California State Parks

Natural Parks Report

A guidance document to assist prioritizing natural resource management actions, with focus on units representative of California's diverse ecological regions and those with other special features.

Natural Resources Division
October 2005

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I. Introduction

The California State Park System (SPS) contains over 278 units and encompasses over 1.3 million acres. Most park units are recognized as having regional, statewide, national, or international significance. Ideally, funding and staffing would be available to restore and maintain all important park natural and cultural values and manage recreational uses. Such fiscal resources, however, do not exist and hard decisions must be made on where available funding is to be directed. Many factors must be considered in making these decisions.

The purpose of this report is to provide program managers important information to be considered when making resource allocation decisions when staffing, funding and other activities are not adequate to support all identified natural resource management needs. The report presents the rationale and results of a systemwide assessment to determine: 1) park units that most represent examples of California's diverse ecological regions (hereafter referred to as "Representative Park Units"), and 2) park units possessing special natural resource features, (hereafter referred to as "Outstanding Park Units"). Identifying units of in these two categories will help focus management attention and actions.

The concept of providing special recognition to the units in these two categories is derived from language in the California's Public Resources Code, Section 5019.53. In this section, units classified as a State Park are described as consisting of "relatively spacious areas of outstanding scenic or natural character, oftentimes also containing significant historical, archaeological, ecological, geological, or other similar values." The statute further states that "the purpose of state parks shall be to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of ecological regions of California, such as the Sierra Nevada, northeast volcanic, great valley, coastal strip, Klamath-Siskiyou Mountains, southwest mountains and valleys, redwoods, foothills and low coastal mountains, and desert and desert mountains." While these code statements are in reference in great part to natural resources within units classified as State Parks, representative and outstanding natural resource values are contained in other classified units. Consequently, all units in the SPS were assessed to determine the most representative of ecological regions and those with the most outstanding natural resources.

Recognition of park units in this report will assist in setting system-wide priorities for a variety of natural resource management activities and will serve as a guide for prioritizing natural resource funding. Efforts expected to benefit from information in this report include park selection for general planning; unit management plans (including exotic species control, wildfire management plans, prescribed fire, watershed management, and rehabilitation); staffing; interpretation; funding of ongoing maintenance, deferred maintenance and stewardship; monitoring of park health; and defensive planning.

Although special recognition of these park units is important, it does not mean other units will be ignored. As a system, the SPS is the finest and most diverse collection of protected lands in California. The natural values of parks not listed in this report are

fully recognized and revered. Clearly, these units also possess resource values of statewide significance; these can not be overlooked.

The Natural Resources Division will review the listings within this report and other park units in the system, including new acquisitions, on a regular basis and the listing will be amended as found appropriate.

II. Selection Process

The factors considered in identifying both the Representative and the Outstanding Park Units listed in this report are discussed below under separate sections. The selection process included compilation of source information; an initial assessment of the information by a team of natural resources specialists (each of whom had at least 15 years of State Park experience); the establishment of initial park unit lists; field reviews; and the preparation of the final park unit lists. All units in the State Park System were considered in the selection process regardless of classification.

Representative Park Units

Before identifying Representative Park Units, a decision had to be made as to which ecological classification system would be most useful in evaluating the state's great physical and biological diversity. Several systems have been developed to characterize the state's natural diversity. Some, such as Landscape Provinces, focus on geologic and landform characteristics, while others use differences in plant communities to map and describe different regions of the state. For the purposes of this evaluation and report, the decision was made to use the classification system described and mapped in "Ecological Subregions of California" by Miles and Goudey, U.S. Forest Service, 1997. This scheme is used by many land management agencies. Nineteen major terrestrial ecological divisions are described in California under this system. Ecological divisions and subdivisions are referred to as "sections" and "subsections" in the U.S. Forest Service publication, but are called "regions" and "subregions" in this report to reflect more common usage.

Representative Parks Units are also listed and mapped in this report under the "bioregion" classification system for comparison purposes. The bioregion scheme is used by some agencies and the California Biodiversity Council; however, it is not as ecologically-based nor as well-documented as the Forest Service's ecological region classification system.

Representative parks were selected based on 1) how well they exemplified the characteristic physiographic and biological elements of the ecological regions in which they are located, as described in the Forest Service report, and 2) the likelihood of being able to maintain or sustain these values overtime. See Appendix A for descriptions of the ecological regions.

The following attributes were most important in determining which units contained natural resource elements most characteristic of the different ecological regions:

Natural Resources

- Geologic features
  - o Geomorphic province
  - o Features, forms and processes
  - o Unique and rare
- Characteristic vegetation
  - o Communities (at the series, alliance and habitat levels)

  - o Endemic, rare or listed species
  - o Native species richness
  - o High ratio of native species to exotic species
- Characteristic animals
  - o Wildlife communities and habitats
  - o Endemic, rare or listed species
  - o Native species richness
  - o High ratio of native species to exotic species
- Watershed characteristics (natural range of water quality and quantity)
- State/national/international recognition

Sustainability was an important factor in selecting Representative Park Units. Therefore, linkage with other large reserved lands, including other park units, is important. In some cases, a complex or cluster of nearby park units was identified, but one unit, the primary unit, possesses greater diversity of resources characteristic of the region.

Following are characteristics used to identify sustainability:

Sustainability

- Regional habitat connectivity
- Association with other protected natural lands
- Large park unit size
- High ratio of park size (acreage) to park boundary/perimeter

Priority was given to larger park units, and park unit complexes with connectivity to other protected lands where conservation efforts are more likely to contribute to sustainability.

Outstanding Park Units

Somewhat similar attributes, although more focused on a particular feature, were evaluated in the process of identifying park units containing outstanding natural resources. Park units with the following values were identified as outstanding, although not necessarily representative of an ecological region. Important factors for these units included:

- **Natural Resources Values**
  - o Topography/geology
  - o Water features
  - o Vegetation
  - o Wildlife
  - o Varied habitats
  - o Species richness

- **Aesthetic Values**
  - Scenic
  - Visual landmark
  - Mega fauna
  - Pristine natural surroundings
  - Natural quiet solitude
- **Visitor experience**
- **Recognition**
  - International, national and state
  - Statewide notoriety and public familiarity

Information Sources

A number of information sources were used to identify and describe in this report the natural resource values of both Representative Park Units and Outstanding Park Units. Information contained in the many State Park System unit General Plans, used to compile the individual unit descriptions in this report, was also important.

Other publications reviewed include the following:

- *Atlas of the Biodiversity of California*; California Department of Fish and Game; 2003
- *Ecological Subregions of California*; Miles, S. & Goudey, C.; U.S. Forest Service, Pacific Southwest Region; 1997
- *Inventory of California Natural Areas*; Hood, L., ed.; California Natural Areas Coordinating Council; 1982
- *Landscape Preservation Study* (nine landscape provinces throughout California); Kunit, E. & Calhoon, K.; Royston, Hanamoto, Beck and Abey Landscape Architects; 1974

Other data reviewed included information gathered and compiled by State Parks' district natural resources staff for the Department's on-going Natural Resources Condition Assessment program; information available in the California Department of Fish and Game's Natural Diversity Data Base (CNDDB) and Wildlife Habitat Relationship (WHR) habitat descriptions; the California Council on Biodiversity's California Bioregion Map, and the California Resources Agency's California Digital Conservation Atlas.

III. Representative Park Units by Ecological Region

This chapter identifies 55 state park units selected as being most representative of 16 of the state's 19 terrestrial ecological regions. The list includes 33 individual units and 11 complexes or clusters. Each complex has two or more state parks that adjoin or are otherwise "linked" by other protected lands. Each complex has a primary state park that processes the most relevant attributes of the region. A narrative for each park unit is provided that describes the particular features within the unit considered to be most characteristic of the ecological region, or regions in some cases, in which the unit is located. There are no state park units located in the Northern California Interior Coast Ranges, Northwestern Basin and Ranges, and Southeastern Great Basin ecological regions. Park units and ecological region descriptions throughout this report are arranged in order of location in the state, generally from north to south.

Map 1 shows the boundaries of the "ecological regions" and the locations of the Representative Park Units. An attempt was made to identify only one park unit or cluster of units in each region or sub region that fully met the selection criteria. In some large, ecologically diverse regions, however, several units were selected to better capture important characteristics of the different areas. Map 2 illustrates the boundaries of "bioregions", a classification scheme used by the California Biodiversity Council and others, and the locations of Representative Park Units.

Table 1 lists park units by "ecological region" and Table 2 by "bioregion". In a few situations the park unit lies across the boundary of two "ecological regions" and is listed under both regions.

Appendix B lists the Representative Park Units and the associated Ecological Region and Subregion, Landscape Province (as described in The Scenic, Scientific, and Educational Values of The Natural Landscape of California, Herbert L. Mason, 1970), and Geomorphic Province (California Geological Survey, Note 36). Appendix C lists Representative Park Units and associated wildlife habitats (Wildlife Habitat Relationships System).

Map 1

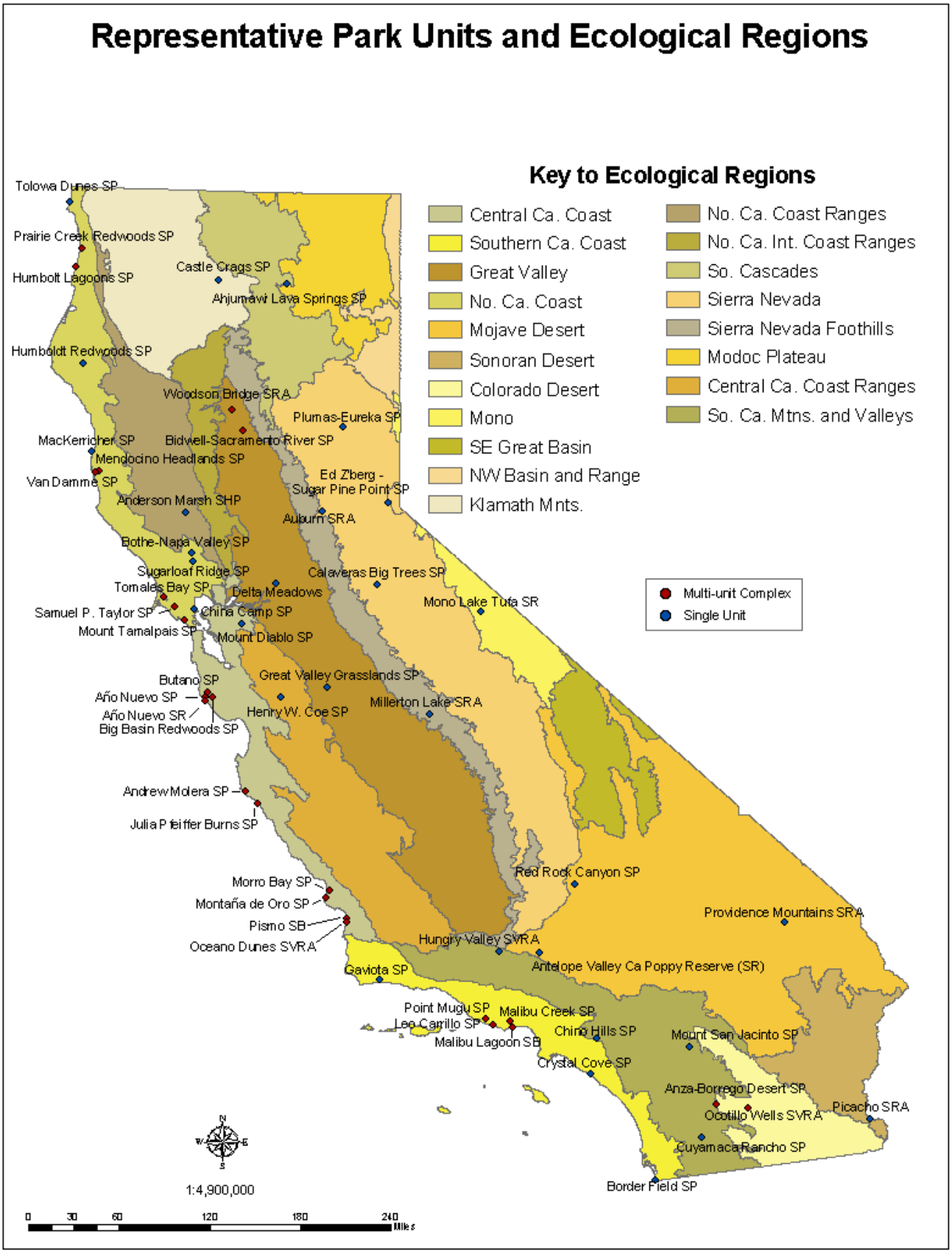
Representative Park Units and Ecological Regions
Key to Ecological Regions
Central Ca. Coast
Southern Ca. Coast
Great Valley
No. Ca. Coast
Mojave Desert
Sonoran Desert
Colorado Desert
Mono
SE Great Basin
NW Basin and Range
Klamath Mnts.
No. Ca. Coast Ranges
No. Ca. Int. Coast Ranges
So. Cascades
Sierra Nevada
Sierra Nevada Foothills
Modoc Plateau
Central Ca. Coast Ranges
So. Ca. Mtns. and Valleys
Multi-unit Complex
Single Unit
Tolowa Dunes SP
Prairie Creek Redwoods SP
Humbolt Lagoons SP
Castle Crags SP
Ahjumawi Lava Springs SP
Humboldt Redwoods SP
Woodson Bridge SRA
Plumas-Eureka SP
MacKerricher SP
Bidwell-Sacramento River SP
Mendocino Headlands SP
Van Damme SP
Ed Z'berg - Sugar Pine Point SP
Anderson Marsh SHP
Auburn SRA
Bothe-Napa Valley SP
Sugarloaf Ridge SP
Calaveras Big Trees SP
Tomales Bay SP
Delta Meadows
Mono Lake Tufa SR
Samuel P. Taylor SP
China Camp SP
Mount Tamalpais SP
Mount Diablo SP
Great Valley Grasslands SP
Butano SP
Año Nuevo SP
Millerton Lake SRA
Henry W. Coe SP
Año Nuevo SR
Big Basin Redwoods SP
Andrew Molera SP
Julia Pfeiffer Burns SP
Red Rock Canyon SP
Morro Bay SP
Montaña de Oro SP
Providence Mountains SRA
Pismo SB
Oceano Dunes SVRA
Hungry Valley SVRA
Gaviota SP
Antelope Valley Ca Poppy Reserve (SR)
Point Mugu SP
Malibu Creek SP
Lee Carrillo SP
Chino Hills SP
Mount San Jacinto SP
Malibu Lagoon SB
Crystal Cove SP
Anza-Borrego Desert SP
Ocotillo Wells SVRA
Picacho SRA
Cuyamaca Rancho SP
Border Field SP
1:4,900,000
0 30 60 120 180 240 Miles

Table 1. Representative Park Units by Ecological Region

Northern California Coast
Tolowa Dunes SP
Prairie Creek Redwoods SP*/Humboldt Lagoons SP Complex
Humboldt Redwoods SP *
MacKerricher SP *
Mendocino Headlands SP/Van Damme SP Complex
Bothe-Napa Valley SP
Sugarloaf Ridge SP
China Camp SP
Mount Tamalpais SP*/Samuel P. Taylor SP/ Tomales Bay SP Complex

Klamath Mountains
Castle Crags SP *

Southern Cascades
Ahjumawi Lava Springs SP * (located in two ecological regions)

Modoc Plateau
Ahjumawi Lava Springs SP * (located in two ecological regions)

Northwest Basin and Ranges
No park unit located in this region.

Northern California Coast Ranges
Anderson Marsh SHP

Northern California Interior Coast Range
No park unit located in this region.

Great Valley
Woodson Bridge SRA/Bidwell-Sacramento River SP Complex
Delta Meadows
Great Valley Grasslands SP *

Sierra Nevada Foothills
Auburn SRA (located in two ecological regions)
Millerton Lake SRA

Sierra Nevada
Plumas Eureka SP
Ed Z'Berg-Sugar Pine Point SP
Auburn SRA (located in two ecological regions)
Calaveras Big Trees SP *
Mono Lake Tufa SR * (located in two ecological regions

Mono
Mono Lake Tufa SR * (located in two ecological regions)

Central California Coast
Mount Diablo SP * (located in two ecological regions)
Big Basin Redwoods SP */Butano SP/Año Nuevo SR */Año Nuevo SP Complex
Andrew Molera SP/Julia Pfeiffer Burns SP Complex
Montaña de Oro SP */Morro Bay SP * Complex
Oceano Dunes SVRA /Pismo SB Complex

Central California Coast Ranges
Mount Diablo SP * (located in two ecologica regions)
Henry W. Coe SP

Southern California Coast
Gaviota SP
Point Mugu SP * /Leo Carrillo SP Complex
Malibu Creek SP * /Malibu Lagoon SB Complex
Chino Hills SP (located in two ecological regions)
Crystal Cove SP
Border Field SP

Southern California Mountains and Valleys
Hungry Valley SVRA
Mount San Jacinto SP *
Chino Hills SP (located in two ecological regions)
Cuyamaca Rancho SP *
Anza-Borrego Desert SP * (located in two ecological regions)

Southeastern Great Basin
No park unit located in this region.

