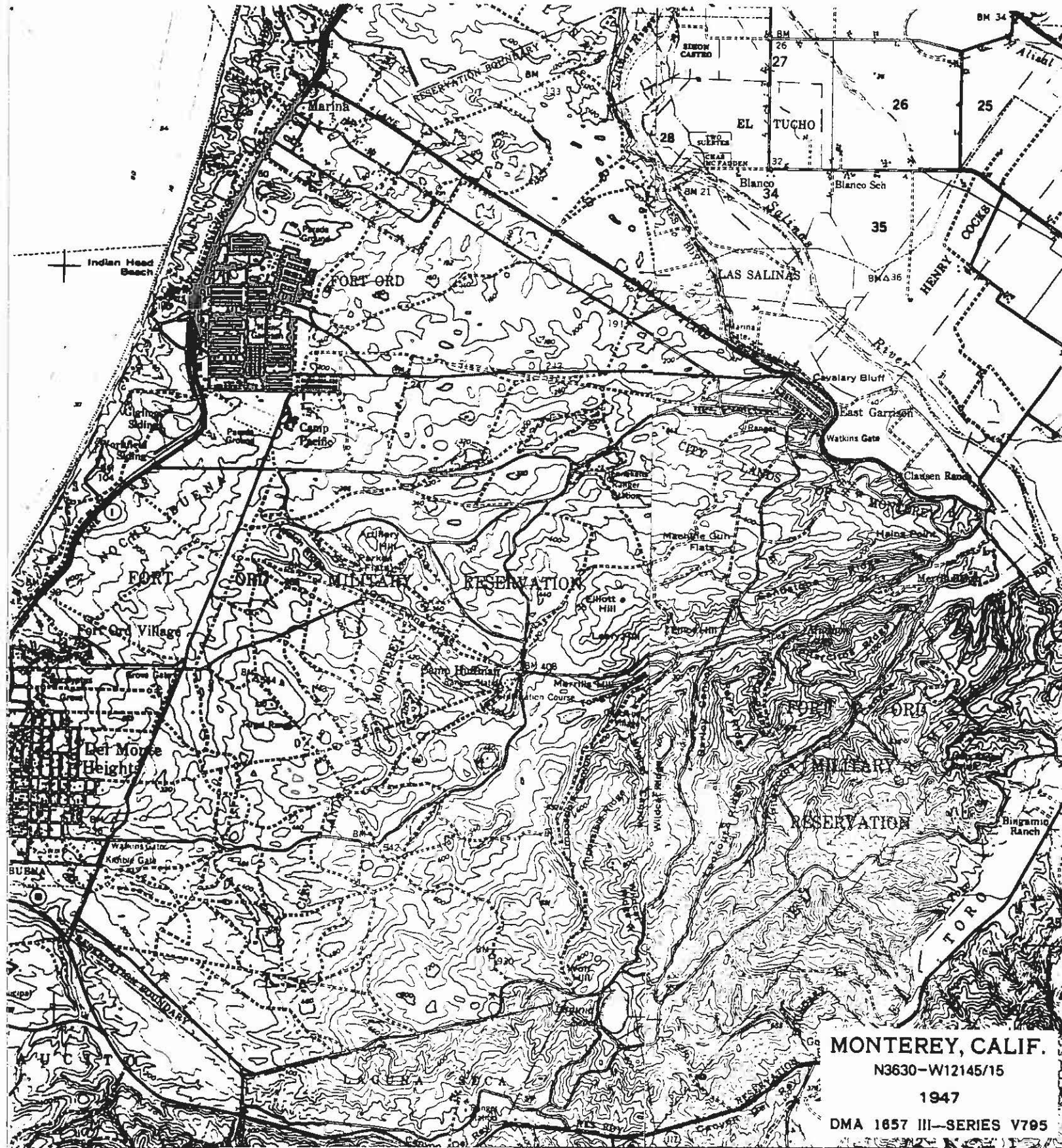


FORT ORD PARKLANDS A VISION STATEMENT



MONTEREY, CALIF.

