Layia platyglossa - tidy tips
Lepechinia calycina - pitcher sage
Lepidium nitidum - common pepper-grass
Lepidium strictum - wayside pepper-grass
Leptosiphon parviflorus - common linanthus
Linum bienne - narrow-leaved flax
Lithophragma heterophyllum - hill star
Lobularia maritima - sweet alyssum
Logfia filaginoides - California filago
Lomatium parvifolium - coast parsnip
Lonicera hispidula - hairy honeysuckle
Lonicera involucrata var. ledebourii - black twinberry
Lupinus albifrons var. douglasii - Douglas' silver lupine
Lupinus arboreus - yellow bush/tree lupine
Lupinus nanus - sky lupine/Douglas' annual lupine
Lupinus variicolor - Lindley's varied lupine
Luzula comosa - common wood rush

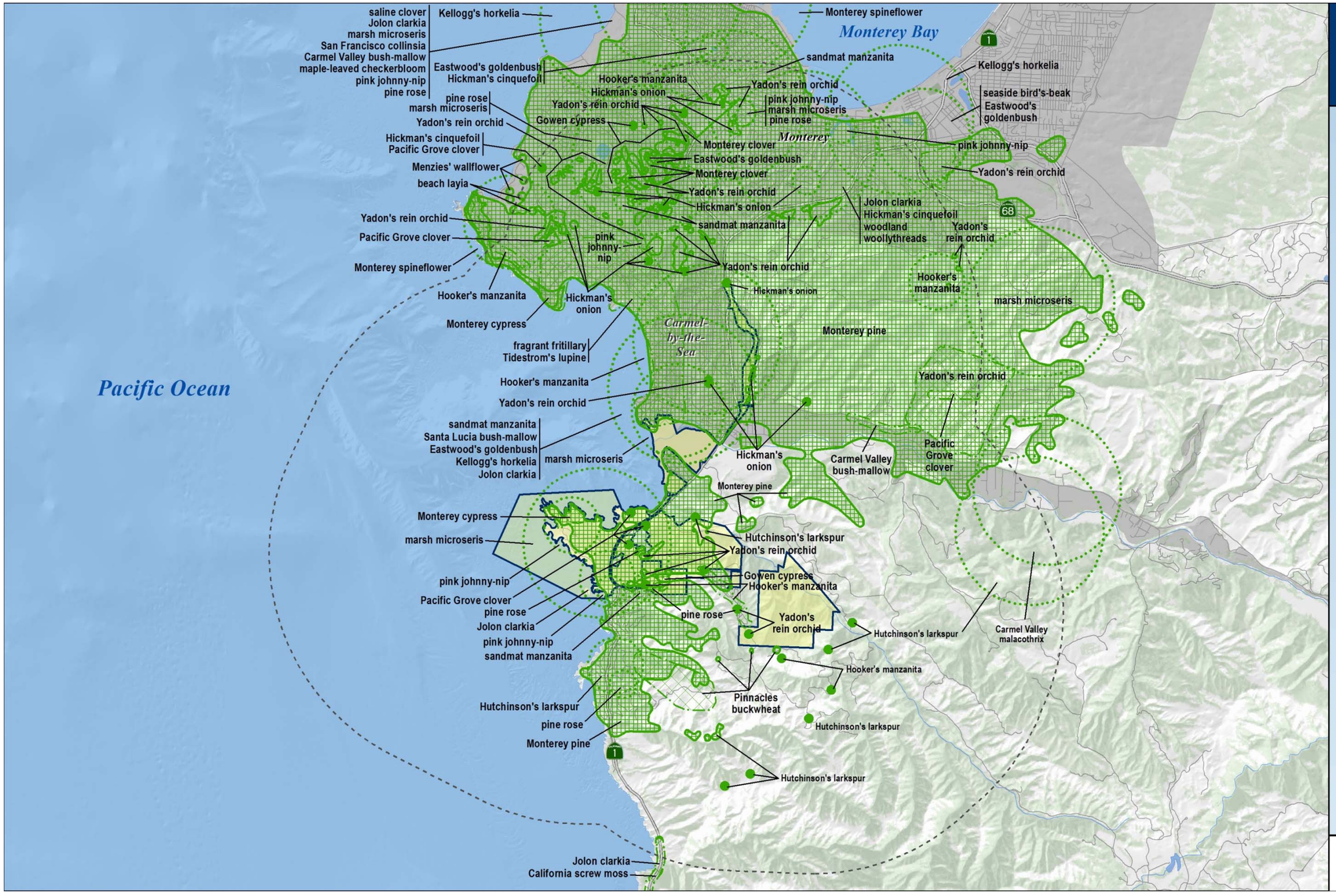
Lythrum californicum - California loosestrife
Lythrum hyssopifolia - grass poly
Madia exigua - small tarweed
Madia gracilis - slender tarweed
Maianthemum racemosum - western Solomon's seal
Maianthemum stellatum - slim Solomon
Malva nicaeensis - bull mallow
Malva parviflora - cheeseweed
Marah fabaceus - man-root/wild cucumber
Marrubium vulgare - horehound
Medicago polymorpha - bur-clover
Melica bulbosa - onion-grass
Melica imperfecta - coast-range melica
Melilotus indicus - Indian melilot
Mesembryanthemum crystallinum - common ice plant
Micranthes californica - California saxifrage
Microseris bigelovii - coast microseris
Mimulus aurantiacus var. aurantiacus - sticky monkey flower
Mimulus guttatus - common monkey flower
Montia fontana - water montia
Morella californica - wax myrtle
Nasturtium officinale - watercress
Navarretia squarrosa - skunkweed
Nemophila heterophylla - variable-leaved nemophila
Nemophila menziesii - baby blue-eyes
Nuttallanthus texanus - toad-flax
Oemleria cerasiformis - oso berry
Oenanthe sarmentosa - American water-lovage/Pacific oenanthe
Oenothera elata - Hooker's evening primrose
Orobanche californica - California broomrape
Osmorhiza berteroi - wood sweet cicely/mountain sweet cicely
Oxalis pilosa - hairy wood-sorrel
Parapholis incurva - sickle grass
Parietaria hespera - western pellitory
Pellaea mucronata var. mucronata - bird's-foot fern
Pentagramma triangularis ssp.triangularis - goldback fern
Perideridia gairdneri - Gairdner's yampah/squaw root
Phacelia distans - wild heliotrope
Phacelia malvifolia - stinging phacelia
Phalaris californica - California canary-grass
Pholistoma auritum - blue fiesta flower
Phyllospadix scouleri - Scouler's surf-grass
Phyllospadix torreyi - Torrey's surf-grass
Pinus radiata - Monterey pine
Piperia elegans - elegant rein orchid
Plagiobothrys chorisianus var. hickmanii - Hickman's popcorn flower
Plantago elongata - annual coast plantain
Plantago erecta - California plantain
Plantago major - common plantain
Plantago maritima - Pacific seaside plantain
Plantago ovata - plantago
Plantago subnuda - Mexican plantain
Plectritis macrocera - white plectritis
Poa annua - annual bluegrass
Poa douglasii - dune bluegrass
Polycarpon depressum - California polycarp
Polygala californica - California milkwort
Polygonum aviculare ssp. depressum - common knotweed
Polypodium californicum - California polypody
Polypogon monspeliensis - rabbitsfoot grass
Polystichum munitum - sword fern
Populus trichocarpa - black cottonwood
Potentilla anserina ssp. pacifica - Pacific silver-weed
Prunus ilicifolia ssp. lyonii - Catalina cherry
Pseudognaphalium biolettii - Bioletti's cudweed
Pseudognaphalium californicum - California everlasting
Pseudognaphalium luteoalbum - weedy cudweed
Pseudognaphalium ramosissimum - pink everlasting
Pseudognaphalium stramineum - cotton-batting plant
Psilocarphus chilensis - slender woolly-heads
Psilocarphus tenellus - slender woolly-heads
Pteridium aquilinum var. pubescens - western bracken fern
Pterostegia drymarioides - pterostegia
Quercus agrifolia var. agrifolia - coast live oak
Ranunculus californicus - California buttercup
Raphanus sativus - wild radish
Ribes menziesii - canyon gooseberry
Ribes menziesii var. menziesii - gooseberry
Ribes sanguineum var. glutinosum - red flowering currant
Rosa californica - California wild rose
Rubus parviflorus - thimbleberry
Rubus ursinus - California blackberry
Rumex acetosella - sheep sorrel
Rumex conglomeratus - clustered dock
Rumex crassus - coastal willow dock
Rumex crispus - curly dock
Rumex pulcher - fiddle dock
Rumex salicifolius - willow dock
Rupertia physodes - California tea
Sagina decumbens ssp. occidentalis - western pearlwort
Salicornia pacifica - pickleweed
Salix lasiolepis - arroyo willow
Salix scouleriana - Scouler willow
Salvia columbariae - chia
Salvia mellifera - black sage
Sambucus nigra ssp. caerulea - blue elderberry
Sanicula arctopoides - footsteps-of-spring
Sanicula crassicaulis - gambleweed/Pacific sanicle
Sanicula laciniata - coast sanicle
Scabiosa atropurpurea - pincushions
Schoenoplectus americanus - three square
Scirpus microcarpus - panicled bulrush
Scrophularia californica - bee plant
Selaginella bigelovii - Bigelow's moss-fern
Senecio glomerata - cut-leaved fireweed
Sequoia sempervirens - coast redwood
Sidalcea malviflora ssp. malviflora - checker bloom
Silene coniflora - many-nerved catchfly
Silene gallica - windmill pink
Silybum marianum - milk thistle
Sinapis arvensis - charlock
Sisymbrium altissimum - tumble mustard
Sisymbrium officinale - hedge mustard
Sisyrinchium bellum - blue-eyed grass
Solanum douglasii - Douglas' nightshade