Mojave Desert
Antelope Valley California Poppy Preserve SR
Red Rock Canyon SP *
Providence Mountains SRA *

Sonoran Desert
Picacho SRA

Colorado Desert
Anza-Borrego Desert SP * (located in two Ecological regions) / Ocotillo Wells SVRA Complex

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* also recognized in this report as an Outstanding State Park Unit

Map 2

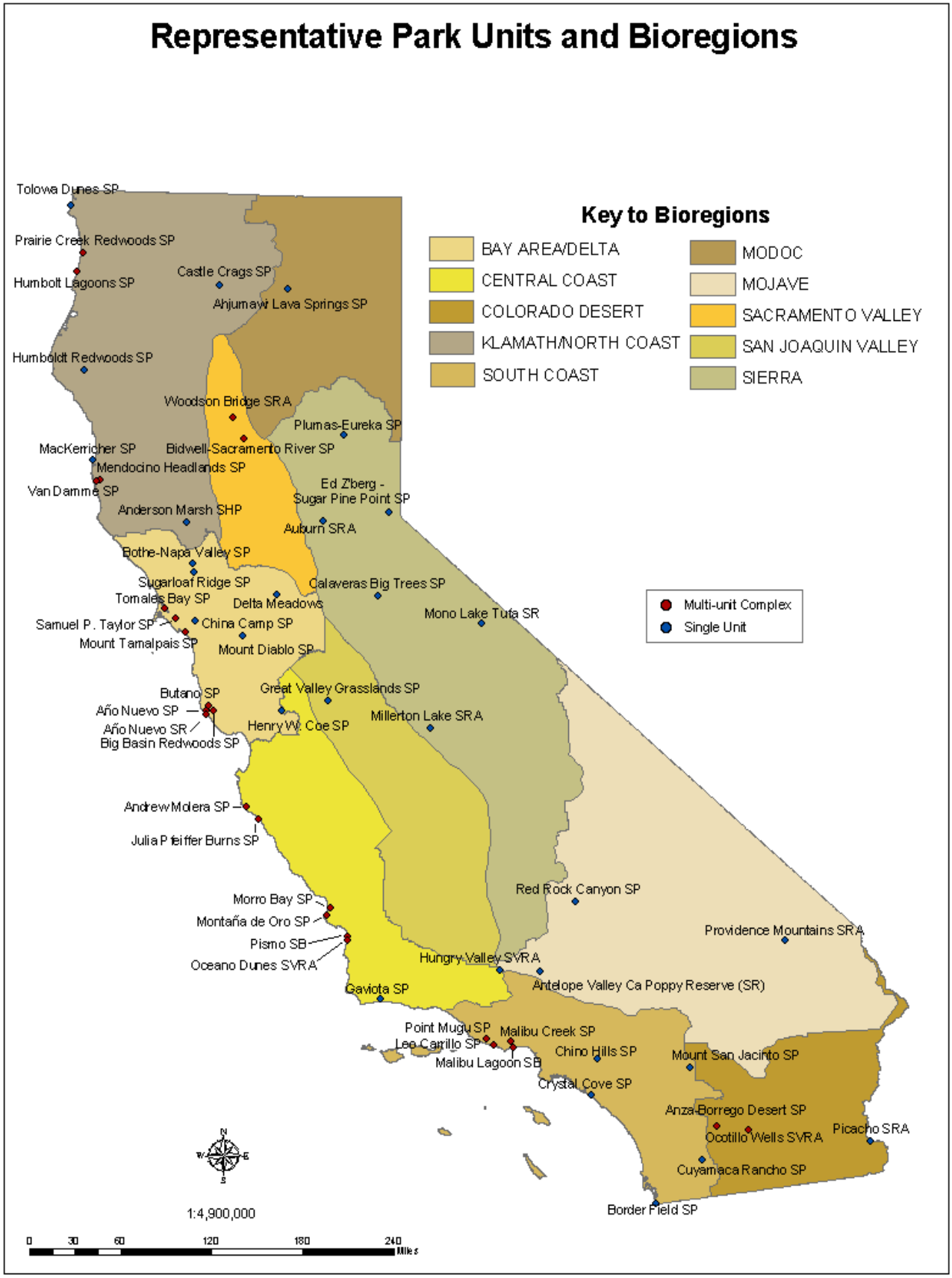
Representative Park Units and Bioregions
Key to Bioregions
BAY AREA/DELTA
CENTRAL COAST
COLORADO DESERT
KLAMATH/NORTH COAST
SOUTH COAST
MODOC
MOJAVE
SACRAMENTO VALLEY
SAN JOAQUIN VALLEY
SIERRA
Multi-unit Complex
Single Unit
Tolowa Dunes SP
Prairie Creek Redwoods SP
Humbolt Lagoons SP
Castle Crags SP
Ahjumawi Lava Springs SP
Humboldt Redwoods SP
Woodson Bridge SRA
Plumas-Eureka SP
MacKerricher SP
Bidwell-Sacramento River SP
Mendocino Headlands SP
Van Damme SP
Ed Z'berg - Sugar Pine Point SP
Anderson Marsh SHP
Auburn SRA
Bothe-Napa Valley SP
Sugarloaf Ridge SP
Calaveras Big Trees SP
Tomales Bay SP
Delta Meadows
Samuel P. Taylor SP
China Camp SP
Mono Lake Tufa SR
Mount Tamalpais SP
Mount Diablo SP
Butano SP
Great Valley Grasslands SP
Año Nuevo SP
Millerton Lake SRA
Año Nuevo SR
Henry W. Coe SP
Big Basin Redwoods SP
Andrew Molera SP
Julia Pfeiffer Burns SP
Red Rock Canyon SP
Morro Bay SP
Montaña de Oro SP
Providence Mountains SRA
Pismo SB
Hungry Valley SVRA
Oceano Dunes SVRA
Antelope Valley Ca Poppy Reserve (SR)
Gaviota SP
Point Mugu SP
Malibu Creek SP
Leo Carrillo SP
Chino Hills SP
Mount San Jacinto SP
Malibu Lagoon SB
Crystal Cove SP
Anza-Borrego Desert SP
Ocotillo Wells SVRA
Picacho SRA
Cuyamaca Rancho SP
Border Field SP
1:4,900,000
0 30 60 120 180 240 Miles

Table 2. Representative Park Units by Bioregion

Klamath/North Coast
Tolowa Dunes SP
Prairie Creek Redwoods SP */Humboldt Lagoons SP Complex
Humboldt Redwoods SP *
MacKerricher SP *
Mendocino Headlands SP/Van Damme SP Complex
Castle Crags SP *
Anderson Marsh SHP

Modoc
Ahjumawi Lava Springs SP *

Sacramento Valley
Woodson Bridge SRA/Bidwell-Sacramento River SP Complex

Sierra Nevada
Plumas Eureka SP
Ed Z'Berg-Sugar Pine Point SP
Auburn SRA
Calaveras Big Trees SP *
Mono Lake Tufa SR *
Millerton Lake SRA

Bay Delta
Bothe-Napa Valley SP
Sugarloaf Ridge SP
China Camp SP
Mount Tamalpais SP*/Samuel P. Taylor SP/ Tomales Bay SP Complex
Delta Meadows
Mount Diablo SP *
Henry W. Coe SP

Central Coast
Big Basin Redwoods SP */Butano SP/Año Nuevo SR */Año Nuevo SP Complex
Andrew Molera SP/Julia Pfeiffer Burns SP Complex
Montaña de Oro SP */Morro Bay SP * Complex
Oceano Dunes SVRA/Pismo SB Complex

San Joaquin Valley
Great Valley Grasslands SP *

South Coast
Hungry Valley SVRA
Gaviota SP
Point Mugu SP * /Leo Carrillo SP Complex
Malibu Creek SP * /Malibu Lagoon SB Complex
Chino Hills SP
Crystal Cove SP
Mount San Jacinto SP *
Cuyamaca Rancho SP *
Border Field SP

Mojave
Antelope Valley California Poppy Preserve SR
Red Rock Canyon SP *
Providence Mountains SRA *

Colorado Desert
Anza-Borrego Desert SP * /Ocotillo Wells SVRA Complex
Picacho SRA

* also recognized in this report as an Outstanding State Park Unit

Northern California Coast Ecological Region

This region encompasses mountains, hills, valleys and plains in the northern California Coast Ranges, and small parts of the Klamath Mountains that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. The Representative Park Units for this region are described below, along with the characteristics that make them representative.

Tolowa Dunes State Park

Tolowa Dunes State Park is on the immediate coast about two miles north of Crescent City. This 4,399-acre park is representative of the Crescent City Plain Ecological Subregion. The park is on an ancient sand dune complex that has evolved into several distinct ecological communities. Ocean beach, river, the Smith River estuary, open and vegetated sand dunes, sandy ridges and freshwater and saline wetlands are found within the park. Vegetation includes north coast mixed scrub of huckleberry and salal, red alder and willow along waterways, scattered Sitka spruce and beach pine on sandy ridges, pickleweed and cordgrass in saline wetlands, and both annual and perennial grasslands.

The Lake Earl Wildlife Area, managed by the California Department of Fish and Game, is immediately adjacent to the park. At Tolowa Dunes State Park and at the Lake Earl Wildlife Area, lakes form on coastal plains where water ponds behind the dune system. These lakes are managed by the California Department of Fish and Game. The lakes are nutrient-rich and support submerged aquatic vegetation, an abundant and attractive food source for water-associated birds. The area is an important stopover on the Pacific flyway for thousands of migrating geese, ducks, swans and Aleutian Canada geese. The park is within one of the 146 Important Bird Areas of California recognized by Audubon California.

State or federally listed animals that occur at Tolowa Dunes State Park include the silverspot butterfly and western snowy plover.

Prairie Creek Redwoods State Park (Prairie Creek Redwoods State Park/ Humboldt Lagoons State Park Complex)

Prairie Creek Redwoods State Park, the primary park in this complex, is located 25 miles south of Crescent City and 50 miles north of Eureka on the Newton B. Drury Scenic Parkway off Highway 101. This 14,187-acre park is within the northern Coast Ranges Geomorphic Province and its mountains and drainages approximately parallel the northwest structural grain of the province. Rocks range from Jurassic-Cretaceous geologic age to recent. Franciscan Complex rocks are the oldest exposed rocks in the park. These sedimentary, volcanic, and metamorphic rocks were scraped from ancient seafloors and accreted to the edge of the continent. Due to its location near the junction of three active tectonic plates, this is the most seismically active region in the United States. As a result of frequent earthquakes,

rapid uplift rates have led to landslides, actively braiding and shifting rivers, and rapid coastal erosion.

Sandy beaches, dunes, coves, craggy outcrops and steep bluffs occur along the coast of the unit. Espa Creek forms Espa Lagoon near its mouth. Fern Canyon is a notable example of a creek that has deeply incised the coastal bluffs, which are typical of this subregion. The interior of the unit has rounded mountain summits and steep-walled canyons, both of which are created by downcutting streams that are typical of the Coast Ranges.

Prairie Creek Redwoods State Park is within the Mad River major watershed. Subarea watersheds completely within State Parks ownership are Butler, Boat, and Home Creeks. Over 70% of the following watersheds are also within the park: Johnson, Ossagon, Squashan, Upper Prairie, Brown, Godwood, and Boyes.

Vegetation of the park is primarily old growth coast redwood with Douglas-fir, western hemlock, and tanoak. Sitka spruce has colonized stabilized dunes and also occurs near Espa Lagoon. Red alder is common along creeks. Understory plants include huckleberry, salal, thimbleberry, salmon berry, and bush lupine near the coast. Sword fern, oxalis, rhododendron and western azalea are more common under redwoods in the park's interior.

Rare animals known from Prairie Creek Redwoods State Park include chinook salmon, coho salmon, steelhead, marbled murrelet, western snowy plover, northern spotted owl, and American peregrine falcon. The park also contains a large population of Roosevelt elk.

Prairie Creek Redwoods State Park is one of three state redwood parks on the northern California coast managed cooperatively with the National Park Service as Redwood National and State Parks. The United Nations has recognized this park as a world heritage and international biosphere reserve site. The park is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Prairie Creek Redwoods State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Humboldt Lagoons State Park (Prairie Creek Redwoods State Park/Humboldt Lagoons State Park Complex)

Humboldt Lagoons is located along Highway 101 about 30 miles north of Eureka. The 1,936-acre park is comprised of Dry Lagoon and the shorelines of Stone Lagoon and Big Lagoon and fronts seven miles of Pacific Ocean shoreline. The California Department of Fish and Game manages the open waters of both lagoons. The interior of the unit climbs to an elevation of 700 feet.

Coastal erosion and slope movement are active processes within the area. An unstable zone of Franciscan melange material, the Truttman Sink, a large, slow-

moving landslide, lies between Big Lagoon and Dry Lagoon. This slide causes material to be continually pushed into the surf zone, leading to shoreline retreat.

Although the lagoon surfaces are not part of the State Park System, Big Lagoon and Stone Lagoon are the dominant hydrologic features of this park. The dynamic nature of annual breaching of the barrier beaches that separate them from the sea are representative of California's coastal lagoons. These two nearly pristine lagoons are not connected to one another. Breaching of each to the ocean occurs at different times and frequencies, depending on freshwater inputs from each watershed.

Plant communities of Humboldt Lagoons State Park include Sitka spruce forest, red alder forest, scrub, coastal strand, salt marsh, freshwater marsh, agricultural grasslands and prairie balds. Red alder forest is dominant. This forest dominates in areas that were cleared for grazing and logging by early settlers. The coastal dune mat at Humboldt Lagoons State Park is one of the best examples of this plant community in northern California.

Much of the animal life of the unit is tied to the influences of the lagoons and the ocean. Big Lagoon and Stone Lagoon are within the Pacific Flyway and are visited by numerous waterfowl species. Coho salmon, coastal cutthroat trout, and steelhead enter Stone and Big lagoons when the barrier beaches are breached. Other animals include tidewater goby, California brown pelican, bald eagle, American peregrine falcon, western snowy plover, marbled murrelet, and northern spotted owl. Steller (northern) sea lions can be seen on the coast. Along with California sea lions, elephant seals and harbor seals, they can be found loafing on the coastal strands of Big and Stone lagoons.

The unit is within the Klamath/North Coast Bioregion. Most of the unit lies within the Winegrass and the Humboldt Bay Flats and Terraces Ecological Subregions.

Redwood National Park and Humboldt Lagoons State Park share boundaries north of Stone Lagoon along the coast and are in proximity to the unit's interior. Redwood Creek Beach County Park lies upcoast of Stone Lagoon. Harry A. Merlo State Recreation Area is on the east edge of Big Lagoon. Big Lagoon County Park lies at the southern end of Big Lagoon barrier beach. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

California Department of Fish and Game allows waterfowl hunting from boats on both Big and Stone Lagoons. Hunting is not allowed from land.

Humboldt Lagoons State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Humboldt Redwoods State Park

Humboldt Redwoods State Park encompasses 51,559 acres in the coastal mountains of southern Humboldt County. The park is about 40 miles south of Eureka. Highway 101 traverses the park near its eastern boundary.

Humboldt Redwoods State Park is within the Coast Ranges Geomorphic Province. It is representative of these Coast Ranges, formed from remnants of the Pacific tectonic plate that were scraped off and uplifted as the plate collided with and was subducted beneath the North American tectonic plate. This process is ongoing. In addition, the smaller Gorda tectonic plate is colliding with both the Pacific and North American plates about ten miles from the park, forming the Mendocino Triple Junction - the most seismically active area in the continental United States.

This seismically active area is capable of producing magnitude 9 earthquakes. Numerous other active faults could also affect the park. Slopes in the park are steep and have been destabilized by intensive land uses such as logging. Sediment and debris from these land uses have exacerbated flooding and impacted fisheries, vegetation, and structures. Landform rehabilitation efforts and stream and forest restoration are occurring within the park.

Most of the park is drained by the South Fork Eel River and its tributaries. Bull Creek and Canoe Creek are within the park. Squaw, Cuneo, Mill, Cow, Cabin, Panther and Decker creeks are also significant park watersheds. In all, Humboldt Redwoods State Park contains about 170 miles of permanent and seasonal streams, more than any other unit of the California State Park System.

The park is within the Coastal Franciscan Ecological Subregion. Ten plant communities, or series, have been mapped within the park: Redwood series, Douglas-fir- Tanoak series, Douglas-fir series, Tanoak series, Oregon White Oak series, Black Cottonwood series; Red Alder series; Pacific Madrone series; Eastwood Manzanita series, and California Annual Grassland series. The park supports two plants that are recognized by the California Native Plant Society as rare in California and elsewhere: maple-leaved checkerbloom and robust monardella.

The many streams of the unit support several sensitive fish species: chinook and coho salmon, and steelhead. These fish are listed as “Threatened” under the federal Endangered Species Act. Forests of the unit support one of the largest remaining blocks of marbled murrelet habitat in this ecologic subregion. In addition, northern spotted owls nest within the park.

This park is well known for its large contiguous block of ancient forest. It is within the Klamath North Coast Bioregion. Connectivity to other protected lands is inadequate according to the 2002 Natural Resources Condition Assessment. According to that survey, the park is almost entirely surrounded by private land. BLM Gilham Butte property borders a small portion of the south boundary of the park. Although almost surrounded by private property currently, the park is large enough to encompass several minor watersheds. In addition, BLM is attempting to

create a linkage with the King Range National Conservation Area, about five miles southwest of the park.

Humboldt Redwoods State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

MacKerricher State Park

MacKerricker State Park is three miles north of Fort Bragg on Highway 1, near the town of Cleone. This 2,520-acre park is representative of the Fort Bragg Terrace Ecological Subregion. The park stretches almost nine miles along the southern Mendocino County coast to the mouth of the Ten Mile River.

The southern portion of the unit is on the elevated coastal plain for which the subregion was named. The terrace is deeply divided by creeks, resulting in rocky headlands separated by sandy beaches and coves. The northern portion of the unit is known for its gently sloping dunes and beaches. Marine and tidal environments are rich and diverse features of this park. Moderately-sized streams, some with seasonal lagoons at their mouths, are a common natural feature here.

The general geomorphology of the subregion is that of an elevated coastal plain with several levels of terraces. Ocean currents, waves, and wind are active along the outer edges of the terraces. Fluvial erosion is the main geomorphic process on the terraces, although aeolian erosion and deposition has been active in the past. Mass wasting is an active process on steep ravine slopes.

Plant communities at MacKerricher State Park include coastal strand; dune swale complexes; grassland and coastal scrub on the ocean-ward portions of the coastal terraces; Bishop pine and beach pine forest around Lake Cleone; and riparian vegetation associated with numerous streams, including the rare and biologically significant Inglenook Fen. This fen is the only known example of a coastal fen in California and is the southernmost example of a series of fens extending south from Alaska. The Inglenook Fen/Fen Creek Complex is composed of four vegetatively-distinct areas: the open water of small Sandhill Lake, the fringing freshwater marsh, the fen proper, and the fen-carr, a unique wet forest type. The unit General Plan recognizes the presence of populations of fifteen special plant species in the park. Howell's spineflower and Menzies' wallflower are listed under both the state and federal Endangered Species acts and Point Reyes Blennosperma is listed as Rare under State law.

Wildlife habitats identified in this park include barren, coastal scrub, estuarine, eucalyptus, freshwater emergent wetland, lacustrine, marine, pasture, perennial grassland, redwood, riverine, saline emergent wetland, and valley foothill riparian. Rare, threatened, or endangered animals include steelhead, California brown pelican, American peregrine falcon, marbled murrelet, coho salmon, tidewater goby and western snowy plover.