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PARKS/WILDLIFE, OPEN SPACE AND RECREATION PLAN

FORT ORD PARKLANDS - A VISION STATEMENT

PARKS, WILDLIFE PRESERVES, OPEN SPACE and RECREATION

Fort Ord Parklands Group Members:

American Cetacean Society - Monterey Bay Chapter
California Native Plant Society - Monterey Chapter
Carmel Valley Trails Association
Friends of Monterey County Wildlife
Friends of the Sea Otter
Monterey Bay Dunes Coalition
Monterey Peninsula Audubon Society
Pacific Grove Eco-Corps
Sierra Club - Ventana Chapter
Surfriders Foundation
Window to the West

January 1992

Fort Ord Parklands Group: Post Office Box 2116, Carmel, CA 93921, 408/646-9650

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February 3, 1992

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NEWS RELEASE

FORT ORD PARKLANDS - A VISION STATEMENT

FOR IMMEDIATE RELEASE: The Fort Ord Parklands Group, a group of Monterey Bay Area recreational and environmental organizations, has released its Vision Statement for the preservation of recreation, open space and wildlife habitat lands on the 28,000 acre Fort Ord property. The Fort Ord Parklands Group voices the concerns of the member organizations for the preservation of natural resource assets and the enhancement of recreational values on fort lands once the property is excessed by the Department of Defense. The Fort Ord Parklands group includes the local chapters of the American Cetacean Society, California Native Plant Society, Audubon Society and Sierra Club, as well as the Carmel Valley Trails Association, Friends of Monterey County Wildlife, Friends of the Sea Otter, Monterey Bay Dunes Coalition, Pacific Grove Eco-Corps, Surfriders Foundation, and Window to the West.

The Fort Ord Parklands Vision Statement documents the extensive rare and uncommon plants, wildlife species and natural communities found on Fort Ord and recommends that the bulk of the inland wildlands and all the shoreline west of Highway 1 be preserved. The Parklands Group divides the excessed Army property into three parkland classifications and maps preservation areas in detail.

Fringing the 8,000 acre Impact Zone is a Recreational Land greenbelt buffer area, where recreational activities and trails are proposed. The Impact Zone is designated Open Space Land, where wildlife habitat and natural ecological processes should be allowed to continue uninterrupted. The entire coastal zone and the remaining inland area south of Intergarrison Road is designated Parks/Wildlife Preserve Lands to protect the unique Maritime Chapparal, Oak Woodlands and Native Grassland areas and high concentrations of rare and uncommon plants and animals. Fort Ord harbors the last large habitat tracts of vegetation that were once typical of the Monterey Peninsula. These lands support many threatened endemic species that are naturally restricted to the central coast region and found no where else in the world.

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FORT ORD PARKLANDS GROUP

MISSION STATEMENT

The Fort Ord Parklands Group voices the concerns of local environmental and recreation organizations in an effort to protect recreation, open space, and wildlife habitat lands on Fort Ord for the preservation of natural resource assets and the enhancement of passive recreational values.

The objectives of the Fort Ord Parklands Group are:

1. To preserve and enhance the quality of life of the people and the natural environment of the Monterey Peninsula.
2. To develop a protection strategy for Fort Ord that promotes ecological, cultural, educational and recreational values, and that balances active and passive land uses on the 28,000 acre property.
3. To advocate the wise development of the land and facilities of Fort Ord by management agencies that implement land use plans with long-term, ecologically sound management goals.