Solanum nigrum - black nightshade
Solidago spathulata - dune goldenrod
Solidago velutina ssp. californica - California goldenrod
Soliva sessilis - common solvia
Sonchus asper ssp. asper - prickly sow thistle
Sonchus oleraceus - common sow thistle
Spergula arvensis - spurry
Spergularia macrotheca - large-flowered sand spurry
Spergularia rubra - purple sand spurry
Spiranthes romanzoffiana - hooded ladies' tresses
Stachys bullata - wood mint
Stellaria media - common chickweed
Stephanomeria virgata ssp. pleurocarpa - tall stephanomeria
Stipa pulchra - purple needlegrass
Symphoricarpos mollis - creeping snowberry
Symphyotrichum chilense - common Calif. aster
Taraxia ovata - suncups
Tetragonia tetragonioides - New Zealand spinach
Thalictrum fendleri var. polycarpum - many-fruited meadow-rue
Toxicodendron diversilobum - poison oak
Toxicoscordion fremontii - Fremont's star lily
Trientalis latifolia - star flower
Trifolium barbigerum - colony clover
Trifolium depauperatum var. truncatum - bladder clover
Trifolium gracilentum - pinpoint clover
Trifolium macraei - double-headed clover
Trifolium microcephalum - maiden clover
Trifolium willdenovii - tomcat clover
Trifolium wormskioldii - cow clover/coast clover
Triglochin scilloides - flowering quillwort
Triphysaria pusilla - dwarf owl's clover
Triteleia hyacinthina - white brodiaea
Turritis glabra - tower mustard
Uropappus lindleyi - Lindley's microseris
Urtica dioica ssp holosericea - hoary nettle
Vaccinium ovatum - evergreen huckleberry
Verbena lasiostachys - western vervain
Veronica americana - American brooklime
Vicia americana ssp. americana - American vetch
Vicia ludoviciana ssp. ludoviciana - slender vetch
Viola pedunculata - johnny jump-up
Woodwardia fimbriata - chain fern
Xanthium spinosum - spiny clotbur
Zeltnera davyi - Davy's centaury
Zostera marina - eel-grass

APPENDIX C

Regional CNDDB Occurrences

Carmel Area State Parks General Plan



Special-status Plant Occurrences

- Planning Area Boundary
- 3-mile Buffer Area
- Plant - Accuracy Class 1
- Plant - Accuracy Class 2
- Plant - Accuracy Class 3
- Plant - Accuracy Classes 4-9

CNDDB Accuracy Class 1: Reported occurrence is a point; location considered accurate to within the minimum mappable unit of 80 meters.
CNDDB Accuracy Class 2: Reported location is an area with defined boundaries.
CNDDB Accuracy Class 3: Reported location is a non-specific area; buffer added to represent degree of uncertainty in reported location.
CNDDB Accuracy Classes 4-9: Reported location considered accurate within the radius shown.

Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

Source: DPR 2012, CNDDB 2012

Aerial Imagery: NAIP 2010

X 60218640 006 4/13

0 0.75 1.5

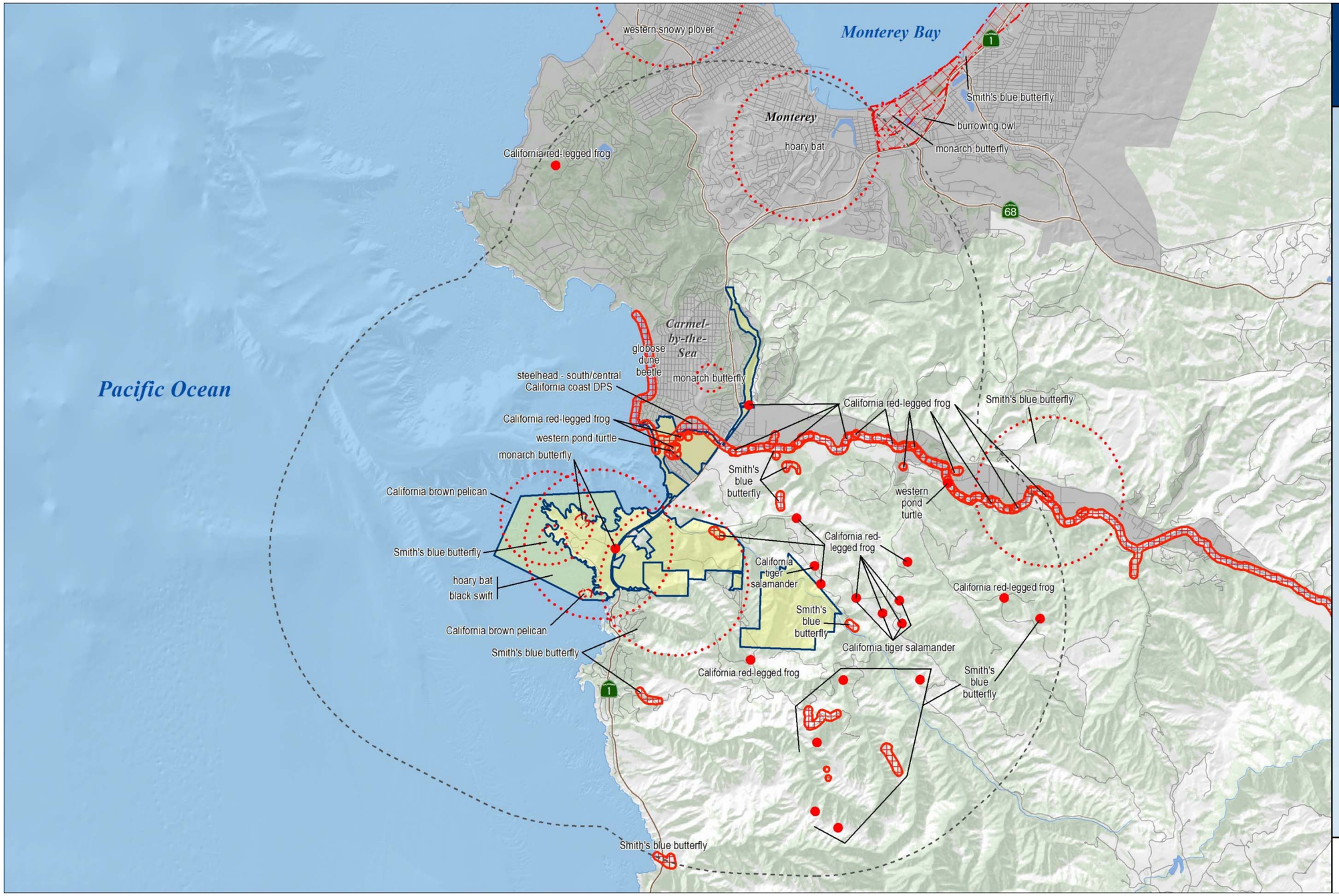
MILES

NORTH

AECOM

Exhibit C-1

Special-Status Plant Occurrences



Carmel Area State Parks General Plan

Special-status Animal Occurrences

- Planning Area Boundary
- 3-mile Buffer Area
- Animal - Accuracy Class 1
- Animal - Accuracy Class 2
- Animal - Accuracy Class 3
- Animal - Accuracy Classes 4-9

CNDDB Accuracy Class 1: Reported occurrence is a point; location considered accurate to within the minimum mappable unit of 80 meters.
CNDDB Accuracy Class 2: Reported location is an area with defined boundaries.
CNDDB Accuracy Class 3: Reported location is a non-specific area; buffer added to represent degree of uncertainty in reported location.
CNDDB Accuracy Classes 4-9: Reported location considered accurate within the radius shown.

Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

Source: DPR 2012, CNDDB 2012

Aerial Imagery: NAIP 2010

X 60218640 005 11/12

0 0.75 1.5

MILES

NORTH

AECOM

Exhibit C-2

Special-Status Animal Occurrences

APPENDIX D

Cultural Resources – Confidential

APPENDIX E

Whalers Cabin Scope of Collections Statement

Point Lobos State Reserve
Scope of Collections Statement

Prepared by:

Kris Quist
Museum Curator II
Monterey District

November 7, 2007

Approved: _____ **Date:** 12/20/07

Mat Fuzie, District Superintendent
Monterey District

STATE OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

Introduction

The Scope of Collections Statement is a management plan for museum collections at Point Lobos State Reserve, a unit within the California State Parks System. The purpose of this document is to define what objects constitute the collection for this park, how the objects are used, and which objects are appropriate for the park to acquire. The Scope of Collections Statement describes how the park intends to exhibit, preserve and interpret its museum collections. This document includes: a description of the park's museum collections; historic time periods and interpretive themes associated with the museum collections; intended uses of the museum objects; and recommendations for future acquisitions and collection management goals.

Point Lobos State Reserve is located about seven miles south of Monterey adjacent to Highway One. It is a park unit in the Monterey Sector.

Throughout the twentieth century and prior to State ownership, Point Lobos has had tourist visitation. Early visitors to the Monterey Coast region frequented Point Lobos, at times paying for the privilege. In 1926 the Save-the-Redwoods League met to promote the idea of acquiring Point Lobos as a public reserve. The meeting resulted in the hiring of landscape architect Frederick Law Olmsted's company to conduct a study and prepare a report on the areas in California most worthy of preservation. The report, released in 1929, found Point Lobos to be of primary importance. This started the movement toward the state's acquisition of Point Lobos. On February 8, 1933, the transfer of land was finally accomplished and Point Lobos became public property. The initial acquisition of 356 acres was purchased by the State of California for the price of $631,000.[1]

At the end of 1933, the Advisory Committee on Protection and Use of Point Lobos and the Frederick Law Olmsted company were commissioned to develop the master plan for development and administration of Point Lobos. This original master plan was financed by the Carnegie Foundation and the Save-the-Redwoods League. The final report, with policy recommendations, was submitted to the State Park Commission in 1936.

Point Lobos State Reserve is especially significant for its unsurpassed natural beauty, an abundance of wildlife and rich cultural history. The diverse cultural historic fabric is interwoven into the natural history of the park. The Reserve includes over thirty-five areas that have been identified as Native American sites. The cultural history of Point Lobos also includes a Portuguese whaling camp and Japanese abalone harvesting site, California's earliest Chinese settlement, movie locations, U.S. Army facilities, a shipwreck, an associated coal mine, a granite quarry and a planned housing development. In addition, cattle grazing, vegetable farming, fishing and dairying all took place at Point Lobos.

Brief Description of the Collections

Fewer than 100 catalogued State Park museum objects and approximately 206 loaned objects make up the Reserve's museum collections. This collection reflects the wide diversity of the cultural history and natural history of the park unit. The museum collection includes: natural history specimens that vary from whale bones to fossils in sedimentary rock, a multi-cultural archaeological collection that includes a small number of Native American artifacts, commercial fishing objects, movie memorabilia, WW II artifacts, photographic prints, archival documents, and commercial, personal and household items from many native Californian and immigrant families associated with Point Lobos.

Sources Consulted

The following documents were consulted to develop this Scope of Collections Statement. The Point Lobos State Reserve and Carmel River State Beach General Plan (1979), and the Plan's Amendments (1988 and 1996), Cultural Preserve Interpretive Planning Documents, Point Lobos Interpretive Prospectus, Furnishing Plans for the Whalers Cabin, various park maps and brochures were used in developing the Scope of Collection document. Many of these documents can be found in the Department of Parks and Recreation's Digital Documents Catalog (UDF) while others can be found at the Monterey District Office or at the Whalers Cabin. Bibliography of sources and notes are located at the end of this document.