MacKerricher State Park is part of the Clem Miller State Seashore, a designation conferred upon “relatively spacious coastline areas possessing outstanding scenic or natural character and significant recreational, historical, archeological, or geological values” by the State Park and Recreation Commission. It is listed as part of the State Water Resources Control Board Areas of Special Biological Significance and was also recognized by the California Natural Areas Coordinating Council as an area deserving of protection. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California. It is within the Klamath/North Coast Bioregion.

Mendocino Headlands State Park (Mendocino Headlands State Park/Van Damme State Park Complex)

Mendocino Headlands State Park is the primary park in this complex. The 7,694-acre park is within the Fort Bragg Ecological Subregion. This subregion is on an elevated coastal plain with several terraces. Major geomorphic processes include fluvial erosion and mass wasting.

Originally composed of the coastal headlands surrounding the town of Mendocino, Mendocino Headlands State Park now includes the Big River estuary, several miles of the Big River main stem, and several miles of major tributaries.

Unlike many northern California estuaries that form seasonal lagoons in the summer, the Big River estuary remains open to tidal action year-round. Habitats associated with Big River include mudflats, salt marshes, freshwater marshes, and riparian forest. Upland vegetation include coastal scrub, coastal coniferous forest including Sitka spruce and grand fir, Douglas-fir and redwood forest. Redwood forests occupy the floodplain. Redwood is the dominant species in the upland forest as well.

Big River estuary supports at least 22 species of fish including listed coho salmon and steelhead. Amphibians are also well-represented and include the northern red-legged frog and Pacific giant salamander. Upstream, Big River provides spawning ground for coho and steelhead.

Mendocino Headlands State Park is linked to Van Damme State Park, Jackson Demonstration State Forest, Mendocino Woodlands State Park, Russian Gulch State Park, and Jughandle State Reserve. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Van Damme State Park (Mendocino Headlands State Park/Van Damme State Park Complex)

Van Damme State Park is three miles south of Mendocino on State Highway 1. The park covers 2,337 acres and includes 20 acres of marine environment leased from the State Lands Commission. It extends inland about three miles, encompassing over 50% of the Little River watershed. Little River runs through the park and its mouth is at Van Damme Beach.

The Fort Bragg Terraces Ecological Subregion that Van Damme State Park represents is on an elevated coastal plain with several levels of terraces. The terraces are nearly level, but they are deeply dissected to expose Franciscan rocks in ravines. The uppermost terrace of the subregion is about 800 feet above mean sea-level. The maximum elevation within Van Damme State Park is about 600 feet.

Ocean currents, waves, and wind are active along the outer edges of the terraces. Fluvial erosion is the main geomorphic process on the terraces, although aeolian erosion and deposition has been active in the past. Mass wasting is another process active on steep ravine slopes. In Van Damme State Park, the terraces are most visible along the coastal headlands. Erosion and heavy vegetation have obscured the terraces throughout much of the rest of the unit.

Vegetation at the unit includes giant kelp in the marine area, northern coastal bluff scrub, Bolander's beach pine community, red alder riparian forest, skunk cabbage bog, northern Bishop pine forest, Mendocino pygmy cypress forest, California sedge, swamp harebell, Fort Bragg manzanita and second-growth redwood forest. Grand fir and western hemlock join the riparian forest near the coast. Sitka spruce is at its southern limit within the unit.

Wildlife habitats at Van Damme State Park include marine, coastal scrub, closed-cone pine, cypress, eucalyptus, freshwater emergent wetland, pasture, perennial grassland, redwood, riverine, valley foothill riparian, wet meadow. The Little River provides habitat for steelhead, coho salmon, stickleback, and both Coast Range and prickly sculpin.

The pygmy forest and the terraces below it reveal an intricate web of ecological interaction among soils, climate, and geology. The Mendocino pygmy cypress is only found on the Mendocino coast. They are decades old, a few feet tall, and have gnarled, lichen-encrusted trunks that are less than an inch in diameter. A raised boardwalk, called the Discovery Trail, directs visitors through this forest. This forms a linkage with Mendocino Headlands State Park. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Bothe-Napa Valley State Park

Bothe-Napa Valley State Park is located 5 miles north of St. Helena and 4 miles south of Calistoga on Highway 29/128. This 1,990-acre park is representative of the Mt. Saint Helena Flows and Valleys Ecological Subregion. The park is in the Mayacamas Mountains at the west edge of the Napa Valley, one of the small ranges comprising the ecological subregion.

All of this area is underlain by sedimentary rocks. The bedrock derives from marine sediments laid down during the Jurassic through Miocene Epochs. During the Pliocene this region was uplifted and folded, and subjected to volcanic activity. Through the subsequent thousands of years, layers of volcanic rock have eroded to form ridges and streams exposing some of the underlying sedimentary rock. This erosion process filled the floor of the Napa Valley with the present-day alluvial

materials. Mass wasting and fluvial erosion are the major geomorphic processes of the subregion.

Ritchey Creek is the major waterway within the unit. The creek is tributary to the Napa River which then drains into San Pablo Bay. Aquatic resources include listed steelhead.

Plant communities of the unit include chaparral and mixed evergreen forest. Chaparral of manzanita, ceanothus, and chamise is found primarily on higher elevation south-facing slopes of the unit. Mixed evergreen forest includes stands of coastal redwoods, Douglas-fir forests of Douglas-fir, northern oak woodlands with coast live oak, blue oak, valley oak, and black oak and riparian forests with coast live oak, valley oak, California bay, white alder, big-leaf maple, and several species of willow.

Wildlife habitats have been identified as blue oak woodland, Douglas-fir, mixed chaparral, montane riparian, pasture, perennial grassland, redwood, valley foothill riparian, and wet meadow. Northern spotted owls are found within the park.

According to the 2001-02 Natural Resources Condition Assessment, most of the land surrounding the park is private. The unit does not have adequate connectivity with other protected lands to sustain natural resource values.

Sugarloaf Ridge State Park

Sugarloaf Ridge State Park is about seven miles east of Santa Rosa. The 3,783-acre park is within the Mt. Saint Helena Flows and Valleys Ecological Subregion. The subregion is composed predominantly of Sonoma volcanics. The park lies within the Mayacamas Ridge, one of the North Coast ranges.

Sugarloaf Ridge is within an uplifted fault block whose northern margin is Adobe Canyon. North of the canyon, the park is underlain by Franciscan Complex, deposited during the Jurassic Period. The southern part of the park is covered by Sonoma Volcanics that erupted 2.5 to 9 million years ago. Ridges and summits in the park are volcanic outcrops. The park's rolling hills and flat areas are made of alluvium. Slopes within the park are generally quite steep. Mass wasting and fluvial erosion are major geomorphic processes in the subregion.

Sugarloaf Ridge State Park contains the headwaters of Sonoma Creek. The creek runs through gorge and canyon, across the meadow floor, beneath scenic rock outcroppings, and is surrounded at times by redwoods and ferns. A 25-foot waterfall flows on Sonoma Creek after the winter rains. There is a self-guided nature trail along Sonoma Creek that starts near the picnic area. Sonoma Creek flows into San Pablo Bay considerably south of the park.

Santa Rosa Creek watershed is in the northern part of the park. The creek flows into the Russian River. Adult steelhead have been observed in Santa Rosa Creek.

The north fork of Santa Rosa Creek has good pool and riffle habitats but carries sediments that would make salmon-rearing difficult.

Vegetation within the park includes coast live oak, canyon oak, black oak, Oregon oak, and valley oak woodlands. Coyote brush scrub, chamise chaparral, with an understory of nodding needlegrass, occurs primarily on south-facing slopes. There is also mixed chaparral and manzanita chaparral. Gray pine woodland is found within the park, whereas Sargent cypress woodland and knobcone pine woodland are found on the adjacent Hood Mountain. White alder woodland lines the larger streambanks of the unit. California bay woodland is found in the southeastern portion of the unit. In these woodlands the cover of bay approaches 100%. Forest types include mixed evergreen forest, Douglas-fir forests, and coast redwood forests.
Wildlife habitats identified in the 2001-02 Natural Resources Condition Assessment of the unit include mixed chaparral, Douglas-Fir, coastal oak woodland, annual grassland, perennial grassland, valley foothill riparian, wet meadow, redwood, freshwater emergent wetland.

Connectivity between habitats in the park unit and those of adjacent lands is good. Nunn's Canyon (AKA Nun's Canyon), to the southeast of the unit, is to be preserved. The 1,450 acre Hood Mountain Regional Park that is primarily wilderness is west of the unit. The Bureau of Land Management owns parcels north of the park and to the west of the park. The Sonoma County Agricultural Preservation and Open Space District has been actively acquiring important undeveloped lands in the Mayacamas Ridge area.

China Camp State Park

China Camp State Park is four miles east of San Rafael on the shore of San Pablo Bay. This 1,514-acre park is within the Marin Hills and Valleys Ecological Subregion. Mass wasting and fluvial erosion are the major geomorphic processes at work in this subregion.

Plant communities include salt marsh; annual grassland; freshwater marsh; coastal scrub; and oak woodlands with coast live oak, black oak, and blue oak. Salt-marsh bird's beak is a special plant occurring in the unit.

Wildlife habitats identified in the unit include coastal oak woodland, saline emergent wetland, annual grassland, perennial grassland, coastal scrub, and wet meadow. Animal life includes the sensitive species California clapper rail and salt-marsh harvest mouse. The unit is near one of the 146 Important Bird Areas of California recognized by Audubon California.

China Camp State Park is fairly well connected to other protected lands. The park unit is a part of the San Francisco Bay National Estuarine Research Reserve. Land ownership surrounding the park is 25% public, non-park; 36% bayshore; and 39% private. John F. McInnis County Park is north of China Camp State Park. San

Pablo Bay National Wildlife Refuge, about five miles north of the unit, connects to the unit through wetlands along the bayshore.

Mount Tamalpais State Park (Mount Tamalpais State Park/Samuel P. Taylor State Park/Tomales Bay State Park Complex)

Just a few miles north of San Francisco's Golden Gate is Mount Tamalpais State Park, 6,243 acres of redwood and Douglas-fir forest within a mosaic which includes oak woodlands, grassland and scrubland. The park has spectacular views from its 2,571-foot peak. Mount Tamalpais State Park is the primary park in this complex. The park is east-southeast of Stinson Beach.

Mount Tamalpais State Park is within the Marin Hills and Valleys Ecological Subregion. Mass wasting and fluvial erosion are active geomorphic processes typical in that subregion. Most of the mountains are elongated in a north-northwest to northwest direction; Mt. Tamalpais, however, is oriented southwest to northeast.

The park unit includes the following plant communities typical of the subregion: California annual grassland with significant stands of native perennial grasses such as purple needlegrass and red fescue, coastal scrub, mixed woodland with California bay and coast live oak, Douglas-fir-tanoak forest and redwood forest.

Wildlife habitats of Mount Tamalpais State Park include annual grassland, barren, coastal scrub, Douglas-fir, marine, mixed chaparral, montane hardwood-conifer, montane riparian, perennial grassland, redwood, riverine, and valley foothill riparian woodland. Sensitive species include the listed coho salmon, steelhead, and northern spotted owl.

Mount Tamalpais State Park maintains natural habitat connectivity and is almost surrounded by other public lands including the Golden Gate National Recreation Area and the Marin Municipal Water District watershed. In turn, Muir Woods National Monument is surrounded by Mount Tamalpais State Park.

Samuel P. Taylor State Park (Mount Tamalpais State Park/Samuel P. Taylor State Park/Tomales Bay State Park Complex)

Samuel P. Taylor State Park has over 2,707 acres of wooded countryside in the steep rolling hills of Marin County north of San Francisco. Mass wasting and fluvial erosion are typical processes in the Marin Hills and Valleys Ecological Subregion.

Lagunitas Creek, also known as Papermill Creek, is the most prominent perennial stream in the unit. White alder and big-leaf maple are found in the adjacent riparian forest. The park vegetation also includes Douglas-fir, oak, tanoak, madrone, coast live oak, California bay, buckeye, salal, huckleberry, annual and perennial grasses, and coyote brush. The north-facing slope of the park is dominated by a second growth redwood-Douglas-fir forest with old growth characteristics.

Wildlife habitats include annual grassland, coastal oak woodland, coastal scrub, Douglas-fir, montane riparian, perennial grassland, redwood, and riverine.

Sensitive animals known to inhabit the park include California freshwater shrimp, coho salmon, steelhead, and northern spotted owl.

The park unit borders Golden Gate National Recreation Area and a portion of the Marin Municipal Water District watershed lands to maintain some habitat connectivity.

Tomales Bay State Park (Mount Tamalpais State Park/Samuel P. Taylor State Park/Tomales Bay State Park Complex)

Tomales Bay State Park encompasses 2,430 acres in seven separate land parcels on the west and east shores of Tomales Bay near the communities of Inverness, Point Reyes Station, and Marshall.
The park is in the Point Reyes ecological subregion of the Coast Ranges Geomorphic Province. Tomales Bay is a narrow embayment formed by the underlying San Andreas Rift Zone. Level land along the shore of Tomales Bay rises steeply to the west nearly to the crest of Inverness Ridge and less steeply east toward Bolinas Ridge. Fluvial erosion is the main geomorphic process in this subregion although mass wasting is active on the steep slopes of hills and mountains adjacent to the San Andreas fault.

The park unit is drained by numerous small, permanent and intermittent streams. A natural pond, an artificial pond, impoundments, springs and seeps are found within the park. Several of the streams form estuaries with salt marsh or brackish marshes where they enter Tomales Bay.

Twenty-one plant communities have been mapped within the unit. The Bishop pine alliance dominates park lands west of Tomales Bay. California annual grassland with a native coastal terrace prairie component dominates park land east of the Bay. This coastal terrace prairie and salt marsh are sensitive plant communities.

The following wildlife habitats were identified within Tomales Bay State Park: annual grassland, closed-cone pine cypress, coastal oak woodland, coastal scrub, estuarine, marine, perennial grassland, riverine and saline emergent wetland. Tidewater goby, California red-legged frog, California black rail, and northern spotted owl are known from the park. Habitat is present for several other sensitive animals.

Tomales Bay State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

The western part of the unit is contiguous to Point Reyes National Seashore in the vicinity of Heart's Desire Beach. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Klamath Mountains Ecological Region

The Klamath Mountains Ecological Region is between the Southern Cascade Mountains and the Coast Range Mountains. Its southern limit is the northern end of the Great Valley. The only Representative Park Unit in this region is Castle Crags State Park, described below.

Castle Crags State Park

Castle Crags State Park, a 3,804-acre park, is located on both sides of the Sacramento River just south of the town of Dunsmuir in Shasta County. The park is representative of the Lower Scott Mountains and Eastern Klamath Mountains ecological subregions. Both of these subregions are typified by mountains with rounded summits, steep sides, and narrow canyons. Hillsides of the Eastern Klamath tend to be more moderate than those of the Lower Scott Ecological Subregion.

The dominant park plant communities is dominated by Douglas-fir and mixed conifer forest with meadows and shrublands on alluvial, granitic, and serpentine parent materials. Stands of California black oak are interspersed within this forest. Castle Crags State Park serves as a landscape bridge and corridor across the Sacramento River and between the southern Cascades and Klamath Mountains.

Castle Crags State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

The following wildlife habitats were identified in the 2001-02 Natural Resources Condition Assessment: barren, Douglas-fir, Klamath mixed conifer, montane chaparral, montane hardwood-conifer, montane riparian and perennial grassland.

Southern Cascades Ecological Region

This region comprises the southern Cascade Ranges. The crest of the mountain chain is aligned toward the north-northwest between the Sierra Nevada and Mt. Shasta and toward the north, from Mt. Shasta northward. The only Representative Park Unit in this region is Ahjumawi Lava Springs State Park, described below.

Ahjumawi Lava Springs State Park

This park is located in two ecological regions. For unit description, see Modoc Plateau Ecological Region.

Modoc Plateau Ecological Region

This region corresponds to most of the Modoc Plateau, which is structurally related to the Basin and Range Province, and lithologically related to the Columbia Plateau. The only Representative Park Unit in this region is Ahjumawai Lava Springs State Park, described below.

Ahjumawi Lava Springs State Park

Ahjumawi Lava Springs State Park is located approximately 80 miles east of Redding. This 6,410-acre park is representative of the geomorphology of the Fall River Valley and Medicine Lake Lava Flows subregions with its level lake floor basalt plain, very gently to moderately sloping surrounding land and moderately steep to steep volcanic domes and cinder cones. Elevations in the park range from approximately 3,305 feet to 3,572 feet.

The following plant communities and wildlife habitats characteristic of the Modoc Plateau Ecological Region are found within the park: juniper, montane hardwood, lacustrine and montane hardwood-conifer.

Ahjumawi Lava Springs State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity, including Lassen and Modoc National Forests and Bureau of Land Management lands, as well as open-space lands managed by Pacific Gas and Electric Company. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Northern California Coast Ranges Ecological Region

This region is the interior part of the northern California Coast Ranges mountains, north of the Carquinez Straight. The only Representative Park Unit in the region is Anderson Marsh State Historic Park, described below.

Anderson Marsh State Historic Park

Anderson Marsh State Historic Park is at the southeast corner of Clear Lake in Lake County. This 1,080-acre park unit includes about 3,000 feet of lake shoreline. Cache Creek, the outlet for the lake, flows through the unit adding an additional 10,000 feet of shoreline.

The unit is in the Clear Lake Hills and Valleys Ecological Subregion. This subregion is in a structural low, or graben, in the northern California Coast Range mountains. The subregion contains moderately steep hills, highly dissected Plio-Pleistocene sediments, and nearly level to gently sloping Quaternary alluvial fans, terraces, and basin-fill. The unit is set in an area of young volcanic rocks, lake deposits and alluvium. Fluvial erosion and fluvial and lacustrine deposition in the basin bottom are the major active geomorphic processes at work.

Anderson Marsh State Historic Park is entirely within the Upper Cache Creek watershed, yet only makes up 3% of that watershed. Most of Anderson Marsh is within the unit as is a portion of Cache Creek and Seigler Creek and four oxbows. Lake level is regulated at Clear Lake Dam, about 5 miles downstream of the unit. Flooding around the rim of Clear Lake occurs when inflow greatly exceeds the capability of the Clear Lake Outlet Channel.

Plant communities and wildlife habitats of the unit consists of valley oak forest and cottonwood-willow woodland within riparian areas, freshwater marsh containing sedge-rush prairie and tule prairie, valley oak woodland and blue oak woodland, and non-native grassland. The marsh and riparian communities cover the majority of the unit. Anderson Marsh is the largest remaining wetland habitat at Clear Lake, making it the largest natural refuge in the Clear Lake Basin.