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INTRODUCTION






In June of 1991, before the announcement of the definite closure of Fort Ord, a group of environmental and recreation organizations met to discuss their interest in the potential change of use for the 28,000 acre military complex. Because of the large size of the fort and its strategic location in the heart of the Monterey Bay region, the future development of the property will have significant impacts on natural resources, both on-site and in the surrounding area. In order to provide factual information for assessing resource values at Fort Ord, this report was compiled from a variety of existing source materials. It is intended to inform the advisory committees and decision-making agencies about the concern of local environmental and recreation organizations for the wise use and stewardship of the Fort Ord shoreline and wildlands. This report presents a proposal for the preservation of Fort Ord's unique natural lands and merges objectives advocated by the Fort Ord Parklands Group member organizations by presenting collective preservation goals.

Fort Ord has been called "a nature oasis housing once common species that can no longer survive in the surrounding off-base development" (*The Herald Weekend Magazine*, May 1985). It is located on the central California coast surrounded by agricultural lands of the Salinas Valley, developed urban and suburban areas of the Monterey Peninsula region, and the coastline of Monterey Bay. Fort Ord's coastal position is a significant aspect of its importance in the preservation of California's natural diversity. The coastal zone and interior wildlands have been recognized by both State and Federal governments and private organizations, such as The Nature Conservancy, as unique areas deserving of special protection. Inland areas and buffer lands fringing the perimeter of the base retain much of their natural wildlife habitat values and should be protected intact for their wildlife, open space and recreational assets.

Within the six major habitat types found on the base (see Figure 1), there are approximately 269 plant species and 279 species of animals. The major habitat areas are Maritime Chaparral and Coastal Scrub (39%), Urban/residential (22%), Coast Live Oak Woodland (16%), Grassland (14%), Riparian (4%), Coastal Dune (4%), and Wetlands (1%) (Jones and Stokes, 1978). Threatened and endangered species of flora and fauna have been identified in most of these habitats.

In recognition of the value and biological significance of Fort Ord's natural resources, and as part of a legal agreement with the California Native Plant Society, the Department of the Army designated ten rare plant preserves and later added four additional preserve areas for protection from unnatural change (Figure 2). The amount of acreage protected in the plant preserves is a small fraction of the undeveloped base acreage that should be preserved for its natural values. The condition of the coastal and inland wildlands property ranges from the relatively undisturbed natural settings of exceptionally high quality wildlife habitat, to completely developed and/or severely degraded areas which, in some cases, are contaminated with toxic materials.

FORT ORD HABITAT TYPES

-  Coastal Dunes
-  *Stipa pulchra* grasslands
-  Maritime Chaparral
-  Riparian Woodlands
-  Vernal pool & isolated grassland assemblages
-  Live Oak Woodlands