Point Lobos State Reserve Declaration of Purpose

"The purpose of Point Lobos State Reserve is to perpetuate forever, for public enlightenment, inspiration and esthetic enjoyment, an area of unique natural beauty and ecological significance including the Monterey cypress-covered headlands, unique Gowen cypress pygmy forests, Monterey pine forests, meadows and prairies, rocky shorelines, sandy beaches, and ecologically unique underwater areas, together with the related natural scenic, and cultural values and the aquatic and terrestrial flora and fauna in an essentially pristine state." [2]

Chronological History of Point Lobos State Reserve

Prehistoric Habitation, the Rumsien-Ohlone Era–Pre 1769

Native Americans have lived in the Point Lobos area for thousands of years, with the Rumsien (Rumsen) being the most recent group of indigenous people. The Rumsien people resided from the Pajaro River to Point Sur, and along the lower courses of the Pajaro, Salinas and Carmel Rivers. The main village site was mapped on the Carmel River several miles from the coast line. The Rumsien camped seasonally at Point Lobos for over 2500 years.

The Rumsien were the first Native American people to be seen and documented by the Spanish explorers beginning with Sebastian Vizcaino who arrived in 1602. In 1769 Father Juan Crespi, a Franciscan missionary who was a

member of the Portola Expedition, noted a "great many massive shell middens" present throughout the area of Point Lobos.[3] Since that first assessment, thirty-five areas within the reserve have been identified as pre-historic Native American sites.

Note: Waldo Wedel surveyed the Reserve in 1935 for the Save-the-Redwoods League and recorded 19 Native American archaeological sites. Subsequent surveys by Arnold Pilling, from UC Berkeley and California State Parks added 16 sites with the last being as recent as 2004.

The Spanish Era, 1602-1822

In 1602, Spanish explorer Sebastian Viscaino landed at nearby Carmel Bay and his party likely explored Point Lobos. In 1769, the first overland party led by Don Gaspar de Portola arrived in the area, and it is speculated that they camped very near or within the reserve. Two years later Father Junipero Serra established Mission San Carlos de Borromeo de Carmelo located near the mouth of the Rio Carmelo. The Spanish used Point Lobos for grazing for the mission's cattle.

During the Spanish era, the Rumsien people's lives changed with the building of the Mission San Carlos Borromeo. Most of the Rumsien who lived near Point Lobos moved into the mission and were baptized. They were educated to be Catholic neophytes and live on mission grounds until the Carmel Mission was discontinued by the Mexican Government in 1834.

The Mexican Era, 1822-1848

The land south of the Carmel River remained in the control of the Carmel Mission during the first decade of the Mexican era. Following the 1834 secularizations of the California Missions, Alta California Governor Juan Alvarado granted in 1835 land south of the Rio Carmelo to Teodoro Gonzalez. (This land grant included all lands that are now part of the reserve.) In 1836 Gonzalez sought and received another land grant such that the Mexican government re-granted the property that included Point Lobos to Marcelino Escobar. Escobar named the property Rancho San Jose y Sur Chiquito. In 1841, with Escobar's permission, his wife and two adult children sold the rancho to Don Estrada Abrego. One year later Abrego sold the property to group of officers and soldiers stationed at the Monterey Presidio. In 1844, the property was acquired by Jose Castro. In 1854, Castro sold Rancho San Jose y Sur Chiquito to Abner Basset and Joseph Emery for use as a site for quarrying granite.[4]

The Early American Period, 1845-1858
Yankee Traders and Shipwrecks

The distinct coast line of Point Lobos has been used as a navigational aid for ships for centuries. In 1845, the schooner "Star of the West" shipwrecked onto rocks at the mouth of the Whalers Cove. Precious cargo from the Orient lay trapped in the ship. Thomas O. Larkin, United States Consul to Mexico living in

Monterey, and those working for him salvaged the wreckage. Larkin laid claim to a small fortune while three of the divers are reported to have drowned working the salvage operation.

The Chinese

In the early 1850s, a small group of Chinese fishermen, led by Quock Fook Loy, and their families arrived at Point Lobos establishing the first known Chinese village in California. They settled onto the west shore of present day Whalers Cove where they built their residences, one of which stands today. All evidence points to the present day "Whalers Cabin", located near the cove, as being built by these early Chinese fishermen. The United States 1860 census lists a "Carmel Fishing Co." owned and operated by Chinese.[5] The Chinese and their village remained at Point Lobos through the 1870s.

Carmelo Granite Quarry

Abner Basset and Joseph Emery were New England stonemasons who in 1854 purchased Point Lobos from Jose Castro for $700.00. They established the Carmelo Granite Quarry located on the west side of Whalers Cove. For approximately five years, up to 35 workers quarried the "Santa Lucia Granodiorite" outcrop, shipping the slabs throughout Northern California (most notably Fort Point, the steps of the first San Francisco Mint, and the Mare Island Navel Shipyards.) In 1858, a more accessible source of granite was developed east of Sacramento at which time the Carmelo Granite Quarry ceased to operate.

Middle American Period, 1858-1898
Portuguese Whalers

In the early 1860s, Point Lobos' proximity to the whale migration routes attracted Azorean/Portuguese whalers to the cove. These Portuguese practiced "shore whaling", where they would row out to sea and harpoon the whales as they passed near the point. After a "Nantucket Sleigh Ride", the whale was towed near the site of the abandoned quarry where the whale was processed and rendered into oil. The Azorean Whalers built their residences on the south side of the cove. Around 1880 the availability of less expensive kerosene oil for lighting purposes replaced whale oil and the whaling site closed. Some of the Portuguese turned to dairying, and other whalers returned in 1897 to assist Japanese in a whaling venture operation under the name Japanese Whaling Company. Currently this whaling company is the only known Japanese whaling enterprise in California

The Carmelo Land and Coal Company

In the 1870s, a low-grade coal was discovered in nearby Mal Paso (or Malpaso) Canyon. Soon thereafter, William Strader negotiated a lease with Joseph Emery to develop a coal mine. The mined coal was hauled by 4-horse wagon teams to be loaded aboard ships at Coal Chute Point, opposite the Chinese cabin in Whalers Cove. Stader went bankrupt in 1879, however the Mal Paso coal mining venture continued into the 1890s under the control of Emery.

In 1890, the Carmelo Land and Coal Company established a 1,110-lot housing development at Point Lobos which was named "Carmelito". The lots varied from twenty-five to fifty feet in size and were priced from $50 to $75 each.[6] Plot maps showed the lots to be packed together in the meadow facing Whalers Cove. The lots proved to be difficult to sell, primarily due to their inaccessibility, and Carmelito was never fully developed. A.M. Allan would later have this housing development removed from the Monterey County map ensuring that Point Lobos would never be commercially developed.

Alexander M. Allan

In 1898, A.M. Allan purchased Point Lobos for a business investment and residence. One year later in 1899 a toll charge of 50 cents per vehicle began to be charged for those who wished to enter the property. From then on, people would pay to picnic and sightsee at Point Lobos. That same year Allan laid narrow-gauge railroad tracks from San Jose Beach to Coal Chute Point for the purposed of transporting sand to ships which ferried the commodity to markets. There was also a dairy directly associated with the current Reserve property. Beginning in 1903, Allan's Point Lobos Dairy grazed cattle on what is now Point Lobos Reserves while its dairy buildings were located across the road at Point Lobos Ranch. The Point Lobos Dairy marketed Jack cheese and for a time sold milk door-to-door before selling it wholesale.