Wildlife habitats found at the unit include freshwater emergent wetland, annual grassland, valley foothill riparian, blue oak woodland, mixed chaparral, wet meadow, lacustrine, perennial grassland, and valley oak woodland.

Birds are the most diverse group of wildlife present at the unit. It is estimated that 70% of the 152 species known to occur in the park unit also nest in the area. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California. Some habitat connectivity is maintained with other protected lands. National Audubon Society's McVicar Audubon Wildlife Sanctuary shares a common property line at the west boundary of the unit. The Audubon property is managed as a bird sanctuary. The unit is west of the Bureau of Land Management Cache Creek Resource Management Area. There are two small regional parks in the vicinity of Anderson Marsh State Historic Park.

Great Valley Ecological Region

This region contains the alluvial plains of the Sacramento and San Joaquin Valleys. The Representative Park Units for this region are described below.

Woodson Bridge State Recreation Area (Woodson Bridge State Recreation Area/Bidwell-Sacramento River State Park Complex)

Woodson Bridge State Recreation Area, the primary park unit in this complex, is located approximately 20 miles north of Chico. This 323-acre park unit is representative of the geomorphology of the North Valley Alluvium Ecological Subregion, with its floodplain and gently sloping recent alluvial deposits. Elevations in the park range from approximately 100 feet to 150 feet.

The following plant communities and wildlife habitats characteristic of the Great Valley Ecological Region are found within the park unit: annual grassland, valley foothill riparian, and valley oak woodland.

Woodson Bridge State Recreation Area is near the U.S. Fish and Wildlife Service's Rio Vista unit and state lands administered by The Nature Conservancy which are both managed for wildlife habitat values. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Bidwell-Sacramento River State Park (Woodson Bridge State Recreation Area/Bidwell-Sacramento River State Park Complex)

Bidwell-Sacramento River State Park is located approximately 6 miles west of Chico. Because of its floodplain and gently sloping recent alluvial deposits, this 320-acre park is representative of the geomorphology of the North Valley Alluvium Ecological Subregion. Elevations in the park range from approximately 100 feet to 150 feet.

Plant communities and wildlife habitats characteristic of the Great Valley Ecological Region found within the park unit include annual grassland, valley foothill riparian and valley oak woodland.

Bidwell-Sacramento River State Park is adjacent to U.S. Fish and Wildlife Service, California Department of Fish and Game and The Nature Conservancy lands, which are managed for wildlife habitat values.

Delta Meadows

Delta Meadows is located approximately 25 miles south of Sacramento in the Sacramento-San Joaquin River Delta. This 471-acre park is representative of the geomorphology of the Delta Basins Ecological Subregion with its nearly level floodplain. The elevation in the park is sea-level.

The following plant communities and wildlife habitats characteristic of the Great Valley Ecological Region are found within the park: estuarine, valley oak woodland, saline emergent wetland, wet meadow and valley foothill riparian.
Delta Meadows is near U.S. Fish and Wildlife Service and Nature Conservancy lands that are managed for wildlife values. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Great Valley Grasslands State Park

Great Valley Grasslands State Park is located approximately 20 miles west of Merced. This 2,826-acre park is representative of the geomorphology of the San Joaquin Basin Ecological Subregion with its nearly level floodplain and basin floor. Elevations in the park range from approximately 60 feet to 80 feet.

Plant communities and wildlife habitats characteristic of the Great Valley Ecological Region found within the park include annual and perennial grassland, valley foothill riparian, riverine and freshwater emergent wetland.

Great Valley Grasslands State Park is part of the larger Grasslands Ecological Area (GEA), a 180,000-acre complex of U.S. Fish and Wildlife Service, California Department of Fish and Game and private lands all managed for wildlife values.

The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California. The GEA represents the largest remaining contiguous block of wetlands in California.

Sierra Nevada Foothills Ecological Region

This region comprises the hot foothills of the Sierra Nevada, and the southwestern end of the Cascade Ranges, adjacent to the Great Valley. The Representative Park Units in this region are described below.

Auburn State Recreation Area

This park unit is located in two ecological regions. For unit description, see Sierra Nevada Ecological Region.

Millerton Lake State Recreation Area

Millerton Lake State Recreation Area is located approximately 20 miles northeast of Fresno in the western foothills of the Sierra Nevada. This park unit has 2,481 terrestrial acres and is representative of the geomorphology of the Lower Granitic Foothills Ecological Subregion with its moderately steep to steep mountains and hills. Elevations in the park range from approximately 600 feet to 1,500 feet.

Plant communities and wildlife habitats characteristic of the Sierra Nevada Ecological Region found within the park unit include blue oak-foothill pine, annual grassland, blue oak woodland and valley foothill riparian.

Approximately 88% of Millerton Lake State Recreation Area's 2,481 terrestrial acres are leased by State Parks from the U.S. Bureau of Reclamation. The lease expires on October 31, 2007. The park unit serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity, including lands managed by the Bureau of Land Management and lands in Sierra National Forest.

Sierra Nevada Ecological Region

This region is the temperate to very cold parts of the Sierra Nevada, which is a north-northwest aligned mountain range that is much steeper on the east side than on the west.

Plumas-Eureka State Park

Plumas-Eureka State Park is located approximately 23 miles south of Quincy in the Sierra Nevada. This 4,424-acre park is representative of the geomorphology of the Upper Batholithic and Volcanic Flows and the Greenville-Graeagle subregions with gently sloping to moderately steep plateaus with steep mountain, canyon and hill slopes. Elevations in the park range from approximately 5,100 feet to 7,400 feet.

The following plant communities and wildlife habitats characteristic of the Sierra Nevada Ecological Region are found within the park: Sierran mixed conifer, montane hardwood, montane hardwood-conifer, montane riparian, freshwater emergent wetland, wet meadow, riverine and lacustrine.

Plumas-Eureka State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including lands in Tahoe and Plumas National Forests.

Ed Z'Berg-Sugar Pine Point State Park

Ed Z'Berg-Sugar Pine Point State Park is located approximately 10 miles south of Tahoe City on the western shore of Lake Tahoe. This 2,324-acre park is representative of the geomorphology of the Upper Batholithic and Volcanic Flows Ecological Subregion with its gently sloping to moderately steep plateau with steep canyon slopes. Elevations in the park range from approximately 6,200 feet along its two miles of lake frontage up to 6,900 feet.

The following plant communities and wildlife habitats characteristic of the Sierra Nevada Ecological Region are found within the park: Sierran mixed conifer, montane hardwood, montane chaparral, perennial grassland, montane riparian, freshwater emergent wetland, wet meadow and lacustrine.

Ed Z'Berg-Sugar Pine Point State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including lands in Tahoe and El Dorado National Forests and D. L. Bliss, Emerald Bay and Washoe Meadows State Parks.

Auburn State Recreation Area

Auburn State Recreation Area is located approximately 40 miles east of Sacramento, in the western foothills of the Sierra Nevada. This 42,000-acre park

unit extends for 20 miles along the American River across two ecological subregions, Upper Batholithic and Lower Foothills Metamorphic Belt. The unit is representative of the geomorphology of both of these subregions with its moderately steep to steep mountains, gently sloping to moderately steep plateau and steep canyon slopes. Elevations in the park range from approximately 600 feet to 1,800 feet.

The following plant communities and wildlife habitats characteristic of the Sierra Nevada Ecological Region are found within the park unit: montane hardwood-conifer, montane chaparral, mixed chaparral, riverine, lacustrine, wet meadow, freshwater emergent wetland and annual grassland.

Auburn State Recreation Area's entire 42,000 acres are leased by State Parks from the U.S. Bureau of Reclamation. The lease expires on December 31, 2016. The park unit serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Tahoe and El Dorado National Forests, U. S. Bureau of Reclamation lands and Folsom Lake State Recreation Area.

Calaveras Big Trees State Park

Calaveras Big Trees State Park is located approximately 75 miles east of Stockton in the Sierra Nevada. This 6,498-acre park is representative of the geomorphology of the Batholithic and Volcanic Flows Ecological Subregion with its gently sloping to moderately steep plateau with some steep hills. Elevations in the park range from approximately 3,400 feet to 5,600 feet.

The following plant communities and wildlife habitats characteristic of the Sierra Nevada Ecological Region are found within the park: Sierran mixed conifer, montane hardwood-conifer, montane chaparral, aspen, annual and perennial grassland, montane riparian and riverine.

Calaveras Big Trees State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Calaveras Big Trees State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including lands in Stanislaus National Forest and lands managed by the Bureau of Land Management.

Mono Lake Tufa State Reserve

This park unit is located in two ecological regions. For unit description, see Mono Ecological Region.

Mono Ecological Region

This region is in the western part of the Great Basin, just east of the Sierra Nevada. The only Representative Park Unit in this region is described below.

Mono Lake Tufa State Reserve

Mono Lake Tufa State Reserve is located approximately 20 miles southeast of Bridgeport on the east side of the Sierra Nevada. Because of its gentle sloping lake plain, this 17,000-acre park is representative of the geomorphology of the Mono Valley Ecological Subregion. Elevations in the park range from approximately 6,000 feet to 6,600 feet.

The following plant communities and wildlife habitats characteristic of the Mono Ecological Region are found within the park: sagebrush, low sage, perennial grassland, desert riparian, desert wash and saline emergent wetland.

Mono Lake Tufa State Reserve is located in the Mono Basin National Forest Scenic Area and provides important wildlife habitat and linkages to other protected lands within Inyo National Forest. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Central California Coast Ecological Region

This region consists of mountains, hills, valleys, and plains in the southern Coast Ranges of California. It is close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. The Representative Park Units in this region are described below.

Mount Diablo State Park

Mount Diablo State Park is located about four miles east of the city of Walnut Creek in central Contra Costa County. The park covers 20,103 acres. It is representative of the East Bay Hills – Mount Diablo Ecological Subregion and is also outstanding within that subregion. This is a subregion of northwest trending hills with subequal summits, rounded ridges, steep sides, and narrow canyons. Mass wasting and fluvial erosion are the main geomorphic processes.

Landslides are abundant on the steep slopes of Mount Diablo, especially when rainfall is heavy. Ancient landslides are particularly vulnerable to additional slope failure.

The state park extends into three hydrological units: the North Diablo Range, the South Bay, and the Suisun hydrologic units. Most creeks and streams are intermittent, reflecting the seasonal distribution of rainfall.

Plant communities at the unit include coastal scrub, chaparral, valley and foothill grasslands, riparian forests and woodlands, broadleaf evergreen forest, closed-cone conifer (knobcone pine) forest, and lower montane coniferous forest of Coulter pine. The state-listed rare plants Mt. Diablo bird's-beak and rock sanicle are found within the unit.

Wildlife habitats in the unit include annual grassland, montane hardwood, blue oak woodland, chamise-redshank chaparral, mixed chaparral, montane chaparral, pinyon-juniper, blue oak-foothill pine, barren, and juniper. Special animals known from the unit include California red-legged frog and Alameda whipsnake.

Mount Diablo State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Big Basin Redwoods State Park (Butano State Park/Año Nuevo State Reserve/ Año Nuevo State Park/Big Basin Redwoods State Park Complex)

Big Basin, established in 1902, is California's oldest State Park and is the primary park in this complex. Home to the largest continuous stand of ancient coast redwoods south of San Francisco, the park consists of 18,032 acres of old growth and recovering redwood forest, with mixed conifer, oaks, chaparral, and riparian habitats.

Elevations in the park vary from sea level to over 2,000 feet. The climate ranges from foggy and damp near the ocean to sunny, warm ridge tops. The park unit is within the Santa Cruz Mountains Ecological Subregion. Wildlife habitats in the unit are annual grassland, barren, closed-cone pine cypress, freshwater emergent wetland, mixed chaparral, montane hardwood-conifer, redwood, and valley foothill riparian.

Big Basin Redwoods State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Trails link Big Basin to Castle Rock State Park and the eastern reaches of the Santa Cruz range. The Skyline to the Sea Trail threads its way through the park along Waddell Creek to the beach and adjacent Theodore J. Hoover Natural Preserve, a freshwater marsh. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Butano State Park (Butano State Park/Año Nuevo State Reserve/Año Nuevo State Park/Big Basin Redwoods State Park Complex)

Butano State Park covers 4,547 acres in San Mateo County. The park is half way between Half Moon Bay and Santa Cruz and is three miles inland.

This park is representative of the Santa Cruz Mountains Ecological Subregion. Its central canyon illustrates the narrow canyons typical of this subregion.

Plant communities and wildlife habitats of the park include grassland with coyote brush and bush lupine; alder woodland with an understory of berries along the lower reaches of Butano Creek; Douglas-fir and redwood forests are found in the main canyon through the park on south-facing and north-facing slopes, respectively. Knobcone pine is also found toward the interior of the unit.

This park links to several other protected lands in the ecological subregion including Año Nuevo State Park and land owned by the Sempervirens Fund.

Butano State Park is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Año Nuevo State Reserve (Butano State Park/Año Nuevo State Reserve/ Año Nuevo State Park/Big Basin Redwoods State Park Complex)

Año Nuevo State Reserve, 1,318 acres, is on a low, rocky point that juts into the Pacific Ocean 55 miles south of San Francisco.

Wildlife habitats at the reserve are annual grassland, barren, closed-cone pine cypress, coastal scrub, freshwater emergent wetland, lacustrine, perennial grassland, and valley foothill riparian.

The reserve remains largely undeveloped and wild. Elephant seals, sea lions, and other marine mammals come ashore to rest, mate, and give birth in the sand dunes or on the beaches and offshore islands.

Año Nuevo State Reserve is the site of the largest mainland breeding colony in the world for the northern elephant seal. The breeding season is December through March. The males battle for mates on the beaches and the females give birth to their pups on the dunes. Most of the adult seals are gone by early March, leaving behind the weaned pups that remain through April. The elephant seals return to Año Nuevo's beaches during the spring and summer months to molt. The reserve is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Año Nuevo State Park (Butano State Park/Año Nuevo State Reserve/ Año Nuevo State Park/Big Basin Redwoods State Park Complex)

Año Nuevo State Park, 2,896 acres in San Mateo County, is in the Santa Cruz Mountains Ecological Subregion. This subregion lies between San Andreas fault and the Pacific Ocean. The park is on the western slope of the central Coast Range, inland from Año Nuevo Point.

The property contains a diversity of plant communities, including redwood and Douglas-fir forest, coyote brush, freshwater marsh, red alder riparian forest, and knobcone pine forest.

Wildlife habitats are annual grassland, coastal scrub, Douglas-fir, lacustrine, mixed chaparral, redwood, and riverine. The park’s four perennial streams support steelhead trout and coho salmon, and its wetlands are habitat to the rare San Francisco garter snake and red-legged frog.

The unit abuts Año Nuevo State Reserve and Big Basin Redwoods State Park. In conjunction with these adjacent and other nearby public lands, the unit permits the protection of important regional ecological corridors. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Andrew Molera State Park (Andrew Molera State Park/Julia Pfeiffer Burns State Park Complex)

Andrew Molera State Park, the primary park in this complex, is comprised of 4,766 acres along the Central California Coast. The park is in the North Coastal Santa Lucia Range Ecological Subregion.

Andrew Molera State Park includes the lower portion of the Big Sur River and the river mouth at Molera Point. The river mouth is known as an important site for migrating birds. Part of the Little Sur River also flows through the unit.

Plant communities within the park include coastal scrub dominated by mock heather and lizard tail near the coast, blue brush, perennial grasslands, annual grasslands, chamise chaparral, live oak forest and woodland, arroyo willow, sycamore and cottonwood-sycamore riparian forest, redwood forest, and mixed evergreen forest of tan oak, coast live oak, and California buckeye. The rare plants Dudley's lousewort and adobe sanicle are known from the unit.

Wildlife habitats include annual grassland, barren, coastal oak woodland, coastal scrub, eucalyptus, freshwater emergent wetland, mixed chaparral, montane hardwood, perennial grassland, redwood, and valley foothill riparian. The following sensitive animals are known from the unit: Smith's blue butterfly, California red-legged frog, California brown pelican, and American peregrine falcon.

Andrew Molera State Park is one of the Big Sur coastal state park units. It is west of the Ventana Wilderness in the Los Padres National Forest. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Julia Pfeiffer Burns State Park (Andrew Molera State Park/Julia Pfeiffer Burns State Park Complex)

Julia Pfeiffer Burns State Park, comprised of 1,873 terrestrial acres, is on the Big Sur Coast of Monterey County. The park is 56 miles south of Monterey via State Highway 1 within the Northern Coastal Santa Lucia Range Ecological Subregion. Approximately 1,889 acres of the adjacent underwater area are leased from California State Lands Commission for use as an underwater park.

The park is drained by the following creeks: Partington, McWay, Anderson, and several unnamed streams. McWay Creek is particularly notable for the dramatic waterfall that discharges at the ocean's edge.

Five distinct subtidal habitats were identified in an inventory conducted in the late 1980s: giant kelp; pinnacles and sea cliffs with sessile invertebrates; dense mats of the tube worm *Diopatra ornata* between large rocks and boulders; unstable gravel and boulder fields; and channel walls.

Terrestrial vegetation is characterized by bluff scrub of mock heather and lizard tail, poison oak, yellow bush lupine, and California coffeeberry. Central coastal sage scrub of coyote brush, California sagebrush, and bush monkeyflower is found on xeric slopes. California sage brush and black sage are found at even drier sites. Bluebrush chaparral occurs on north facing slopes with intermediate moisture whereas mixed evergreen forest of coast redwood, tan oak and coast live oak occupies even more mesic sites. Coast redwoods form the dominant tree cover in lower streamside vegetation in the interior of the unit.

The following wildlife habitats are found in the unit: annual grassland, barren, closed-cone pine cypress, coastal scrub, eucalyptus, marine, mixed chaparral, montane hardwood, perennial grassland, and valley foothill riparian. The following sensitive animals have been identified as occurring at the unit: Smith's blue butterfly, California brown pelican, California condor, American peregrine falcon, marbled murrelet), and southern sea otter.

The eastern side of this unit is bordered by the Los Padres National Forest Ventana Wilderness.

Montaña de Oro State Park (Morro Bay State Park/Montaña de Oro State Park Complex)

Montaña de Oro State Park is the primary park in this complex. It is comprised of 8,296 acres in the South Coastal Santa Lucia Range Ecological Subregion. The unit includes a barrier sand spit, a coastal terrace, and uplands of the western San Luis Mountain Range, all of which are representative landforms for this subregion.