FORT ORD HABITAT AREAS

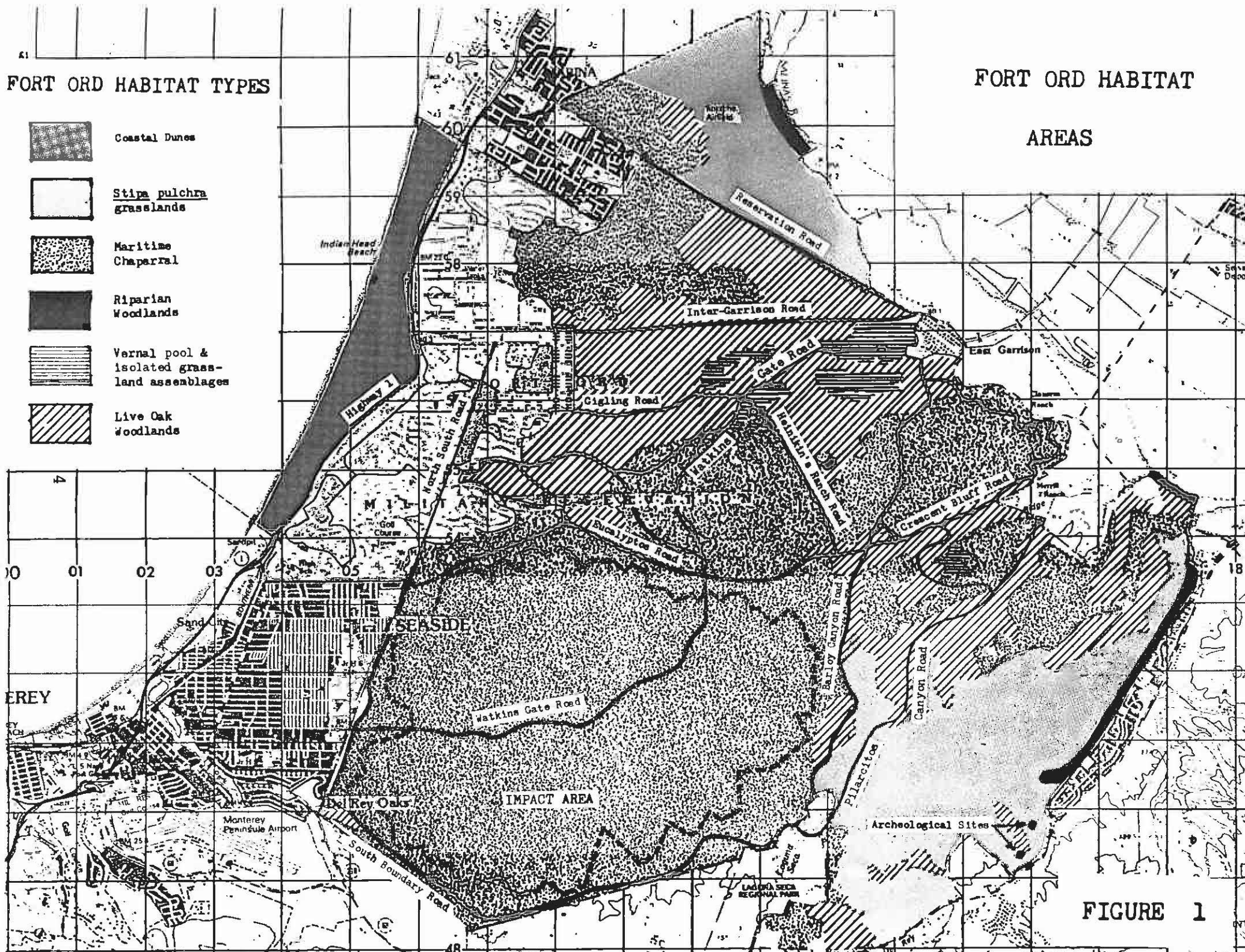


FIGURE 1

HISTORY

Costanoan Indians of the Rumsen group were the first known inhabitants of the central California coastal area and what is today Fort Ord. The local Native Americans were semi-nomadic people who lived primarily on shellfish, acorns and seed, and hunted small game and deer. The Costanoan were known to occasionally set fire to the natural grasslands to enhance forage growth and increase seed crops. By 1770, when the first Missions were established in the area, European diseases had begun to devastate Costanoan populations and the natural environment had already experienced changes. As a result of European settlement, frequent Indian range fires halted and non-native agricultural and weed plants were introduced which, in some cases, drastically altered the look and composition of the natural landscape.

Two prehistoric archeological sites have been identified at the southeastern edge of Fort Ord near Toro Creek (Environmental Research Archeologists, no date). These locations are designated CA-MNT-3 and CA-MNT-416 in the state inventory of known archeological sites. CA-MNT-3 is described as one of the largest and best inland archeological sites in northern Monterey County. The midden deposit is approximately three feet in depth and contains numerous fragments of bone and shell fragments (Ibid.). Both sites have bedrock mortars where acorns, seeds and nuts were processed for food.

The entire southeastern margin of Fort Ord is mapped in the "Inventory Analysis" study of the Greater Monterey Peninsula Area Plan as being in a zone of high archeological sensitivity (Monterey County Planning Department, 1984).