Japanese Fishery

In 1898, A.M. Allan entered into a business partnership with a Japanese marine biologist named Gennosuke Kodani. They established and operated an abalone fishery and opened a cannery in 1902.[7] The partnership lasted over thirty years to 1930. Although the cannery was shut down after the State acquired the property in 1933, Japanese divers continued to harvest abalone up to shortly before World War II.

The Twentieth-Century American Period
Save-the-Redwoods League

The Save-the-Redwood League was founded by conservationists who were driven by the urgent need to preserve California's ancient redwood groves. In 1920 Save-the Redwoods League was incorporated with Newton Drury as its Executive Secretary. In 1925 the League broadened its mission and established a California State Parks Committee. This committee's purpose was to press for legislation creating a state park commission and mandating a survey of potential state park sites. Two years later, California Governor C.C Young signed legislation creating the California State Parks Commission and funding for a state park survey by landscape architect Frederick Law Olmsted, Jr. Olmsted surveyed the state of California in 1929 making recommendations for parks with outstanding scenic values. Point Lobos was one of the prime locations identified by the *Olmsted Survey* that would become a State Park.

In the early 1930s, the Save-the-Redwoods League and the Carnegie Institute commissioned Olmsted to produce a comprehensive study of Point Lobos. Between 1932 and 1935 the Olmsted firm engaged in an intensive landscape and scientific study of Point Lobos. The 294 page, *Point Lobos Reserve Master Plan* was completed in 1935 and continues to this day to be the foundation of much of the natural conservation at the reserve.

Motion Picture Industry

Hollywood discovered Point Lobos in 1914 when the first movie, *Valley of the Moon*, was filmed there. The motion picture industry soon began taking interest in the dramatic coastline of Point Lobos. Forty-eight major motion pictures have been filmed at or near Point Lobos over the ensuing years. Silent movies, black and white motion pictures and color film productions span the filming history at Point Lobos. Some of these movies have included *Ramona* – 1927; *The Iron Mask* and *Evangeline* -1929; *Treasure Island* and *He Was Your Man* – 1934; *Rebecca* – 1940; *A Summer Place* – 1959; *The Sandpipers* -1964; *The Graduate* -1967 and *Turner and Hooch* - 1989. For a full listing of known motion pictures film at Point Lobos refer to the Appendix.

Numerous movie sets were constructed throughout Point Lobos, with the most extravagant being built prior to the Reserve designation. Small cottages, a lighthouse and expansive villages were constructed for the movies. In the early days of motion picture there were elaborate, but cheap movie sets and it was easier to burn than to disassemble them. During the filming at Point Lobos of Evangeline a small fire was set to burn part of one of the sets and the ensuing massive wildfire scarred acres of the Point Lobos landscape for decades. In time the park ceased to allow this destructive film practice.

World War II

During World War II, starting in 1941, Point Lobos was a station for a U.S. Army Coastal Defense Squad and the location of the 4th Air Force Long Range Radar Site. In 1943, the 543rd Amphibious Brigade used the Whalers Cove for the training of landing craft operations.

Painters, Poets and Photographers

Point Lobos Reserve is the "greatest meeting of land and water in the world" stated the noted artist Francis McComas. McComas coined this phrase decades ago and it has been repeated ever since. The beauty of Point Lobos has been captured on paper, canvas and in words. When the *Point Lobos Master Plan* was commissioned, both the Save-the-Redwood League and the Carnegie Institute recommended that an "artist" be included on the Point Lobos State Reserve advisory board. For decades various coastal scenes have been painted by artists that include Francis McComas, Charles Bradford Hudson, Percy Gray, William P. Silva, Chiura Obata and many others.

It has been said that the rugged coastline of Point Lobos inspired Robert Louis Stevenson as he described Treasure Island. Jack London made many trips to Point Lobos where it is said that he feasted on abalone. Poets such as Robinson Jeffers, George Sterling, Robert Bly, Elliot Ruchowitz-Roberts and many others have found inspiration at Point Lobos and it is reflected in their works. Point Lobos also was special to John Steinbeck. In addition to spending time at the reserve with Ed "Doc" Rickets, both his wife and son have stated that some of his ashes were scattered near the mouth of Whalers Cove.

Noted photographers Ansel Adams, Edward Weston and his sons Cole and Bret Weston, Robert Blaisdale and countless others have taken both color and black and white photographic images of Point Lobos. The visual beauty of the Reserve continues to be captured in photographs by both amateurs and professionals alike.

Stewardship – 1933 to the Present

Point Lobos became a part of California's new park system in 1933. It was given the designation of Reserve to ensure that its natural state be preserved. Stringent guidelines were established for the stewardship of the land and surrounding sea. From earlier days when much of Point Lobos has been an open landscape where trees were harvested and meadows cleared, the Reserve status would henceforth allow for the vegetation to return. Without decades of cattle grazing the Monterey pine trees have reclaimed much of what would have been meadow.

In the early 1930s, the company of Frederick Law Olmstead Jr. made recommendations for the park layout of Point Lobos. The study was conducted by George B. Vaughan who, with his family, lived on site from 1934 to 1935. Soon thereafter, H. Lee Blaisdell, an educated forester, worked on the park's plans and supervised the construction of the trails. The layout and the trails exist today, just as they were envisioned nearly 80 years ago.

In 1960, the State Lands Commission deeded 750 acres of submerged land to Point Lobos State Reserve. This addition created the nation's first Marine Protected Area. In 1973, this portion of the Reserve was dedicated as the Point Lobos Ecological Underwater Reserve. To help preserve the underwater elements of Point Lobos, only a limited amount of divers are permitted daily access.

Point Lobos State Reserve received national recognition in 1968 when it was designated as a United States Registered Natural Landmark under the National Park Service. Point Lobos was the first unit of the California State Park system to obtain this national designation. Under the National Landmark Program, areas picked for registration must possess exceptional value or quality in illustrating or interpreting the natural heritage of the nation, and must be essentially unspoiled.

In 1989, after several years of research and development, the Whalers Cabin Museum was opened at Point Lobos. The Whalers Cabin, and its associated Shore Whaling Museum, are open daily and focus on the cultural history of Point Lobos. In 2007, the Whalers Cabin was placed on the National Register of Historic Places.

Resource management tools and techniques, including prescribed burns, are used to manage the vegetation of the Reserve in a way that imitates natural processes. Since 1980s, the controlled fire management program has played a key role in maintaining the natural diversity of Point Lobos.

Some of the historic cultural resources of the Reserve have been affected by the State's past focus on the natural environment of Point Lobos. The Japanese village, which was present in the 1930s, was removed by Parks in their zeal to focus on the natural history at the expense of Point Lobos' cultural history.

Point Lobos State Reserve Interpretive Themes from the 2007 Interpretive Prospectus

The Point Lobos State Reserve Unifying Interpretive Theme:
This oasis of biological diversity has provided livelihood, inspiration, and spiritual renewal to people throughout the ages.

Primary Theme:
Point Lobos State Reserve is the "greatest meeting of land and water in the world" (Frances McComas). The effects of the sea on the geological formation, on the climate, and on the biota of the reserve are significant.