The park is drained by three streams, Hazard Canyon, Islay, and Coon creeks. Aquatic resources include steelhead.

Plant communities in the park include annual and native perennial grasslands, coastal salt marsh, coastal freshwater marsh, dune scrub, coastal sage scrub, dune chaparral, dune oak scrub, huckleberry scrub, mixed chaparral, broadleaf evergreen forest, willow and cottonwood riparian forest, and Bishop pine forest. Morro manzanita and Indian Knob mountainbalm are listed plants found in the unit.

Wildlife habitats include annual grassland, barren, coastal oak woodland, coastal scrub, eucalyptus, marine, mixed chaparral, and riverine. In addition to the steelhead, the following listed species are known from the unit: Morro shoulderband (banded dune) snail and western snowy plover.

This park connects to Morro Bay State Park through publicly protected submerged lands. El Chorro Regional Park is in the uplands near the park boundaries. The Nature Conservancy and the Land Trust of San Luis Obispo have easements over other inland properties southeast of Montaña de Oro State Park. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Morro Bay State Park (Morro Bay State Park/Montaña de Oro State Park Complex)

Morro Bay State Park is a 2,770-acre park located on the coast 13 miles northwest of San Luis Obispo in the South Coastal Santa Lucia Range Ecological Subregion. Elevations in the park range from sea-level to approximately 650 feet.

Plant communities and wildlife habitats characteristic of the Central California Coast Ecological Region found within the park include coastal scrub, estuarine, annual and

perennial grassland, coastal oak woodland, riverine, Jeffrey pine and chamise-redshank chaparral.

Morro Bay State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Oceano Dunes State Vehicular Recreation Area (Pismo State Beach/Oceano Dunes State Vehicular Recreation Area Complex)

Oceano Dunes State Vehicular Recreation Area is the primary park in this complex and is located along the coast of southern San Luis Obispo County about three miles south of Pismo Beach. The 3,600-acre park unit is within the Santa Maria Valley Ecological Subregion. This subregion is on alluvial plains with extensive dunes. The park border is just south of Arroyo Grande Creek. The unit incorporates a dune/slack series of wet dune swales, marshes, and fresh water lakes including Oso Flaco Lake.

Plant communities of the unit include coastal strand of beach saltbush, coastal saltbush, and sand verbena; foredunes with sand-verbena, dune evening primrose, beach spectacle pod; dune scrub of mock heather, silver beach lupine, and beach strawberry; coastal willow/wax myrtle thicket; dune swale with creeping rush and native sedges; coastal freshwater marsh with saltgrass, rushes and tules; and coastal dune riparian forest of black cottonwood, arroyo willow, yellow willow and scattered coast live oak. Rare plants that occur here include surf thistle, Nipomo lupine and giant coreopsis.

Wildlife habitats are freshwater emergent wetland, wet meadow, lacustrine, coastal scrub, coastal oak woodland, and valley and foothill riparian forest. Dense vegetation patches support the greatest diversity of wildlife in the unit. Both the threatened snowy plover and the endangered California least tern nest within the park. The park unit also hosts two steelhead corridors, Pismo Creek and Arroyo Grande Creek. Rare animals found in the unit include tidewater goby, California red-legged frog, Oso Flaco checkered moth and sand scarab beetles. Pismo clams are a recreational resource of the unit.

The park unit is between Pismo State Beach including Pismo Dunes Natural Preserve and Guadalupe-Nipomo Dunes National Wildlife Refuge. Also south of the park is Rancho Guadalupe County Park. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Pismo State Beach (Pismo State Beach/Oceano Dunes State Vehicular Recreation Area Complex)

Pismo State Beach is located in the community of Pismo Beach on the San Luis Obispo County coast. The unit is 1,342 acres and is representative of the Santa

Maria Valley Ecological Subregion. This alluvial plain is composed of nearly level floodplain and stream terraces.

The dunes at Pismo State Beach include vegetated, active, and stabilized dunes. Vegetation includes California sagebrush, coyote brush, bush lupine, sand verbena, and arroyo willow. Willows, sedges, and semi-aquatic plants occupy hollows that have sufficient moisture.

Wildlife habitat in the park unit includes coastal scrub and riverine. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Pismo State Beach was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Pismo Dunes Natural Preserve includes 430 acres of undisturbed dunes and native vegetation.

Central California Coast Ranges Ecological Region

This region is the interior part of the southern Coast Ranges of California, south of the Carquinez Strait. It is inland from the coast far enough that the climate is modified only slightly by marine influence. It is bounded on the northeast by the alluvial plain of the San Joaquin Valley and on the southwest by the coastal part of the southern Coast Ranges. It extends south to the Transverse Ranges. The Representative Park Units in this region are described below.

Mount Diablo State Park

This park is located in two ecological regions. For unit description, see Central California Coast Ecological Region.

Henry W. Coe State Park

Henry W. Coe State Park is located approximately 13 miles west of Morgan Hill. This 89,042-acre park is representative of the geomorphology of the Diablo Range and Western Diablo Range subregions with its rounded ridges, steep and moderately steep sides, and narrow canyons. Elevations in the park range from approximately 1,000 feet to 3,200 feet.

Plant communities and wildlife habitats characteristic of the Central California Coast Ranges Ecological Region found within the park include chamise-redshank chaparral, annual and perennial grassland, blue oak-foothill pine, blue oak woodland, mixed chaparral, riverine, lacustrine, coastal oak woodland, and ponderosa pine.

Henry W. Coe State Park contains 25% of the upper Orestimba Creek watershed, which is characteristic of those on the west side of the San Joaquin Valley.

Henry W. Coe State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity, including Department of Fish and Game and Nature Conservancy lands managed for wildlife protection.

Southern California Coast Ecological Region

This region contains mountains, hills, valleys, and plains of the Transverse and Peninsular ranges that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. The Representative Park Units in this region are described below.

Gaviota State Park

Gaviota State Park is located on the coast 33 miles west of Santa Barbara. Elevations in the park range from sea level to 1,300 feet. The terrain of this 2,742-acre park unit, with its steep mountains, narrow summits and narrow canyons, is representative of the geomorphology of the Santa Ynez-Sulphur Mountains Ecological Subregion.

Plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region found within the park include coastal sage scrub, mixed chaparral, coastal oak woodland, coastal salt marsh, and annual and perennial grassland.

Gaviota State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Gaviota State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Los Padres National Forest.

Point Mugu State Park (Point Mugu State Park/Leo Carrillo State Park Complex)

Point Mugu State Park is the primary park in this complex and is located on the coast on the western edge of the Santa Monica Mountains 15 miles south of Oxnard. Because of its steep mountains with narrow to broad summits, narrow canyons and five miles of beach frontage, this 13,946-acre park is representative of the Santa Monica Mountains Ecological Subregion's geomorphology.

The following plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region are found within the park: coastal sage scrub, mixed chaparral, chamise-redshank chaparral, valley foothill riparian and annual and perennial grassland.

Point Mugu State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Point Mugu State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Leo Carrillo State Park and Santa

Monica Mountains National Recreation Area. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Leo Carrillo State Park (Point Mugu State Park/Leo Carrillo State Park Complex)

Leo Carrillo State Park is located on the coast in the Santa Monica Mountains 28 miles northwest of Santa Monica. Because of its steep mountains with narrow to broad summits and narrow canyons and two miles of beach frontage, this 2,495-acre park is representative of the Santa Monica Mountains Ecological Subregion's geomorphology. Elevations in the park range from sea level to 1,800 feet.

The following plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region are found within the park: coastal sage scrub, mixed chaparral, valley foothill riparian and annual grassland.

Leo Carrillo State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Leo Carrillo State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Point Mugu State Park and Santa Monica Mountains National Recreation Area. The marine waters of the park have been designated an Area of Special Biological Significance by the State Water Quality Control Board.

Malibu Creek State Park (Malibu Creek State Park/Malibu Lagoon State Beach Complex)

Malibu Creek State Park, the primary park in this complex, is located in the Santa Monica Mountains 25 miles west of downtown Los Angeles. Because of its steep mountains with narrow to broad summits and narrow canyons, this 7,915-acre park is representative of the Santa Monica Mountains Ecological Subregion's geomorphology. Much of the park is located above 1,000 feet in elevation and its topography is dominated by the deep canyon of Malibu Creek.

The following plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region are found within the park: mixed chaparral, riparian woodland, coastal sage scrub, coast live oak woodland and annual grassland.

Malibu Creek State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Malibu Creek State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Malibu Lagoon State Beach, Santa

Monica Mountains National Recreation Area, Santa Monica Mountains Conservancy lands and property owned by Las Virgenes Municipal Water District.

Malibu Lagoon State Beach (Malibu Creek State Park/Malibu Lagoon State Beach Complex)

Malibu Lagoon State Beach is located in the Santa Monica Mountains 25 miles west of downtown Los Angeles. Because of its coastal bluffs, relatively narrow beach and estuarine lagoon, this 199-acre park is representative of the Santa Monica Mountains Ecological Subregion geomorphology.

The following plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region are found within the park: estuarine, coastal sage scrub, riparian and mixed chaparral.

Malibu Lagoon State Beach was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Malibu Lagoon State Beach is linked to other protected lands in the vicinity including Malibu Creek State Park, Santa Monica Mountains National Recreation Area, Santa Monica Mountains Conservancy lands and property owned by Las Virgenes Municipal Water District.

Chino Hills State Park

This park is located in three ecological subregions. For unit description, see Southern California Mountains and Valleys Ecological Region.

Crystal Cove State Park

Crystal Cove State Park is located on the coast between Newport Beach and Laguna Beach and encompasses 2,722 terrestrial acres. The park has 3½ miles of beach and extends across three ecological subregions; the Los Angeles Plain, the Coastal Hills and the Coastal Terraces. Because of its relatively narrow beach, steep hills, upland coastal bluffs and terraces and elevations ranging from sea level to approximately 1,000 feet, the park is most typical of the geomorphology of the Coastal Hills and Coastal Terraces sub regions.

The park's three primary watercourses, all generally intermittent streams, are Los Trancos Creek, Muddy Creek and Moro Creek. Designated as an underwater park are 1,219 acres of the offshore waters at Crystal Cove.

Plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region found within the park include coastal sage scrub, coastal oak woodland, annual and perennial grassland, and willow riparian.

Crystal Cove State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Crystal Cove State Park is a core area within the reserve system identified in the Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP). The Moro Beach marine and shore habitat is classified as the Irvine Coast Marine Life Refuge by the California Department of Fish and Game and as an Area of Special Biological Significance by the State Water Resource Control Board. Other protected lands linked to Crystal Cove State Park include Laguna Coast Wilderness Park, Irvine Company Open Space Reserve and Aliso and Wood Canyons Wilderness Park. Together all of these lands provide a relatively large protected area of wildlife habitat and corridor linkages. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Border Field State Park

Border Field State Park is located on the coast approximately 15 miles south of San Diego at the Tijuana River estuary and, as its name implies, is on the U.S. border with Mexico. Because of its narrow strip of beach, low sand dunes and upland marine terraces, this 1,310-acre park is representative of the Coastal Terraces Ecological Subregion's geomorphology. Extensive salt marsh and salt pan habitats are also associated with the Tijuana River estuary and the park.

The following plant communities and wildlife habitats characteristic of the Southern California Coast Ecological Region are found within the park: riparian woodlands, maritime succulent scrub, coastal sage scrub, southern maritime chaparral and native grasslands.

Border Field State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Border Field State Park is one of the component public lands that comprise the Tijuana River National Estuarine Research Reserve. The reserve, including Border Field State Park, is used by six federally listed threatened or endangered birds: light footed clapper rail, California least tern, least Bell's vireo, California gnat-catcher, western snowy plover and California brown pelican. Salt marsh bird's beak, an endangered plant, also occurs in the park. The park has been identified as one of the Core Biological Resource Areas within the planning area designated by San Diego County's Multi-Species Conservation Program, a comprehensive habitat conservation planning program that addresses the habitat needs of multiple species and the preservation of native plant communities. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Southern California Mountains and Valleys Ecological Region

This region includes mountains, hills and valleys of the Transverse and the Peninsular ranges that are near the Pacific Ocean, but not directly bordering it. Much of the region is close enough to the Pacific Ocean for the climate to be modified moderately by marine influence. The Representative Park Units in this region are described below.

Hungry Valley State Vehicular Recreation Area

Hungry Valley State Vehicular Recreation Area is located 55 miles south of Bakersfield and 60 miles north of Los Angeles in the Tehachapi Mountains. Because of its steep mountains with narrow to rounded summits and generally narrow canyons, this 18,401-acre park unit is representative of the geomorphology of the Northern Transverse Ranges Ecological Subregion. Elevations in the unit range from approximately 2,800 feet to over 6,000 feet.

The following plant communities and wildlife habitats characteristic of the Southern California Mountains and Valleys Ecological Region are found within the park unit: chaparral, pinyon-juniper woodland, annual grassland, riparian, juniper-yucca open woodland and valley oak woodland.

Hungry Valley State Vehicular Recreation Area serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Los Padres National Forest, Angeles National Forest and the Wildlands Conservancy's Wind Wolves Preserve.

Mount San Jacinto State Park

Mount San Jacinto State Park is located approximately 100 miles east of Los Angeles. Because of its steep mountains with narrow to rounded ridges and narrow canyons, this 13,717-acre park is representative of the San Jacinto Mountains Ecological Subregion's geomorphology. Elevations in the park range from approximately 4,000 feet to the 10,834-foot summit of Mount San Jacinto.

The following plant communities and wildlife habitats characteristic of the Southern California Mountains and Valleys Ecological Region are found within the park: Sierran mixed conifer, montane riparian, montane chaparral and montane hardwood-conifer.

Mount San Jacinto State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Mount San Jacinto State Park is surrounded by and provides wildlife habitat and linkages to protected lands in the San Bernardino National Forest as well as lands managed jointly by the U.S. Forest Service and Bureau of Land Management in the Santa Rosa and San Jacinto Mountains National Monument.

Chino Hills State Park

Chino Hills State Park is located in the Santa Ana Mountains/Whittier Hills, 10 miles northwest of Corona and encompasses about 12,590 acres. The park extends for 13 miles across three ecological subregions: the Los Angeles Plain, the Santa Ana Mountains and the Coastal Hills. Because of its moderately steep to very steep hills with narrow to rounded summits and narrow canyons, the park is most typical of the geomorphology of the Santa Ana Mountains and Coastal Hills ecological subregions. Elevations in the park range from approximately 500 feet to 1,785 feet.

The following plant communities and wildlife habitats characteristic of the Southern California Mountains and Valleys Ecological Region are found within the park: coastal sage scrub, coastal oak woodland, annual and perennial grassland, riverine and mixed chaparral.

Chino Hills State Park is a part of the Reserve system identified in the Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP). The purpose of the NCCP/HCP is to provide long-term regional protection and to perpetuate natural vegetation and wildlife diversity. The park is also a member of the Wildlife Corridor Conservation Authority, which provides for the proper planning, conservation, environmental protection and maintenance of the habitat and wildlife corridor between the Puente Hills to the west, the Chino Hills to the east, the Cleveland National Forest to the south, and the east-west connection between the park and the Prado Basin. The unit is within two of the 146 Important Bird Areas of California recognized by Audubon California.

Cuyamaca Rancho State Park

Cuyamaca Rancho State Park is located approximately 40 miles east of San Diego in the Peninsular Ranges. Because of its steep mountains with rounded summits, broad valleys and rolling plateaus, this 24,614-acre park is representative of the Palomar-Cuyamaca Peak Ecological Subregion's geomorphology. Elevations in the park range from approximately 2,000 feet to the 6,500 foot summit of Cuyamaca Peak.

The following plant communities and wildlife habitats characteristic of the Southern California Mountains and Valleys Ecological Region are found within the park: mixed chaparral, montane hardwood-conifer, Sierran mixed conifer, wet meadow, annual and perennial grassland, montane riparian and chamise-redshank chaparral.

Cuyamaca Rancho State Park serves as a keystone preserve in the San Diego County East County Multi-Species Conservation Plan. The park links Anza-Borrego Desert State Park with Cleveland National Forest and Bureau of Land Management lands to the south and west. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Anza-Borrego Desert State Park

This park is located in two ecological regions. For unit description, see Colorado Desert Ecological Region.

Mojave Desert Ecological Region

This region is the hot part of the basin and ranges from the southern end of the Sierra Nevada and the north-northeastern side of the Transverse Ranges to Nevada and Arizona. The Representative Park Units in the region are described below.

Antelope Valley California Poppy Reserve

Antelope Valley California Poppy Reserve is located 15 miles west of Lancaster in the Antelope Buttes. Because of its very gently to moderately sloping pediments and alluvial fans and nearly level basin floor, this 1,781-acre reserve is representative of the geomorphology of the High Desert Plains and Hills Ecological Subregion. Elevations in the park range from approximately 2,600 feet to 3,000 feet.

Annual grassland is the main plant community and wildlife habitat found within the reserve. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Red Rock Canyon State Park

Red Rock Canyon State Park is located approximately 50 miles north of Lancaster on the northwestern edge of the Mojave Desert. Because of its gently to moderately sloping pediments, steep to very steep mountains, canyons, sheer cliffs and undulating ridges, alluvial fans and nearly level basin floor , this 25,324-acre park is representative of the geomorphology of both the High Desert Plains and Hills and the Searles Valley-Owlshead Mountains ecological subregions. Elevations in the park range from approximately 2,000 feet to 4,000 feet.

The following plant communities and wildlife habitats characteristic of the Mojave Desert Ecological Region are found within the park: desert scrub, desert wash, Joshua tree and desert riparian.

Red Rock Canyon State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

The California Desert Protection Act of 1994 transferred 20,500 acres of federal properties to the State of California as an addition to Red Rock Canyon State Park. The park represents a significant core habitat area in the Mojave Desert and serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity, including lands managed by the Bureau of Land Management.

Providence Mountains State Recreation Area

Providence Mountains State Recreation Area is located approximately 115 miles east of Barstow. Because of its steep to very steep mountains, gently to moderately sloping pediments and alluvial fans and nearly level basin floor , this 5,890-acre park unit is representative of the geomorphology of the Providence Mountains-Lanfair Valley Ecological Subregion. Elevations in the unit range from approximately 3,000 feet to 7,000 feet.