In 1917, the United States Government bought approximately 15,000 acres from the David Jacks Corporation near what is known today as the East Garrison. Prior to the property being developed by the Army as a military installation, the Giglings, a German immigrant family, lived on the bluff overlooking the Salinas River and the lush agricultural fields of the Salinas Valley. The first name for the military base was the Gigling Field Artillery Range, and indeed, many place names in Fort Ord today memorialize the Gigling family.

The name of the base was changed in 1939 to Camp Ord, in honor of Major General Edward Otho Cresap Ord, a Civil War Commander and Indian fighter. The Army expanded the base in 1940 with the purchase of about 3800 coastal acres in what was called Camp Clayton, and on August 15, 1940, renamed the combined camp units Fort Ord. Fort Ord was then designated as a permanent Army post.

With the 1941 acquisition of 276 acres of coastal property and the 1943 purchase of an additional 8000 acres, land acquisitions for the 28,038 acre Fort Ord were completed. Today, this property is prime real estate in one of the world's most spectacular areas. The developed cantonment area comprises only about 6000 acres, with the remainder of the 28,000 acre property largely undeveloped.

ENVIRONMENTAL SETTING

Geology and Soils

According to the 1975 report *Fort Ord Natural Resources Program*, "to understand the terrain at Fort Ord we must go back to mid-Pleistocene glacial times" and even earlier to the late Pliocene Epoch. The successive advance and withdrawal of glaciers in the Sierra Nevada during the Pleistocene glacial epoch ground rocks and cliffs into tiny sand particles, which were carried by rivers to the Pacific. When glacial periods ended and ice caps melted, the oceans rose and spread this sand inland, only to abandon it as sea levels dropped once again with a return to colder climatic regimes. As noted by Carmel Valley plant ecologist and University of California professor, Dr. James R. Griffin, "the result of all this climatic and geologic turmoil was a large and rather sterile sand patch near the mouth of a foggy, windy valley" (Griffin, 1976).

Most of Fort Ord is underlain by sand, in fact, nearly 200 feet of sand eroded from mountain uplands was carried down the ancient Salinas River and dumped on what is today Fort Ord. The area east of Highway 1 is underlain by ancient, "Pre-Flandrian" stabilized sand dunes, which were deposited during early Pleistocene glacial times when sea levels were higher along the margin of Monterey Bay and at the mouth of the Salinas River. The ancient sand landscape was much like an isolated habitat island, surrounded on the west by Monterey Bay, on the south by shales and granites of the Santa Lucia foothills, on the north by the alluvial plain of the Salinas River, and on the east by the higher topography of the Sierra de Salinas. Smoothed by centuries of erosion, these ancient dunes have lithified and slowly developed into low, rolling sand hills stabilized with uniquely adapted vegetation.

The poorly developed sandhill soils tend to be well-drained, erosive, very low in fertility and with few organics. Weathering of iron compounds over time has turned the older "Aromas" sands bright reddish-brown. In many parts of Fort Ord this old material is covered with deposits of younger, "Flandrian" age buff-colored sand, which came in nearly 20,000 years ago at the end of the Pleistocene Epoch with a rising ocean and the waning of the continental ice sheets. During the final chapter of the last ice age, a band of high dunes was built along the shore of Monterey Bay, including the western edge of Fort Ord. Though major dune building has now ceased because of gradual climatic warming and the reduction of sediments flowing from coastal streams, a certain amount of sand is still carried southward along the shore by ocean currents, eventually to be deposited on beaches by wave action and blown inland by onshore winds.

Climate

The central California coastal area is characterized by a Mediterranean type climate with rainy winters and dry summers. As referenced in the 1975 *Fort Ord Natural Resources Program* report, "winter and summer temperatures do not vary to extremes, as the air is influenced by the stability of the Pacific Ocean." During summer months, westerly breezes are cooled when they blow over chilled water upwelled from the great depths of the unique Monterey Submarine Canyon. This cool coastal air often condenses into fog and blows inland with frequent northwest prevailing winds. Warm air rising in the interior of the Salinas

Valley creates a localized low pressure area and causes the cool ocean air to funnel even more strongly over the hills of Fort Ord and up the valley. High pressure conditions prevail offshore during summer months and although moisture from fog is a regular occurrence, it seldom rains.