Secondary Theme:
Point Lobos and Cypress Point, two rocky headlands of the reserve, are the last foothold for the Monterey cypress, a Pleistocene relic. This magnificent tree was the prime reason for the reserve becoming a unit of the State Park System.

Secondary Theme:
Marine mammals such as sea lions, seals, sea otters are abundant at the Reserve and whales can be seen during their migrations.

Secondary Theme:
Scuba divers discover the unique subtidal world on their trips beneath the sea, and visitors can observe the intertidal zones at low tides throughout the year.

Secondary Theme:
The landscape (flora and fauna) has changed over time by natural and human causes. Plant succession continues to play a role.

Primary Theme:
Point Lobos also has a rich and diverse human history dating back more than 2,000 years

Primary Theme:
The natural beauty of Point Lobos has inspired naturalists, artists, authors, photographers, and regular citizens for many years. And the reserve's sublime scenic qualities and unique natural landscape led to calls for its preservation, setting the stage for Point Lobos to become a state reserve.

Secondary Theme:
The reserve is a model of stewardship through community involvement such as the docent program and the partnership with the Point Lobos Association.

History of the Museum Collections at Point Lobos State Reserve

The primary museum collection for Point Lobos SR was developed in the 1980s when the Whalers Cabin was designated for interpretive use. The majority of this collection was acquired by the Point Lobos Association and is on loan to California State Parks. The Point Lobos Association, which is a State Park cooperating association, has actively collected cultural materials relating to the Reserve. This organization has contributed greatly to the interpretive and museum programs at the Reserve, both financially and through volunteer efforts.

The Department has acquired whale bones and whale baleen by collecting specimens from whales that had beached and died on State Park property. Marine mammal pelts have been acquired from the California Department of Fish and Game or other local government agencies. All natural history specimens from protected species have use permits issued by the National Marine Fisheries Service and the Department of Interior's Fish and Wildlife Service. Other natural history specimens have been obtained when found on state park property. These specimens are primarily birds and small land mammals which have been freeze-dried, mounted, and treated for preservation.

The State Archaeological Resource Facility in West Sacramento houses most of the objects obtained during archaeological surveys, monitoring, and excavations.

Museum Collection Content Summary and Uses of the Collection

The majority of museum collections at Point Lobos State Reserve consist of a variety of objects related to the reserve's cultural history. While the historical use of the land spans at least two hundred years, most of the collection dates

from the twentieth century. Because the museum collections are so diverse, they are described based upon their location.

Whalers Cabin

The Whalers Cabin has existed at Point Lobos since the mid 19th century. Originally built by Chinese fishermen, the cabin was used as a residence for over a century. It was renovated in the mid 1980s for use as a museum. In 2007 the Whalers Cabin was placed on the National Register of Historic Places. This is the site where the majority of the Point Lobos Museum Collection is located.

A significant portion of the museum collections in this building consists of objects that have been used historically at Point Lobos. These items range from tools and equipment to objects associated with the commercial use of Point Lobos such as dairy equipment, fishing and abalone diving equipment, granite and coal mining tools to the ship's bell from the shipwrecked *Star of the West*, movie memorabilia and a few military artifacts. Archeological objects, as well as original and reproduction Native America artifacts are displayed in the museum. There is also a historic stove, horse saddle with tack, and personal objects belonging to various individuals associated with Point Lobos on exhibit. Of the collections that are not from Point Lobos, almost all are similar to type of artifacts that would have been used on site. The most notable of the similar artifacts is the displayed diving suit. The exhibited object is of Chilean rather than Japanese in origin. Though similar to the Chilean suit, the Japanese diving equipment was adapted on-site by Gennosuke Kodani for use in the chilly waters of Point Lobos. [8] There are two historic Japanese diving helmets on display, with only one accurately attributed on its exhibit card.

Ninety-five percent of the collection on exhibit in the Whalers Cabin is on loan to California State Parks from the Point Lobos Association. The Association has actively collected artifacts that directly relate to Point Lobos since the mid 1980s. Provenance documentation and information relating to the PLA's objects is maintained by the Association.

The museum utilizes reproduction historic photographs and documents to augment the interpretive text. All museum objects are catalogued and photographed, with these documents being stored off-site. Those objects on loan to California State Parks are listed on a DPR 926 document and are insured by their owners. This loan is evaluated every two years and if accepted, is signed by the Monterey Sector Superintendent.

The physical condition of the museum objects located in the Whalers Cabin is for the most part stable. The facility is not insulated nor is its environment controlled. The front door to the building is left open during most operating times. There are high levels of relative humidity; however, there are no signs of mold or excessive oxidation to the metal artifacts. Past signs of termite infestation have been addressed by electric treatments to the building. The

building is regularly cleaned and food is not allowed inside. There is a security alarm system installed, which is monitored by a commercial security service. However the alarm call-out system failed when in 2001, a large collection of carved abalone shells where stolen from the cabin in the middle of the night. These insured artifacts were on loan to State Parks by the Point Lobos Association. This collection of objects has not been recovered. Since that incident, a different security firm has the service contract for the Whalers Cabin and new call-out protocols have been established.

The Shore Whaling Museum

This museum facility is used to interpret the Portuguese and Japanese commercial shore whaling enterprises that were based at Whalers Cove. (In 1974 the United States Board of Geographic Names declared Whalers Cove to be the official designation.[9] This is the only location in California to have a museum interpreting the whaling industry and is located adjacent to a historic whaling site.

A former garage adjacent to the Whalers Cabin was modified to serve as the museum facility in the late 1980s. All the objects displayed are period appropriate or reproductions. The focus for this building is whaling tools and devices. These include a diverse collection of whaling tools on loan to State Parks from the Point Lobos Association. None of these tools were ever used at Point Lobos, however they are similar to what was used by the Portuguese whalers of California.

The physical condition of the museum objects located in the Shore Whaling Museum Cabin is for the most part stable. The facility is not insulated nor is its environment controlled. The front door to the building is left open during most operating times. There are high levels of relative humidity; however, there are no signs of mold or excessive oxidation to the metal artifacts. The building is regularly cleaned and food is not allowed inside. There is a security alarm system installed, which is monitored by a commercial security service.

Outside Exhibits Located At Whalers Cove

Directly outside the Shore Whaling Museum is a collection of three large metal try pots once used to render whale blubber into oil. The pot with a ridge on the exterior came from Point Lobos. A second pot, very similar to the first was transferred from the Stevenson House in Monterey where it was once used as a planter. There is no provenance for this object prior to it having been used at the Stevenson House. The third pot was acquired by the Point Lobos Association as a donation from an individual from Carmel. It has flat sides that were designed for heat radiation when they were adjacent to other similarly shaped try pots. This style of pot was used on board the big ocean-going whaling ships. A smaller try pot donated to State Parks sits apart from the three large try pots. This pot's use in the whaling industry is questionable due to its smaller size.

The anchors displayed came from Whalers Cove but have not been associated with any specific ship. The maker or age of the anchors has not been determined.