The following plant communities and wildlife habitats characteristic of the Mojave Desert Ecological Region are found within the park unit: pinyon-juniper, desert succulent shrub, desert scrub and desert wash.

Providence Mountains State Recreation Area represents a significant core habitat area in the National Park Service-administered Mojave National Preserve. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Sonoran Desert Ecological Region

This region is the hot part of the Basin and Range Province, from the eastern end of the Transverse Ranges and the Salton Trough extending east to Arizona. The only Representative Park Unit in this region is described below.

Picacho State Recreation Area

Picacho State Recreation Area is located on the Colorado River approximately 25 miles north of Yuma, Arizona. This 6,758-acre park unit is representative of the geomorphology of the Chocolate Mountains and Valleys Ecological Subregion with its very gently to moderately sloping alluvial fans and nearly level floodplain. The unit's eastern boundary includes eight miles of Colorado River frontage.

Plant communities and wildlife habitats characteristic of the Sonoran Desert Ecological Region found within the park unit include desert scrub, desert wash, alkali desert scrub, desert succulent shrub, desert riparian and riverine.

Picacho State Recreation Area serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including the Imperial National Wildlife Refuge and is a major stop along the Pacific flyway. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Colorado Desert Ecological Region

This region is a very hot part of the Basin and Range Province that is sometimes called the Salton Trough. The surface of sediments in the middle of the trough is about 275 feet below sea-level. The delta of the Colorado River is generally high enough to keep sea water out of the Salton Trough. In 1905, however, the Colorado River overflowed into the Salton Trough and the breach was not finally sealed until 1907. The current level of the Salton Sea is about 230 feet below sea level. An ancient lake, Lake Cahuilla, was higher long enough to produce shore-line features that reveal its greater size.

Anza-Borrego Desert State Park (Anza-Borrego Desert State Park/Ocotillo Wells State Vehicular Recreation Area Complex)

Anza-Borrego Desert State Park, the primary park in this complex, is located approximately 90 miles east of San Diego. This 577,460-acre park, the largest in the State Park System, stretches across two ecological subregions, Borrego Valley – West Mesa and Desert Slopes. Because of its moderately steep to very steep mountains with narrow to rounded summits, narrow canyons, gently to moderately sloping alluvial fans, terraces and nearly level basin floors, the park is representative of the geomorphology of both subregions. Elevations in the park range from approximately sea-level to over 6,100 feet.

The following plant communities and wildlife habitats characteristic of the Colorado Desert Ecological Region are found within the park: desert scrub, juniper, mixed chaparral, chamise-redshank chaparral, desert succulent shrub, pinyon-juniper, alkali desert scrub, montane chaparral and palm oasis.

Anza-Borrego Desert State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Anza-Borrego Desert State Park has been recognized as a National Natural Landmark and as a part of the International Biosphere Reserve Program. The park has been designated by the U.S. Fish and Wildlife Service as critical habitat for the peninsular bighorn sheep, least Bell's vireo and Quino checkerspot butterfly. The park represents a significant core habitat area in the Colorado Desert and serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Cuyamaca Rancho State Park, Cleveland National Forest and lands managed by the Bureau of Land Management. The unit includes two of the 146 Important Bird Areas of California recognized by Audubon California.

Ocotillo Wells State Vehicular Recreation Area (Anza-Borrego Desert State Park/Ocotillo Wells State Vehicular Recreation Area Complex)

Ocotillo Wells State Vehicular Recreation Area is located approximately 90 miles east of San Diego. Because of its gently to moderately sloping alluvial fans, terraces

and nearly level basin floors, this 48,431-acre park unit is representative of the geomorphology of Borrego Valley-West Mesa Ecological Subregion. Elevations in the unit range from approximately 100 feet to over 800 feet.

The following plant communities and wildlife habitats characteristic of the Colorado Desert Ecological Region are found within the unit: mesquite woodland, desert ironwood woodland, palo verde woodland, ocotillo and saltbush, creosote bush and brittle brush scrub.

Ocotillo Wells State Vehicular Recreation Area serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including Anza-Borrego Desert State Park and lands managed by the Bureau of Land Management.

III. Outstanding Park Units

This chapter identifies 29 park units considered to have the most outstanding natural resources values in the State Park System. The selection is based on such things as notable geologic features, significant water features, special plant or animal species or communities, and closely associated aesthetic values like scenic views or notable landmarks. While it can be easily argued that most of the 278 park units in the system have some outstanding natural features and qualities, the attempt here was to select the top 25 to 30, listed in Table 3. No attempt was made to rank these parks. Park unit descriptions are arranged in order of location in the state, generally from north to south.

Table 3. Outstanding Park Units

Jedediah Smith Redwoods SP	Big Basin Redwoods SP *
Prairie Creek Redwoods SP *	Año Nuevo SR *
Humboldt Redwoods SP *	Point Lobos SR
MacKerricher SP *	Morro Bay SP *
Mount Tamalpais SP *	Montaña de Oro SP *
Angel Island SP	Point Mugu SP *
Castle Crags SP *	Malibu Creek SP *
McArthur-Burney Falls Memorial SP	Red Rock Canyon SP *
Ahjumawi Lava Springs SP *	Providence Mountains SRA *
Caswell Memorial SP	San Onofre SB
Great Valley Grasslands SP *	Mount San Jacinto SP *
Emerald Bay SP	Cuyamaca Rancho SP *
Mono Lake Tufa SR *	Torrey Pines SR
Calaveras Big Trees SP *	Anza-Borrego Desert SP *
Mount Diablo SP *	

* also recognized as a Representative Park Unit

Twenty-one of the park units selected as “outstanding” are also identified as Representative Park Units. These are noted by an asterisk (*) in the table and below after the park unit name.

The following narratives describe outstanding features of selected Outstanding Park Units. Additional information is included in Appendix B and C, and in Chapter II for those units also considered as Representative Park Units.

Jedediah Smith Redwoods State Park

Jedediah Smith Redwoods State Park encompasses 10,983 acres and is located about five miles east and slightly north of Crescent City. The western part of the park embraces the coastal ridge of low mountains. The park extends eastward to include the lower portion of Mill Creek and portions of the Smith River Valley.

This park includes approximately 9,405 acres of predominantly old-growth coast redwood forest. Old-growth forests are a relatively stable complex ecosystem dominated by large conifers that are hundreds of years old. Protection of these forests was the primary purpose for which the park was established. The Smith River, one of California's last free-flowing major rivers, also flows through this unit.

Huckleberry, salal, ferns, oxalis, and trillium are among the understory plants associated with these redwoods. Old-growth forest hosts a suite of associated animals such as white-footed vole, California red tree vole, marbled murrelet, red-legged frog, Pacific giant salamander, California slender salamander, northern rough-skinned newt, varied thrush, northern spotted owl and big brown bat (as well as six other bat species). Aquatic resources include anadromous species such as chinook salmon, coho salmon, and steelhead.

Jedediah Smith Redwoods State Park is one of three state parks that are managed cooperatively with Redwood National Park to form Redwood National and State Parks. Together these parks are over 112, 000 acres in size. They are a World Heritage Site and International Biosphere Reserve, protecting resources cherished by citizens of many nations.

Outstanding features: Jedediah Smith Redwoods State Park contains ancient redwood forest and Mill Creek, an outstanding creek that supports up to seven anadromous species including salmon and eel. The park is a core area of the state's largest redwood reserve which also includes Del Norte Coast Redwoods State Park, Prairie Creek Redwoods State Park and portions of Redwood National Park and Six Rivers National Forest.

Prairie Creek Redwoods State Park *

Outstanding features: The park contains approximately 10,600 acres of ancient redwood forest as well as wet meadows, coastal lagoon and scenic Fern Canyon. It also contains an outstanding west-to-east transect including beach, alder forest, spruce forest, redwood forest and Douglas-fir forest. Boyes Prairie in the park is also known as "Elk Prairie" for the Roosevelt elk herd often seen there.

Humboldt Redwoods State Park *

Outstanding features: The park's 22,500 acres of ancient redwoods in the Rockefeller Forest comprise the largest remaining contiguous stands of ancient redwoods in the state. Other important features in the park include the fallen Dyerville Giant redwood tree and the south fork of the Eel River, with its numerous sandbars, riparian habitat and anadromous fish population.

MacKerricher State Park *

Outstanding features: The park contains the largest dune system in the State Park System, most of which is within Inglenook Fen-Ten Mile Dunes Preserve. The park also has estuary habitat at the mouth of the Ten Mile River, a diverse shoreline, and intertidal areas.

Mount Tamalpais State Park *

Outstanding feature: Mount Tamalpais, along with Mount Diablo, is one of the most prominent peaks in the San Francisco Bay area. It provides world-class views of the bay and the Pacific Ocean.

Angel Island State Park

Angel Island State Park is a 756-acre island within San Francisco Bay. The island consists of sedimentary and igneous rocks. Fresh water on the island comes from wells and natural springs.

Plant communities of the island include grassland, coastal scrub, mixed evergreen forest, chaparral, coastal strand, riparian, coast live oak, madrone, and California bay.

Wildlife habitats are annual grassland, chamise-redshank chaparral, closed-cone pine cypress forest, coastal oak woodland, coastal scrub, eucalyptus, and perennial grassland. Island fauna includes a unique subspecies of mole, the Angel Island mole.

Outstanding features: With the exception of its historic developed areas, Angel Island is the only nearly pristine island in one of the world's most significant bays, San Francisco Bay. The island has outstanding views from the top of Mount Livermore and much of the island has undergone significant habitat restoration.

Castle Crags State Park *

Outstanding features: The park has geologic features from glacial activity, is located along the upper reaches of the Sacramento River, is highly scenic and has good linkages/connections with Shasta National Forest.

McArthur-Burney Falls Memorial State Park

McArthur-Burney Falls Memorial State Park is a 910-acre park located 75 miles east of Redding. Elevations in the park range from approximately 2,733 feet to 3,080 feet.

Plant communities and wildlife habitats found within the park include Sierran mixed conifer, Ponderosa pine, montane hardwood, montane chaparral, riverine, wet meadow and montane riparian.

McArthur-Burney Falls Memorial State Park serves as an important wildlife corridor and habitat linkage to other protected lands in Shasta National Forest. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

McArthur-Burney Falls Memorial State Park was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Outstanding features: Spring-fed 129-foot Burney Falls which has flows of 100 million gallons a day and the riparian environment along Burney Creek.

Ahjumawi Lava Springs State Park *

Outstanding features: The park, accessible by boat, contains bays and tree-studded islets only a few yards long, along the shoreline of Ja-She Creek, Crystal Springs, and Horr Pond. Over two-thirds of the park is covered by recent (three to five thousand years) lava flows, including vast areas of jagged black basalt.

Caswell Memorial State Park

Caswell Memorial State Park is a 260-acre park located on the Stanislaus River 20 miles south of Stockton.

The following plant communities and wildlife habitats are found within the park: valley foothill riparian, riverine, annual grassland and freshwater emergent wetland.

Caswell Memorial State Park is adjacent to the San Joaquin River National Wildlife Refuge and provides critical habitat for the Federally-designated endangered riparian brush rabbit and riparian woodrat. The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Outstanding features: The park has one of the most outstanding remnants of Valley riparian oak forest that serves as an outdoor museum that demonstrates conditions prior to European settlement.

Great Valley Grasslands State Park *

Outstanding features: The park contains varied native grasslands, rare in an area that has been largely converted to agricultural uses. It also has high quality vernal pools, heron rookeries, intact riparian habitat, numerous sloughs along the San Joaquin River, and broad flood plains.

Emerald Bay State Park

Emerald Bay State Park is a 1,400-acre park located on the western shore of Lake Tahoe 22 miles south of Tahoe City. Elevations in the park range from approximately 5,700 feet to 6,500 feet.

Plant communities and wildlife habitats found within the park include Sierran mixed conifer, montane chaparral and montane riparian. One sensitive plant, Tahoe yellow cress, is found in the park.

Emerald Bay State Park serves as an important wildlife corridor and habitat linkage to other protected lands in the vicinity including lands in Tahoe and El Dorado National Forests and D. L. Bliss, Ed Z'Berg-Sugar Pine Point and Washoe Meadows State Parks.

Outstanding features: The park has superlative aesthetics resulting from Lake Tahoe and Emerald Bay. It contains forests that are relatively intact and rare in the Tahoe Basin, including forest that terminates on the sandy beach of Emerald Bay. Glacial features are also evident as granite outcrops stripped of soil, striated, and left behind as clues of a different climate.

Mono Lake Tufa State Reserve *

Outstanding features: The reserve contains unique geologic formations, tufa towers, as well as protected island nesting habitat for California gulls. Mono Lake is one of the relatively rare lakes on the eastern side of the Sierra Nevada range. It has saline levels high enough to support populations of brine shrimp.

Mount Diablo State Park *

Outstanding features: From the top of the mountain, the park provides breathtaking views of the San Francisco Bay Area, Central Valley, and the distant Sierra Nevada. The park contains a variety of geological features and numerous plant communities and wildlife habitats.

Calaveras Big Trees State Park *

Outstanding feature: The park contains the largest concentration of giant sequoias in the State Park System.

Año Nuevo State Reserve *

Outstanding features: In addition to elephant seals, the reserve contains unique dunes and coastal landforms as well as salmon, steelhead, red-legged frog, San Francisco garter snake and California brown pelican.

Big Basin Redwoods State Park *

Outstanding features: The park contains 4,300 acres of ancient redwood forest, has a well-preserved coast-to-inland transect and serves as a core protected area within the Santa Cruz Mountains.

Point Lobos State Reserve

Point Lobos State Reserve is a 1,300-acre park unit located on the coast 3 miles south of Carmel. Elevations in the park range from sea-level to approximately 200 feet.

Point Lobos State Reserve was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Outstanding features: Point Lobos State Reserve has a unique and varied coastline with pocket beaches, rocky headlands, intertidal areas, and underwater kelp beds that support populations of sea otters, seals and sea lions. The park has exceptional aesthetic values and diversity, including geologic forms, wind-pruned vegetation, off-shore kelp beds, and a mosaic of terrestrial plant communities.

Morro Bay State Park *

Outstanding features: The most visual feature of the park is Morro Rock, a large dome-shaped volcanic plug situated at the entrance to Morro Bay. Morro Rock is home to the Morro Rock Ecological Preserve where peregrine falcons nest. The park also contains mud flats, coastal salt marsh, and a large heron and egret rookery.

Montaña de Oro State Park *

Outstanding features: The park contains varied coastline, pristine beaches and the south spit of Morro Bay. It has sizeable intact coastal and inland habitats connecting large blocks of protected lands.

Point Mugu State Park *

Outstanding features: The park has five miles of ocean shoreline, with rocky bluffs, sandy beaches, sand dunes, rugged hills and uplands, two major river canyons and wide grassy valleys dotted with sycamores, oaks and a few native walnuts.

Malibu Creek State Park *

Outstanding features: The park contains a large, fairly intact watershed with extensive riparian habitat, and excellent oak woodlands. Its geologic formations and rock outcrops contribute to the park's aesthetic values. Combined with Santa Monica Mountains National Recreation Area, it also provides important habitat for mountain lions. The park has an outstanding transect from coastal lagoon across the summit of the Santa Monica Mountains to the interior valleys.

Red Rock Canyon State Park *

Outstanding features: The park contains outstanding canyon aesthetics and the quiet solitude of the Mojave desert. The desert habitat, including the regionally threatened desert scrub, is varied and generally in excellent condition. The park also has desert oases associated with streams and sub-surface geology.

Mount San Jacinto State Park *

Outstanding features: Mount San Jacinto is the fourth highest peak in southern California and the highest point in the State Park System. The park contains alpine and sub-alpine habitats as well as high elevation meadows and streams. The park provides a large, connected, intact wilderness which contributes to its high level of aesthetic values.

San Onofre State Beach

San Onofre State Beach is located on the coast three miles south of San Clemente and encompasses 2,100 acres. The park has 4.6 miles of beach frontage. Elevations in the park range from sea level to approximately 100 feet.

San Onofre State Beach was in the initial group of outstanding areas in California recommended by Frederick Law Olmstead, Jr. in 1929 for acquisition by the Department of Parks and Recreation.

Outstanding features: The park contains a large coastal wetland preserve, outstanding coastal geologic features and the largest amount of coastal sage scrub habitat in the State Park System. San Mateo Creek is the largest undeveloped watershed south of Santa Barbara, and it provides a critical inland connection with existing natural habitat. Important aesthetic values of the park include long beaches with a high degree of solitude, from which development cannot be seen or heard.

Cuyamaca Rancho State Park *

Outstanding features: The park has several peaks and rocky outcrops and contains numerous plant and wildlife communities, including stands of rare Cuyamaca cypress, large wet meadow areas and a variety of oak and pine types.

Providence Mountains State Recreation Area *

Outstanding features: The park contains a unique cave formation, perhaps the most aesthetically interesting in the State Park System, as well as intact eastern Mojave desert habitat types.

Torrey Pines State Reserve

Torrey Pines State Reserve is located on the coast approximately 15 miles north of San Diego and encompasses 1,400 acres. Elevations in the reserve range from sea level to approximately 300 feet.

The following plant communities and wildlife habitats are found within the park: mixed chaparral, estuarine, coastal scrub, valley foothill riparian, coastal oak woodland, riverine, freshwater emergent wetland and closed-cone pine cypress.

The unit is within one of the 146 Important Bird Areas of California recognized by Audubon California.

Outstanding features: The Torrey pine, one of the world's rarest pines, grows naturally only in Torrey Pines State Reserve and on Santa Rosa Island, off the coast near Santa Barbara. The reserve also has outstanding coastal bluff formations and a large coastal lagoon and associated wetlands. These contribute to the unit's aesthetic value of solitude, which is rare in this part of the state where most natural areas have been converted to other land uses.

Anza-Borrego Desert State Park *

Outstanding features: Anza-Borrego Desert State park is the largest state park in the United States and, with approximately two-thirds of the park designated as wilderness, contains the largest area of State Wilderness in the SPS and in the State. The park contains spectacular geologic features, including promontories, badlands (natural erosional expanses), outcrops, minerals, and folded sediments revealed along canyons. Deep canyons with perennial water support native California fan palms while the canyon mouths often give way to large alluvial fans. Over 550 types of fossil plants and animals have been reported in the park, ranging from preserved microscopic plant pollen and algal spores to baleen whale bones and mammoth elephant skeletons. It is estimated that 75% of the total U.S. population of Peninsular Bighorn sheep reside in the park.

Appendix A

Descriptions of Ecological Regions

The following descriptions are mostly excerpts from the publication Ecological Subregions of California, USDA, Forest Service, 1997. The percentage of each region in public ownership was developed through GIS analysis by Natural Resource Division staff. All of this information was used to evaluate and select the most Representative Park Units.

Northern California Coast

This region encompasses mountains, hills, valleys, and plains in the northern California Coast Ranges and small parts of the Klamath mountains that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. Summers are characterized by fog, cool temperatures, and higher humidity than that inland.

Geology: Parallel ranges, folded, faulted and metamorphosed strata; rounded crests of subequal height. Coast Ranges Geomorphic province.

Vegetation: Predominant natural communities include the Redwood series, Douglas-fir - Tanoak series, Oregon White Oak series, Purple Needlegrass series, Tanoak series and Coast Live Oak series. Less extensive series include California Oatgrass series, Fen habitat, Idaho Fescue series, and Tufted Hairgrass series.

Series dominated by willows restricted to riparian settings: Arroyo Willow series, Hooker Willow series, Mixed Willow series, Narrowleaf Willow series, Pacific Willow series, Red Willow series, Sandbar Willow series and Sitka Willow series.

Disturbance series of short-lived vegetation: Blue Blossom series, Coyote Bush series away from the coast, Deerbrush series, Eastwood Manzanita series, Red Alder series away from the coast, Tobacco Brush series and Wedgeleaf Ceanothus series.

Animals: Mammals include Roosevelt elk, black bear, mountain lion, bobcat, marten, fisher and river otter. Birds include peregrine falcon, osprey and a variety shorebirds and waterfowl along the coastal part of the region. Species of concern include marbled murrelet and northern spotted owl. Streams and rivers are used by anadromous fish.

Miscellaneous Information:
Elevation: Sea level to 3,000 feet.
Precipitation: 20 to 120 inches.
Temperature: 40° to 60°F. Summer daytime temperatures often modified by fog and sea breezes.

Land-based Percentage of State: 4%

Percent of Ecological Region in Public Ownership: 15%

Disturbance Regimes:
Fire: Historic occurrence is changing from frequent, low to high intensity surface fires to infrequent, moderate to high intensity stand replacing fires.
Seismic Activity: Seismically active area with strong shaking and ground rupture.
Flooding: Periodic flooding occurs along major drainages. Landslides initiated by climatic, seismic and human events are common in steep areas of the region.

Land Use: Composition and successional sequence of some communities (primarily grassland communities) has changed because of plant and animal species introduced between the early 1800's and early 1900's related to grazing and forestry. The southern part of the region and some of the northern part contains expanding urban areas.

Klamath Mountains

The Klamath Mountains region is between the Southern Cascade Mountains and the Coast Range mountains. Its southern limit is the northern end of the Great Valley.

Geology: Uplifted and dissected peneplain on strong rocks; extensive monadnock ranges. Mountains in this region have accordant or subequal summits and are generally, but not consistently, aligned north-south. Elevations of accordant summits increase from west to east as far as the Eastern Klamath Belt where this trend continues eastward only on the Trinity Ultramafic Sheet. Klamath Mountains geomorphic province.

Vegetation: Predominant natural communities include the Douglas-fir series, Douglas-fir - Tanoak series, Jeffrey Pine series, Mixed Conifer series, White Fir series, Douglas-fir - Ponderosa Pine series, Canyon Live Oak series, Oregon White Oak series, Mixed chaparral shrublands, Red Fir series and Mixed Subalpine Forest series. Less extensive series include Creeping Ryegrass series, Idaho Fescue series, and Tufted Hairgrass series.

Series restricted to riparian settings: Arroyo Willow series, Black Cottonwood series, Fremont Cottonwood series, Mixed Willow series, Montane wetland shrub habitat, Mulefat series, Narrowleaf Willow series, Pacific Willow series, Red Willow series, Sandbar Willow series, and White Alder series.

Disturbance series of short-lived vegetation: Blue Blossom series, Deerbrush series, Greenleaf Mazanita series in part, Mountain Whitethorn series, Tobacco Brush series in part, Sadler Oak in part, and Wedgeleaf Ceanothus series in part.

Animals: Mammals include Roosevelt elk, black-tailed deer, black bear, mountain lion, bobcat, ringtail, marten, fisher and river otter. Birds include peregrine falcon, osprey and

ruffed grouse. Species of concern include marbled murrelet and northern spotted owl. Streams and rivers are used by anadromous fish.

Miscellaneous information:
Elevation: 200 to 9,000 feet.
Precipitation: 18 to 120 inches.
Temperature: 30° to 57°F.
Climate: Wide fluctuations in precipitation and temperature for periods of years result in significant or catastrophic changes in biological communities. Landslides initiated by climatic, seismic and human events are common in steep areas of the region.

Land-based Percentage of State: 5%

Percent of Ecological Region in Public Ownership: 71%

Disturbance Regimes:
Fire: At lower and mid-elevations, historic occurrence has changed from frequent, low intensity ground fires to infrequent, high intensity stand replacing fires. At higher elevations, historic occurrence has changed from infrequent, low and moderate intensity ground fires to infrequent, low, moderate and high intensity surface or stand replacing fires.
Seismic Activity: Western part is seismically active area with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid-1800's and early 1900's related to mining, grazing, forestry and recreational activities.

Southern Cascades

This region comprises the southern Cascade Ranges. The crest of the mountain chain is aligned toward the north-northwest between the Sierra Nevada and Mt. Shasta and toward the north from Mt. Shasta northward.

Geology: Volcanic mountains variously eroded; no distinct range. Cascade Ranges geomorphic province.

Vegetation: Predominant natural communities include the Ponderosa Pine series, Big Sagebrush series, Idaho Fescue series, Western Juniper series, Mixed Conifer series, White Fir series, Red Fir series and Lodgepole Pine series. Less extensive series include: Aspen series, Common Reed series, Creeping Ryegrass series, Ditch-grass series, Holodiscus series, Saltgrass series, Spikerush series, Tufted Hairgrass series.

Series restricted to riparian settings: Arroyo Willow series, Black Cottonwood series, Black Willow series, Mixed Willow series, Montane wetland shrub habitat, Mountain Alder series, Narrowleaf Willow series, Pacific Willow series, Red Willow series, Water Birch series.

Animals: Mammals include black-tail and mule deer, mountain lion, bobcat, yellow-bellied marmot, marten, fisher, Sierra Nevada red fox, wolverine and porcupine. Birds include woodpeckers, falcons, osprey, quail, northern goshawk and blue grouse. Species of concern include the northern spotted owl.

Miscellaneous Information:
Elevation: 2,000 to 14,000 feet.
Precipitation: 8 to 80 inches.
Temperature: 30° to 58°F.
Climate: Wide fluctuations in precipitation and temperature for periods of years result in significant or catastrophic changes in biological communities.

Land-based Percentage of State: 4%

Percent of Ecological Region in Public Ownership: 54%

Disturbance Regimes:
Fire: At lower and mid-elevations, historic occurrence has changed from frequent, low intensity, surface fires to infrequent, high intensity, stand replacing fires. At higher elevations, historic occurrence has changed from infrequent, low and moderate intensity surface fires to infrequent, low, moderate and high intensity surface or stand replacing fires.
Volcanic Activity: Contains locations with eruptive activity (lava flows and ash fall) within the past 200 years.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to mining, grazing, forestry and recreational activities. Expanding foothill communities are scattered throughout the region.

Modoc Plateau

This region corresponds to most of the Modoc Plateau, which is related structurally to the Basin and Range Province and lithologically to the Columbia Plateau.

Geology: Northwesterly trending fault-block mountains and ridges with intervening basin-like grabens commonly interspersed with lake bed deposits, shield volcanoes, cinder cones or lava flows. Modoc Plateau geomorphic province, a part of the Basin and Range province flooded with volcanics related to those of the Cascade Ranges province.

Vegetation: Predominant natural communities include the Big Sagebrush series, Western Juniper series, Idaho Fescue series, Bluebunch Wheatgrass series, Ponderosa Pine series, White Fir series, Low Sagebrush series, Jeffrey Pine series, Lodgepole Pine series, Aspen series, and sedge meadow communities.

Series restricted to riparian settings: Arroyo Willow series, Black Cottonwood series, Mixed Willow series, Montane wetland shrub habitat, Narrowleaf Willow series, Mixed Willow series, Red Willow series and Subalpine wetland shrub habitat.

Animals: Mammals include mule deer, pronghorn, black bear, mountain lion, bobcat, yellow-bellied marmot, wolverine, jackrabbit and porcupine. Birds include woodpeckers, falcons, osprey, quail and sage grouse. The region contains wetlands that are important resting, feeding and nesting areas for migrating waterfowl. Species of concern include the California spotted owl (western part). Species no longer occurring in the region include mountain sheep and sharp-tailed grouse.

Miscellaneous Information:
Elevation: 3,000 to 9,900 feet.
Precipitation: 8 to 30 inches.
Temperature: 35° to 52°F.

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 65%

Disturbance Regimes:
Fire: Historic occurrence has changed from frequent, low intensity ground fires to infrequent, high intensity stand replacing fires.

Land Use. Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to grazing, forestry and agriculture.

Northern California Coast Ranges

This region is the interior part of the northern California Coast Ranges mountains, north of the Carquinez Straight. Marine air modifies winter and summer temperatures, but the region is inland from the coast far enough that oceanic effects are greatly diminished.

Geology: Parallel ranges, folded, faulted and metamorphosed strata; rounded crests of subequal height. Coast Ranges Geomorphic province.

Vegetation: Predominant natural communities include the Douglas-fir - Tanoak series, Blue Oak series, Oregon White Oak series, Chamise series, Purple Needlegrass series, Mixed Conifer series and White Fir series. Less extensive series include: California Oatgrass series and Nodding Needlegrass series.

Series restricted to riparian settings: Arroyo Willow series, Black Cottonwood series, Black Willow series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Pacific Willow series, Red Willow series and White Alder series.

Disturbance series of short-lived vegetation: Blue Blossom series, Coyote Bush series, Deerbrush series, Eastwood Manzanita series and Wedgeleaf Ceanothus series.

Animals: Mammals include black-tailed deer, black bear, mountain lion, bobcat and ringtail. Roosevelt elk, marten and fisher occur in the northern part of the region. Tule elk and mule deer occur in the southern part. Birds include herons and osprey. Species of concern include marbled murrelet and northern spotted owl in the northern part.

Miscellaneous Information:
Elevation: 300 to 8,100 feet.
Precipitation: 25 to 120 inches.
Temperature: 35° to 60° F.
Climate: Wide fluctuations in precipitation and temperature for periods of years result in significant or catastrophic changes in biological communities.

Land-based Percentage of State: 4%

Percent of Ecological Region in Public Ownership: 40%

Disturbance Regimes:
Fire: Historic occurrence has changed from frequent, low, moderate and high intensity surface fires to infrequent, high intensity ground or stand replacing fires.
Seismic Activity: Seismically active area with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid-1800's and early 1900's related to mining, grazing, forestry and recreational activities.

Great Valley

This region contains the alluvial plains of the Sacramento and San Joaquin valleys. Summers are hot and dry and winters are mild. Oceanic influence on climate is slight in the middle of the Great Valley, which receives some marine air through the Carquinez Straits, but becomes negligible at the north and south ends of the Valley.

Geology: Low fluviatile plain. Great Valley geomorphic province.

Vegetation: Predominant natural communities include Purple Needlegrass series, Valley Oak series, vernal pools and wetland communities, Blue Oak series, Allscale series and Saltgrass series. Less extensive series include Bulrush series, Bulrush – Cattail series, Cattail series, Mexican Elderberry series, and Saltgrass series.

Series restricted to riparian settings: Arroyo Willow series, Black Willow series, Buttonbush series, California Sycamore series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Pacific Willow series, Red Willow series and White Alder series.

Animals: Much of the natural habitat has been modified throughout the region. The region contains wetlands that are important feeding and resting areas for migrating waterfowl. Many waterfowl species are year around residents. Mammals include mule deer, black-tailed deer, tule elk; muskrats, beavers, cottontails, jackrabbits, kangaroo rats and the endangered San Joaquin kit fox. Birds include golden eagle, white-tailed kite, valley quail, mourning dove, scrub jay, gulls, herons, western meadow lark, roadrunners (southern part) and the introduced Chinese ring-neck pheasant.

Miscellaneous Information:
Elevation: Sea Level to 2,000 feet.
Precipitation: 5 to 25 inches.
Temperature: 56° to 62°F.

Land-based Percentage of State: 12%

Percent of Ecological Region in Public Ownership: 4%

Disturbance Regimes:
Fire: Historic occurrence has changed from frequent, fast-moving, large fires to infrequent small fires, or fire has been mostly excluded because of conversion to irrigated agriculture and urban uses.
Flooding: Although mostly controlled by levee systems, seasonal flooding was extensive in this region.

Land Use: Composition and successional sequence of some communities (especially grassland communities) has changed because of plant and animal species introduced between the early 1800's and early 1900's related to grazing, agriculture, and urbanization. Most of the region is converted to irrigated agriculture. Rapidly expanding urbanized areas are scattered throughout the region. Flood control has decreased the duration and extent of wetlands.

Sierra Nevada Foothills

This region comprises the hot foothills of the Sierra Nevada, and the southwestern end of the Cascade Ranges, adjacent to the Great Valley. Summers are hot and dry and winters are mild.

Geology: Block mountain range tilted west; accordant crests. Sierra Nevada Range geomorphic province.

Vegetation: Predominant natural communities include the Blue Oak series, Needlegrass Grasslands, Chamise series, Mixed Chaparral series, Foothill Pine series and Valley Oak series. Less extensive series include Purple Needlegrass series, and Quillwort series.

Series restricted to riparian settings: Arroyo Willow series, Black Willow series, Buttonbush series, California Sycamore series, Fremont Cottonwood series, Mixed

Willow series, Narrowleaf Willow series, Mulefat series, Pacific Willow series, Red Willow series and White Alder series.

Animals: Mammals include black-tailed and mule deer, cottontails, jackrabbits and kangaroo rats. Common birds include turkey vultures, quail, mourning dove, mockingbird, scrub jay and western meadow lark. Introduced species include turkeys and chukars.

Miscellaneous Information:
Elevation: 200 to 5,000 feet.
Precipitation: 8 to 40 inches.
Temperature: 45° to 64°F.

Land-based Percentage of State: 4%

Percent of Ecological Region in Public Ownership: 15%

Disturbance Regimes:
Fire: Fires are low, moderate and high intensity surface or stand replacing fires.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to mining, grazing and agriculture. Rapidly expanding foothill urban areas are scattered throughout the region. Large and small water impoundments are common.

Sierra Nevada

This region is the temperate to very cold parts of the Sierra Nevada, which is a north-northwest aligned mountain range that is much steeper on the east than on the west side.

Geology: Block mountain range tilted west; accordant crests. Sierra Nevada Range geomorphic province.

Vegetation: Predominant natural communities include the Mixed Conifer series, Ponderosa Pine series, Jeffrey Pine series, White Fir series, Red Fir series, Lodgepole Pine series, Huckleberry Oak series, Western Juniper series, Aspen series, Big Sagebrush series, Mixed Subalpine Forest series, Mountain Hemlock series, Whitebark Pine series and Giant Sequoia series.

Series restricted to riparian settings: Black Cottonwood series, Mixed willow series, Montane Wetland Shrub habitat, Mountain Alder series, Narrowleaf Willow series, Pacific Willow series, and Red Willow series.

Animals: Mammals include black-tail and mule deer, black bear, mountain lion, bobcat, red and gray fox, ringtail, weasels, badger, bighorn sheep, yellow-bellied marmot, marten, fisher, wolverine and porcupine. Birds include woodpeckers, osprey, stellar jay,

herons, quail, kingfisher, goshawk and blue grouse. Species of concern include the California spotted owl. Introduced species include turkey and beaver.

Miscellaneous Information:
Elevation: 1,000 to 14,495 feet. Local relief ranges from 500 to 2,000 feet.
Precipitation: 10 to 90 inches during fall, winter and spring. Occurs mostly as snow above 6,000 feet. Rain on snow is common. Summers are commonly dry with low humidity.
Temperature: 25° to 60°F.
Climate: Wide fluctuations in precipitation and temperature for periods of years result in significant or catastrophic changes in biological communities. Snow avalanches are common at higher elevations.

Land-based Percentage of State: 13%

Percent of Ecological Region in Public Ownership: 77%

Disturbance Regimes:
Fire: At lower and mid-elevations, historic occurrence has changed from frequent, low intensity ground fires to infrequent, high intensity stand replacing fires. At higher elevations, historic occurrence has changed from infrequent, low and moderate intensity ground fires to infrequent, low, moderate and high intensity surface or stand replacing fires.
Seismic Activity: Seismically active areas along eastern boundary with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to mining, grazing, forestry and recreational activities. Expanding urban uses occur scattered throughout foothills and some high elevation areas. Water diversions for hydroelectric power, agriculture, and municipal and domestic use are common within and between river systems.

Mono

This region is in the western part of the Great Basin, just east of the Sierra Nevada.

Geology: Isolated ranges (largely dissected block mountains) separated by aggraded desert plains (alluvial fans and basins). Basin and Range geomorphic province.

Vegetation: Predominant potential natural communities includes the Big Sagebrush series, Utah Juniper series, Singleleaf Pinyon series, Shadscale series, Low Sagebrush series, Jeffrey Pine series, White Fir series, Aspen series and Bristlecone Pine series. Less extensive series include Cordgrass series and Ditch-grass series.

Series restricted to riparian settings: Arroyo Willow series, Black Cottonwood series, Black Willow series, Common Reed series, Fremont Cottonwood series, Mixed willow series, Narrowleaf Willow series, Red Willow series and Water Birch series.

Animals: Pronghorn and bighorn sheep were commonly found in the region. Presently pronghorn are limited to a few reintroduced herds and bighorn are found on a few high mountains. Mammals include mule deer, mountain lion, bobcat, jackrabbits and chipmunks. Birds include northern goshawk, nighthawks, common poorwill, sage grouse and gnatcatchers. Mono Lake provides habitat to a wide variety of shorebirds and migrating waterfowl. It is also the second largest California gull rookery in the world. Sagebrush lizard, desert horned lizard, western fence lizard and spadefoot toad are common in the region.

Miscellaneous Information:
Elevation: 4,400 to 14,200 feet.
Precipitation: 5 to 30 inches.
Temperature: 30° to 58°F.