The "Bone Yard" is a collection of whale bones from various types of whales that have washed-up at Point Lobos or other local State Park beaches. The oldest are from a fin whale which came ashore in 1902 or 1903 and was installed in an exhibit at Sea Lion Point in the early 20th century. The whale skeleton was a major tourist attraction and postcards of this whale were the most popular postcard in Monterey County in the early 1900s. All that is left of the skeleton is the skull which was moved to the Whalers Cabin at an unknown date. Against the exterior wall of the Whaling Station Museum is a large section of whale baleen from a humpback whale. This baleen was collected by State Parks from a whale that had washed up at Soberanes Point. This specimen is the largest, in tact section of whale baleen on the West Coast of United States and Hawaii. It is registered with the National Marine Fisheries Service.

In back of the Whalers' Cabin are a few representative artifacts from the coal mining operation that existed in Mal Paso Canyon. This includes large pulley wheels and the skip (mine elevator) from the coal mine, as well as a reproduction ore cart. There are also sections of railroad track used by the little rail line that ran from Monastery Beach to Whalers Cove where the coal was shipped.

The environmental conditions outside of the Whalers Cabin are constantly affecting the preservation of the museum artifacts and natural history specimens. Oxidation in the form of rust is prevalent on all of the metal artifacts. The metal objects have received preservation treatments in the past, but there is no on-going program for their protection. Drain holes have been drilled through the bottom of the try pots to eliminate standing water, and all the metal objects are placed on gravel or elevated above grade to keep them off wet soil. There is no record of the whale bones or baleen being treated with a protective preservation coating. Never the less, in 2007 the natural history specimens appear to be in stable condition with only moderate deterioration to their surfaces.

The Interpretive Information Station outside exhibit (Located at the Sea Lion Point parking lot)

The interpretive trailer displays a number of natural historic specimens along with interpretive graphics and texts. This exhibit includes marine mammal skulls, shells, baleen and other marine objects. An otter and sea lion pelt, both with California Department of Fish and Game permits, are exhibited to allow the visitor to touch them.

The climatic conditions at the Interpretive Information Station are constantly effecting the preservation of the nature history specimens. Though

this collection is not directly exposed to the outside environment, they are placed in an environmentally uncontrolled location. Never the less, the natural history specimens appear to be in stable condition with only moderate deterioration to their surfaces.

Fossils Remains

The Carmelo Formation contains many trace fossils of scientific interest, including one called Hillichnus Lobosensis. These occur on the south shore of the Reserve, notably at Weston Beach and between Sea Lion Cove and "The Slot", in pieces of ancient seafloor that have been vaulted up to their present position from depths of several thousand feet or more. Mistaken for years as fossils of ancient seaweed, Hillichnus recently was attributed to bi-valve clams of the semelid and telelid families that have only been found at Point Lobos. It is postulated that they used their "feet" to move along in the sediments, and their siphons left the unique patterns in what was once the sand of an ancient seafloor.

Other Park Locations

Besides the above mentioned, there are several other objects stored in the park unit office. Some of the more significant objects include a collection of taxidermy or freeze-dried animal mounts. There is also a geologic specimen containing the fossil remains of Hillichnus Lobosensis (named in honor of Point Lobos). For the most part, these objects are placed inside the park unit office to insure that they are not removed from the Reserve. The animal mounts are primarily used for outreach and off-site interpretive programs.

Archaeological Collections

Very little archaeological excavation has taken place at Point Lobos, particularly in relation to Native American sites. Native American artifacts found within the preserve include projectile points, a fishing net weight, mussel shell fishhook, and invertebrate and vertebrate faunal remains.

There is also a collection of Native American artifacts on loan to California State Parks. This collection is used as comparison objects in a Native American exhibit in the Whalers Cabin. This loaned collection was purchased by the Point Lobos Association from avocational archaeologist Don Howard in 1988. This collection includes items from Point Lobos Ranch and Big Sur, Asilomar and Hunter-Liggett sites. None of these artifacts are from Point Lobos Reserve.

Other archeological investigations have discovered a variety of objects primarily from the Whalers Cabin. In 1988, while replacing the rotting wooden foundation of the Whalers Cabin with a concrete foundation, six inches of dirt fill from under the floor was removed and screened under the supervision of Central Region Archaeologist Herb Dallas. This collection contains a variety of historic ethnic (predominantly Chinese) artifacts including bottle glass and ceramic tableware fragments, beads, buttons, nails and other metal items, animal bone

(dietary remains), needles, nut pickers, coins, marbles, chop sticks, skewers, match sticks, and more. This collection contains 769 objects, approximately 60 of which are on exhibit in the Whalers Cabin Museum. The balance of this collection is stored at the Monterey District Archeology Lab.

Two other collections, from historic refuse deposits in the vicinity of Whalers Cover, are curated at the Department's Sacramento Archaeological Collections and Research Facility (SACARF) in West Sacramento.

For additional information refer to Appendix B of this Scope of Collections Statement. This appendix is a Point Lobos State Reserve Archaeological Summary prepared by Associate State Park Archeologist Rae Schwaderer.

Archival Collection

The Point Lobos small archival collection consists of account books, business papers, postcards, letters and historic photographs. These items are stored in the unit office located at the Reserve. Most of the original photographs are currently stored at State Parks' Photographic Archives in West Sacramento. The Monterey District Curatorial vault houses other archival materials, such as an original copy of the 1935 Olmstead Report; *Point Lobos Reserve Master Plan.*

Relationship of the collection with other State Parks and non-DPR Cultural or Natural History Institutions

The primary interpretive themes for Point Lobos include both natural and historical elements. While there are no other park units or museums that specifically interpret the Point Lobos' coastal environment and its cultural history, there are many nearby and California State Parks, regional parks and museums that interpret similar themes to those used at Point Lobos State Reserve.

The State Parks system has many units that share specific interpretive themes and/or museum collections to those found at Point Lobos State Reserve. In Monterey District these include:

- Monterey State Historic Park
- Andrew Molera State Park
- Garrapata State Park
- Marina State Beach
- John Little State Reserve
- Point Sur State Historic Park
- Fort Ord Dunes State Park
- Henry Coe State Park

Several State Parks not in the Monterey District contain historic ranches that share the same historic time period and similar interpretive themes as Point

Lobos. These park units have museum collections such as agricultural equipment and dairying artifacts. These parks units include:

- Wilder Ranch State Park
- Call Ranch (part of Fort Ross State Historic Park)
- Anderson Marsh State Park

There are many nearby and regional museums and institutions that interpret themes that are similar to Point Lobos. Reserve visitors seeking in-depth information relating to Point Lobos can visit the listed facilities. These institutions offer enhanced interpretation, natural and cultural history objects and study/research opportunities that directly relate to Point Lobos.

- *The Pacific Grove Museum of Natural History* has an extensive collection of mammal and bird animal mounts and marine natural history specimens and interprets all of the wildlife found in and around Point Lobos. In addition, the Rumsien Native American culture is interpreted.
- *The Monterey Maritime Museum* has a collection of maritime materials that include both whaling and abalone harvesting at Point Lobos and in the Monterey Bay. These artifacts are interpreted through the museum's permanent collections and temporary exhibitions.
- *The Monterey Museum of Art* has an extensive collection of painting and photographs depicting the scenery of Point Lobos. This artwork is exhibited on a rotating basis.
- *Harrison Memorial Library*, the Henry Meade Williams' Local History Department has an extensive photograph collection of Point Lobos.
- *The Monterey Bay Aquarium* focus on Monterey marine mammals and sea life provides viewing and education of the same type of animals and underwater plants that can be found at the Reserve.
- *The Monterey County Agricultural Museum* in King City interprets Monterey coast dairies that once were located in and around Point Lobos.
- *Robinson Jeffers' Tor House* in Carmel interprets the poetry of Jeffers who was greatly influenced by the beauty of Point Lobos. This house museum had a view of Point Lobos from its south facing windows.
- *Point Reyes National Marine Seashore* contains several historic dairy ranches from the same time period (1857-1939). At the Point Reyes Visitor Center, mounted natural history specimens and associated texts and images outline the natural environment which is similar to Point Lobos.
- *Ardenwood*, part of East Bay Regional Parks, is an historical farm in the San Francisco Bay Area that demonstrates farming techniques from the 1870s to present.
- *Garland Ranch* in Carmel Valley is an historical ranch from the late 19th century where both the cultural and natural history of the area is interpreted.

Museum Collections Development Goals

The designated Collections Manager and/or Museum Curator and the District Superintendent must approve all acquisitions and deaccessions. Future acquisitions must follow the Interpretive Themes and Historic Periods described above. Any objects acquired will be subject to the processes described in the *Museum Collections Handbook* in accordance to DPR policy. The department discourages accepting gifts with limiting stipulations.

Due to limited exhibit and storage space, collection development should be limited to objects that have a primary connection to Point Lobos. Any new acquisitions need to be critically assessed for overall contribution to the Point Lobos State Reserve museum collection.

The following types of materials are appropriate in the collections at Point Lobos State Reserve:

Archival Materials
Archival materials associated with Point Lobos State Reserve such as photographs, drawings, postcards, advertisements, letters, journals, family diaries, business documents, account books, books, and other documents belonging to the Point Lobos business enterprises that describe the owner and employees' lives, activities, and business operations. Other archival documents may include park memorabilia; park brochures and documents, and photographs from significant events. This would include park development reports by George B. Vaughan and H. Lee Blaisdall.

General Artifacts
Personal objects from individuals and families who lived and/or worked at Point Lobos: The objects sought would be original and may include, but are not limited to: clothing and personal belongings, tools, fishing, mining, dairy and agricultural equipment, vehicles, machinery, furniture, artwork, photograph and any other objects belonging or used by the individuals or their direct decedents that directly related to the family's occupation of sites at Point Lobos.

The primary individuals and families are:

- Alexander M. Allan and Satie Morgan Allan and decedents
- Gennosuke and Fuku Kodani and family decedents
- Quock Fook Loy and family descendents (head of family who built the Whalers Cabin in 1851.)

The secondary individuals and families are:

- Pop Ernest Doelter and family decedents ("Abalone King")
- Antonio Victorine and family descendent (Portuguese Whaler, Manager of the Carmelo Bay Whaling Company.)

- Quock Moi (Chinese and first non Native American baby born at Point Lobos.)
- Manual Silva (Portuguese and Captain of Carmelo Bay Whaling Co.)
- Teodoro Gonzalez (Rancho Rio Carmelo)
- Marcelino Escobar (Rancho San Joses y Sur Chiquito)
- Abner Basset (Carmelo Bay Coal Co.)
- Joseph Emery (Carmelo Bay Coal Co.)

Objects from commercial enterprises that operated at Point Lobos: The objects sought would be original and may include, but are not limited to, historic whaling, abalone diving, fishing, mining, dairy and agricultural equipment, vehicles, machinery, and any other objects belonging or used by the business that directly related to the sites once located at Point Lobos. This is to include objects directly associated with any movie that was filmed at Point Lobos, and objects that represent the U.S. Military's use of Point Lobos.

Objects that represent Point Lobos as a site for inspiration: This would include works by the painters, poets and photographers who have captured images and impressions of Point Lobos. This could include photographs by Ansel Adams, Edward Weston or other note-worthy photographers; paintings and drawings by Francis McComas, Chiura Obata or others who have painted at Point Lobos; and books of prose and poetry by Robinson Jeffers, George Sterling and others who have drawn inspiration from the Reserve. Special consideration must be made for each potential acquisition as there needs to be a secure location to exhibit the material and means to insure the object's preservation.

Natural History Collections

Natural history collections associated with plants, animal life and geology of Point Lobos will be primarily used for interpretive presentations, with some opportunities for display and research use. Limited space is available for the study or display of these types of objects therefore specific identified purposes must be evaluated for each acquisition.

Hands-On Interpretive Collections

Touchable objects that include animal pelts become deteriorated; replacement specimens need to be acquired. In the future, the park may acquire a collection of objects that can be brought into the Whalers Cabin or to an off-site interpretive program for use during special events. These objects would include reproduction furniture, tools and equipment based upon an interpretive plans and activities.

Museum Collection Management Goals

The following are the collections management goals for Point Lobos State Reserve.

- All objects will be cataloged and documented as described in the *Museum Collections Management Handbook*.
- The objects will be photographed and those not exhibited placed into proper and safe storage locations.
- The collections will be inventoried on an annual basis and catalog records will be updated as needed.
- Annual Museum Collections Facility Index (MCFI) will be conducted for facilities containing museum objects.
- All appropriate National Marine Fisheries Service and National Fish and Wildlife Service educational use permits for the protected natural history specimens in the collection will be remain current.
- The collections staff will monitor the temperature, humidity, and light levels of the storage and exhibit locations and make changes when necessary to stabilize the environment.
- Review the museum collections periodically and make recommendations for deaccession when appropriate. There are no State Parks objects identified to be deaccessioned at this time, however the small try pot outside the Whalers Cabin needs to be evaluated for accuracy and relevance to the site.
- Site specific museum objects should be sought to replace the exhibited historic artifacts that are not from Point Lobos. Specifically, a Japanese diving suit should replace the Chilean diving suit currently on loan to State Parks from the Point Lobos Association, and which is on exhibit in the Whalers Cabin.
- When appropriate and when funding permits, acquire objects that relate to the interpretive themes, historic periods, site activities and key Point Lobos individuals previously described.
- When funds are available, all museum objects will be conserved on a priority basis.
- All objects designated for hands-on-use should be easily distinguished from other museum collections items. The catalog number should be permanently stamped, engraved, or painted onto all hands-on-use objects to prevent the number from wearing off.
- The park may make museum collections available to researchers for study purposes. Prior State Park access approval and on-site supervision of the research process is required.
- When necessary, develop temporary exhibits that support the interpretive themes and historic periods.
- In the future the park would like to make appropriate historic images available to the public via the Internet.
- The District Museum Curator, sector Collections Manager and appropriate staff will review this Scope of Collections Statement and make revisions when necessary.

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Notes:

[1] Page 6, *Point Lobos State Reserve General Plan*
[2] Page 58, *Point Lobos State Reserve General Plan*
[3] Page 2, *Point Lobos Ranch Land Use History*
[4] Page 3, *An Historical Sketch of Point Lobos State Reserve*
[5] Page 3, *Chinese Gold*
[6] Page 97, *Portuguese Shore Whaling*
[7] Page 3, *An Historical Sketch of Point Lobos State Reserve*
[8] Page 27, *The Japanese of the Monterey Peninsula*
[9] Page 604, *Monterey County Place Names*