Land-based Percentage of State: 2%

Percent of Ecological Region in Public Ownership: 83%

Disturbance Regimes:
Fire: Fires are infrequent, low, moderate and high intensity surface or stand replacing fires.
Volcanic Activity: Contains locations with eruptive activity (lava flows and ash fall) within the past 200 years.
Seismic Activity: Seismically active area with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to mining, grazing, forestry and recreational activities.

Central California Coast

This region consists of mountains, hills, valleys, and plains in the southern Coast Ranges of California. It is close enough to the Pacific Ocean for the climate to be modified greatly by marine influence.

Geology: Parallel ranges and valleys on folded, faulted and metamorphosed strata; rounded crests of subequal height. Coast Ranges geomorphic province.

Vegetation: Predominant natural communities include the Blue Oak series, Purple Needlegrass series, Coast Live Oak series, Chamise series, Valley Oak series, Redwood series, Douglas-fir - Tanoak series and California Sagebrush series. Less-extensive series include: Black Cottonwood series, California Oatgrass series, Creeping Ryegrass series, Foothill Needlegrass series, Mexican Elderberry series, Nodding Needlegrass series, One-sided Bluegrass series, and Purple Needlegrass series.

Series restricted to riparian settings: Arroyo Willow series, Buttonbush series, California Sycamore series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Red Willow series, Sitka Willow series, White Alder series.

Animals: Mammals include mule deer, bobcat, weasel and fox. Turkey vultures, herons, egrets, flycatchers, swallows and ravens are common birds. Birds of concern include the brown pelican, lesser tern, osprey, black rail, clapper rail, marbled murrelet, spotted owl and bank swallow. Reptiles and amphibians include the western rattlesnake, common and western aquatic garter snakes, northern and southern alligator lizards and several species of salamanders and frogs. Marine and shore species include sea otter, sea lions, seals, brown pelicans, gulls, cormorants, terns and various shore birds. Feral hogs are common throughout large portions of the region.

Miscellaneous Information:
Elevation: Sea level to 3,800 feet.
Precipitation: 12 to 60 inches.
Temperature: 45 to 60° F. Summer daytime temperatures often modified by morning fog and sea breezes.

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 16%

Disturbance Regimes:
Fire: Fires are of variable frequency, season and intensity.
Seismic Activity: Seismically active area with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some plant communities (especially grassland communities) has changed because of plant and animal species introduced between the late 1700's and early 1900's related to grazing, agriculture, forestry and urbanization. The northern part is densely urbanized.

Central California Coast Ranges

This region is the interior part of the southern Coast Ranges of California, south of the Carquinez Strait. It is inland from the coast far enough that the climate is modified only slightly by marine influence. It is bounded on the northeast by the alluvial plain of the San Joaquin Valley and on the southwest by the coastal part of the southern Coast Ranges (Region 261A). It extends south to the Transverse Ranges.

Geology: Parallel ranges, folded, faulted and metamorphosed strata; rounded crests of subequal height. Coast Ranges Geomorphic provinces.

Vegetation: Predominant natural communities include the Coast Live Oak series, Blue Oak series, Purple Needlegrass series, Chamise series, Valley Oak series and Mixed Chaparral Shrublands. Less-extensive series include: Creeping Ryegrass series, Foothill Needlegrass series, Mexican Elderberry series, Nodding Needlegrass series, One-sided Bluegrass series, and Purple Needlegrass series.

Series restricted to riparian settings: Arroyo Willow series, Buttonbush series, California Sycamore series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Red Willow series and White Alder series.

Animals: Mammals include mule deer, pronghorn, tule elk, bobcat and kangaroo rat. Notable birds include quail, mourning dove, mockingbird, scrub jay, gulls and herons. The California condor is being reintroduced in the southern part of the region. Introduced species include feral pigs.

Miscellaneous Information:
Elevation: 100 to 5,200 feet.
Precipitation: 6 to 40 inches.
Temperature: 45° to 65°F.
Climate: Wide fluctuations in precipitation and temperature for periods of years result in significant or catastrophic changes in biological communities.

Land-based Percentage of State: 6%

Percent of Ecological Region in Public Ownership: 22%

Disturbance Regimes:
Fire: Fires are low, moderate or high intensity ground or stand replacing fires.
Seismic Activity: Seismically active area with strong shaking and ground rupture.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to grazing and agriculture.

Southern California Coast

This region contains mountains, hills, valleys, and plains of the Transverse Ranges and of the Peninsular Ranges that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence.

Geology: Narrow ranges and broad fault blocks; alluviated lowlands and coastal terraces. Transverse and Peninsular Ranges geomorphic province.

Vegetation: Predominant natural communities include the California Sagebrush - California Buckwheat series, Mixed Chaparral Shrublands, Coast Live Oak series, Chamise series, Valley Oak series and Mixed Sage series. Less-extensive series include: Alkali Sacaton series, Creeping Ryegrass series, Foothill Needlegrass series, Mexican Elderberry series, Nodding Needlegrass series, One-sided Bluegrass series, Purple Needlegrass series, Saltgrass series, and Seep Weed series.

Series restricted to riparian settings: Arroyo Willow series, Black Willow series, California Sycamore series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Pacific Willow series, Red Willow series and White Alder series.

Animals: Mammals include mule deer, bobcat, fox, raccoon and opossum. Turkey vultures, quail, egrets, flycatchers, swallows and ravens are common birds. Birds of concern include the brown pelican, lesser tern, osprey, black rail, clapper rail, California gnatcatcher and savannah sparrow. Reptiles and amphibians include the western rattlesnake, common garter snake, alligator lizards and several species of salamanders and frogs. Marine and shore species include sea lions, seals, brown pelicans, gulls, cormorants, terns and various shore birds.

Miscellaneous Information:
Elevation: Sea level to 3,000 feet.
Precipitation: 10 to 30 inches.
Temperature: 45° to 65°F. Summer daytime temperatures often modified by morning fog and sea breezes.

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 17%

Disturbance Regimes:
Fire: Historic occurrence has changed from fires of variable frequency, season and intensity to more frequent, larger and more intense fires.
Seismic Activity: Seismically active area with strong shaking and ground rupture.
Air Quality: Some plant and animal species are noticeably affected by air pollution.

Land Use: Composition and successional sequence of some communities (especially grassland communities) has changed because of plant and animal species introduced between the late 1700's and early 1900's related to grazing, agriculture, and urbanization. Most of the area is densely urbanized.

Southern California Mountains and Valleys

This region includes mountains, hills and valleys of the Transverse Ranges and the Peninsular Ranges that are near the Pacific Ocean, but not bordering it. Much of the region is close enough to the Pacific Ocean for the climate to be modified moderately by marine influence.

Geology: Narrow ranges and broad fault blocks; alluviated lowlands, and dissected westward sloping granitic uplands. Transverse and Peninsular Ranges geomorphic provinces.

Vegetation: Predominant natural communities include Mixed Chaparral Shrublands, Chamise series, Canyon Live Oak series, Coast Live Oak series, Ponderosa Pine series, Jeffrey Pine series, White Fir series and Lodgepole Pine series.

Series restricted to riparian settings: Arroyo Willow series, California Sycamore series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Red Willow series and White Alder series.

Animals: Mammals include mule deer, pronghorn, bighorn sheep, bobcat, mountain lion and kangaroo rat. Birds include quail, mourning dove, mockingbird, gulls, herons, crows, finches and sparrows. Species of concern include cactus wren, California gnatcatcher, least Bell's vireo, foothill and mountain yellow-legged frog, orange-throated whiptail and California mountain kingsnake.

Miscellaneous Information:
Elevation: 300 to 11,500 feet.
Precipitation: 6 to 40 inches.
Temperature: 40° to 70°F.

Land-based Percentage of State: 7%

Percent of Ecological Region in Public Ownership: 57%

Disturbance Regimes:
Fire: Stand replacing fires of variable frequency, season and intensity.
Seismic Activity: Seismically active area with strong shaking and ground rupture.
Air Quality: Some plant and animal species show affects of air pollution.
Steep Slopes: Movement of coarse soil particles by gravity (dry ravel) is a common process in steep mountainous portions of the area.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to urbanization, grazing, agriculture and recreational activities. Valley portions are densely populated.

Mojave Desert

This region is the hot part of the Basin and ranges from the southern end of the Sierra Nevada and the north-northeastern side of the Transverse Ranges to Nevada and Arizona.

Geology: Widely separated short ranges in desert plains. Contains isolated mountains, plateaus, alluvial fans, playas, basins and dunes. Basin and Range geomorphic province (Mojave Desert).

Vegetation: Predominant natural communities include the Creosote Bush series, Creosote bush - White Bursage series, Allscale series, Mixed Saltbush series, Iodine Bush series, Joshua Tree series, Shadscale series, Black Bush series, Mesquite series, California Juniper series, Singleleaf Pinyon - Utah Juniper series and White Fir series (high peaks).

Series restricted to riparian settings: Arrow Weed series, Black Willow series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series and Red Willow series.

Animals: Mammals include desert bighorn sheep, desert kit fox, spotted skunk, spotted bat, black-tailed jackrabbit, ground squirrels, kangaroo rat and white-footed mouse. Birds include quail, roadrunners, finches, warblers and orioles. Reptiles include desert tortoise, several species of rattlesnakes and chuckwalla lizard.

Miscellaneous Information:
Elevation: 280 feet below sea level to 7,900 feet above sea level.
Precipitation: 3 to 8 inches. Mostly occurs as scattered high intensity storms of short duration.
Temperature: 45° to 77°F.
Climate: Flash floods are commonly associated with the irregular occurrence of precipitation events.

Land-based Percentage of State: 16%

Percent of Ecological Region in Public Ownership: 80%

Disturbance Regimes:
Fire: Areas with less than about 8 inches of rainfall rarely support enough vegetation to carry a fire. Fire occurrence in areas receiving more than about 8 inches has been influenced by introduced grasses. Fires are variable in frequency and intensity.
Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the late 1800's and early 1900's related to mining and grazing. Since the early 1900's, significant effects on some plant and animal species occur at widely scattered locations associated with military testing, recreational activities and rapidly expanding urbanization.

Sonoran Desert

This region is the hot part of the Basin and Range Province, from the eastern end of the Transverse Ranges and the Salton Trough east to Arizona. Some rain falls during the summer.

Geology: Widely separated short ranges in desert plains. Basin and Range geomorphic province.

Vegetation: Predominant natural communities include the Creosote Bush series, Creosote Bush - White Bursage series, Mixed Salt Bush series, Blue Paloverde - Ironwood - Smoke Tree series, Mesquite series, Ocotillo series and Foothill Paloverde - Saguaro series.

Series restricted to riparian settings: Arrow Weed series, Black Willow series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series and Red Willow series.

Animals: Mammals include southern mule deer, bobcat, desert kit fox, spotted skunk, spotted bat, black-tailed jack rabbit, Yuma antelope ground squirrel, kangaroo rats and

white-footed mouse. Birds include white-winged dove, roadrunner, finches, warblers and orioles. Reptiles include several species of rattlesnakes.

Miscellaneous Information:
Elevation: 250 to 4,400 feet.
Precipitation: 3 to 6 inches. Occurs as winter rain and high intensity summer thunderstorms.
Temperature: 60° to 75°F.

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 85%

Disturbance Regimes:
Floods: Flash floods are commonly associated with summer precipitation events.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the late 1800's and early 1900's related to mining, agriculture and grazing. Since the early 1900's, significant effects on some plant and animal species occur at widely scattered locations associated with military installations, agriculture, recreational activities and expanding settlement.

Colorado Desert

This region is a very hot part of the Basin and Range Province that is sometimes called the Salton Trough. The surface of sediments in the middle of the trough is about 275 feet below sea-level. The delta of the Colorado River is generally high enough to keep sea water out of the Salton Trough. In 1905, however, the Colorado River overflowed into the Salton Trough and the breach was not finally sealed until 1907. The current level of the Salton Sea is about 230 feet below sea level. An ancient lake, Lake Cahuilla, was higher long enough to produce shore-line features that reveal its greater size.

Geology: Alluvial fans, basin, dunes and delta plain (Gulf of California). Basin and Range geomorphic province (Colorado Desert).

Vegetation: Predominant natural communities include the Creosote Bush - White Bursage series, Allscale series, Mixed Salt Bush series, Mesquite series, Ocotillo series and Fan Palm series. Less-extensive series: Saltgrass series.

Series restricted to riparian settings: Black Willow series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series and Red Willow series.

Animals: Mammals include desert bighorn sheep, desert kit fox, spotted skunk, spotted bat, black-tailed jackrabbit, kangaroo rat and white-footed mouse. Birds include quail, white-winged dove, roadrunners, finches, warblers and orioles. The Salton Sea

provides habitat for a wide variety of waterfowl and shorebirds. Reptiles include several species of rattlesnakes.

Miscellaneous Information:
Elevation: 230 feet below sea level to 2,200 feet.
Precipitation: 3 to 6 inches.
Temperature: 68° to 75°F.
Climate: Strong winds and drifting sand are common in parts of the area

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 53%

Disturbance Regimes:
Floods: Flash floods are commonly associated with the irregular occurrence of precipitation events. Precipitation does not occur every year.

Land Use: Composition and successional sequence of some communities has changed because of plant and animal species introduced between the early 1800's and early 1900's related to grazing, agriculture, and urbanization. Most of the region is converted to irrigated agriculture. Increased salinization of soil and water occurs in some areas as a result of modified drainage. Rapidly expanding urbanized areas are scattered throughout the region.

The following three Ecological Regions do not contain any State Park units:

Northern California Interior Coast Ranges

This section is the southeastern edge of the northern California Coast Ranges mountains, south of Cache Creek, and hills and terraces along the west side and north end of the Sacramento Valley.

Geology: Parallel ranges, folded, faulted and metamorphosed strata; rounded crests of subequal height. Coast Ranges Geomorphic province.

Vegetation: Predominant natural communities include the Blue Oak series, Chamise series, Purple Needlegrass series and Foothill Pine series.

Series restricted to riparian settings: Arroyo Willow series, Black Willow series, Buttonbush series, Fremont Cottonwood series, Mixed Willow series, Mulefat series, Narrowleaf Willow series, Pacific Willow series, Red Willow series, White Alder series.

Animals: Mammals include mule deer, black-tailed deer, cottontails, jackrabbits and kangaroo rats. Birds include turkey vultures, quail, mourning dove, mockingbird, scrub jay, western meadow lark, finches and sparrows.

Miscellaneous Information:
Elevation. 200 to 3,000 feet.

Precipitation. 15 to 40 inches.
Temperature. 55° to 62° F.
Surface Water Characteristics. Many rapid perennial or intermittent streams in deeply incised canyons with weak bedrock channels flowing easterly to the Sacramento River. Reservoirs for irrigation water and flood control are common.

Land-based Percentage of State: 2%

Percent of Ecological Region in Public Ownership: 7%

Disturbance Regimes.
Fire: Fires are low, moderate and high intensity surface or stand replacing fires.

Land Use. Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to grazing and agriculture.

Northwestern Basin and Range

This section comprises the northern, and particularly the northwestern, part of the Great Basin in the Basin and Range Province.

Geology: Isolated ranges (largely dissected block mountains) separated by aggraded desert plains. Basin and Range geomorphic province.

Vegetation: Predominant natural communities includes the Big Sagebrush series, Mixed Saltbush series, Greasewood series and Shadscale series.

Series restricted to riparian settings: Arroyo Willow series, Black Willow series, Common Reed series, Mixed willow series, Narrowleaf Willow series, Red Willow series and Water Birch series.

Animals:

Miscellaneous Information:
Elevation. 4,000 to 8,000 feet.
Precipitation. 4 to 20 inches.
Temperature. 30° to 52°F.
Surface Water Characteristics. Few moderately slow rivers and streams in deeply incised canyons with bedrock controlled channels (higher elevations) to alluvial channels (lower elevations) that terminate in basins or lakes within the section, or in basins and lakes in the Bonneville Basin section. A few large lakes occur within the section.

Land-based Percentage of State: 1%

Percent of Ecological Region in Public Ownership: 54%

Disturbance Regimes.
Fire: Infrequent, low and moderate intensity fires, and high intensity stand replacing fires.

Land Use. Composition and successional sequence of some communities has changed because of plant and animal species introduced between the mid 1800's and early 1900's related to mining, grazing, and agricultural and recreational activities.

Southeastern Great Basin

This section comprises the southern Great Basin in the Basin and Range geomorphic province.

Geology: Widely separated short ranges in desert plains. Contains isolated mountains, plateaus, alluvial fans, playas, basins and dunes. Basin and Range geomorphic province.

Vegetation: Predominant potential natural communities include the Big Sagebrush series, Singleleaf Pinyon series, Utah Juniper series, Low Sagebrush series, Shadscale series, Mixed Saltbrush series and Bristlecone Pine series.

Series restricted to riparian settings: Arrow Weed series, Black Willow series, Fremont Cottonwood series, Mixed Willow series, Narrowleaf Willow series and Red Willow series.
Animals: Mammals include desert bighorn sheep, desert kit fox, spotted skunk, spotted bat, black-tailed jackrabbit, kangaroo rat and white-footed mouse. Birds include roadrunners, finches, warblers and orioles. Reptiles include desert tortoise, several species of rattlesnakes and chuckawalla lizard.

Miscellaneous Information:
Elevation. 1,000 to 11,000 feet.
Precipitation. 4 to 20 inches.
Temperature. 35° to 72°F.
Surface Water Characteristics. Mostly bedrock controlled channels in mountains that carry seasonal flows to alluvial channels below. Most channels terminate in basins within the section.

Land-based Percentage of State: 3%

Percent of Ecological Region in Public Ownership: 99%

Disturbance Regimes.
Fire: Areas with less than about 8 inches of rainfall rarely support enough vegetation to carry a fire. Fire occurrence in areas receiving more than about 8 inches has been influenced by introduced grasses. Fires are variable in frequency and intensity.
Climate: Flash floods are commonly associated with the irregular occurrence of precipitation events.

Land Use. Composition and successional sequence of some communities has changed because of plant and animal species introduced between the late 1800's and early 1900's related to mining and grazing. Since the early 1900's, significant effects on some plant and animal species occur at widely scattered locations associated with military testing and recreational activities.

Appendix B

Summary Table - Ecological Regions, Bioregions, Landscape and Geomorphic Provinces and Outstanding Values in Selected Park Units

Appendix C

Summary Table - Wildlife Habitats Occurring in Selected Park Units