With fall and winter, the offshore high pressure breaks down and moves southward allowing cold, moist air masses to move towards the central coast along the jet stream storm tract. Cyclonic low pressure fronts dispel the long summer dry season and the typical Mediterranean climate wet season begins. An average of 18 inches of precipitation falls in the Fort Ord area between the months of November and March. It is during the winter wet season that the vegetation actively takes up water to make a sudden burst of growth and color in the spring. During the long, rainless summer most native plants reduce growth rates and some species even go dormant.

The 1975 *Resources Program* report characterizes spring as "the most beautiful time of the year. It is not a gentle time near the ocean however, for beginning in April and lasting through half the summer northwest prevailing winds replace the life-giving winter storms." Spring and summer winds tend to be cold, dry winds laden with salt spray that desiccate dune sands and blow loose sand grains inland. Giant dunes not stabilized with specially adapted vegetation literally migrate, grain by grain, and engulf every unprotected thing.

Hydrology

The primary hydrological feature in the study area is the Salinas River, which passes along Fort Ord's northeastern boundary. Toro Creek, bordering the base on the southern side, flows in response to seasonal precipitation, as do several small ephemeral streams found on the property. Streams and man-made impoundments are generally dry in late summer and fall.

According to the 1978 Fort Ord EIS prepared by consultants Jones and Stokes Associates, "groundwater in the northern part of Fort Ord is supplied by the Salinas River aquifer system, which consists of two water-bearing deposits located at the 180-foot and 400-foot elevations. Overdrafting of the 180-foot groundwater aquifer has resulted in seawater intrusion in the Fort Ord-Marina and Salinas Valley area. The quality of the water in the 180-foot aquifer has been substantially degraded. Seawater intrusion of the 400-foot aquifer has been less extensive.

"The southern part of Fort Ord is in a different aquifer system. Wells in the southern area are probably supplied from isolated pockets of water, however, data to support this assumption are lacking. Storm water in the Main Garrison area is collected by inlets and catch basins and piped into Monterey Bay. Developed areas at Fritzsche Army Airfield have an adequate storm drainage system with its principal outfall to the Salinas River" (Jones and Stokes, 1978).

Vegetation and Flora

Fort Ord's 28,000 acres encompass one of the most biologically significant natural resource areas in the central California coastal region. Home to a host of rare and uncommon plants and animals, the gently rolling terrain harbors a unique assemblage of species and natural communities many of which are endemic, or naturally restricted, to special habitats

found in the Monterey region. The area's significant biological diversity is confirmed by the variety of vegetation types, the total number of distinct species, and the abundance of locally endemic plants and animals restricted to special habitats found on base.

Sterile sandy soils, combined with the local climatic pattern of winter wet-summer dry Mediterranean seasons, have influenced the species composition and structure of the predominant natural communities found on the ancient sand habitat. The natural vegetation communities found on Fort Ord include shrub-dominated Maritime Chaparral and Coastal Scrub, Coast Live Oak Woodland, streamside Riparian Woodland, Vernal Pools and Wetlands, Perennial and Annual Grasslands, and several developmental stages of Dune Scrub assemblages found on the Pleistocene and more recently deposited sands along the shoreline (Figure 1).

Approximately 39% of the Fort Ord base is vegetated with Maritime Chaparral, a very rare shrub community restricted in distribution to the central California coastal area. In areas close to the coastline, Maritime Chaparral habitats intergrade with vegetation dominated by plants more typical of Coastal Scrub, or "soft" chaparral. The low-growing Maritime Chaparral found on Fort Ord's sand hills is representative of what was once characteristic vegetation of the Monterey region before extensive settlement and development destroyed large tracts of the natural landscape (Griffin, 1976 and 1978). Sculpted by prevailing onshore winds and tolerant of both summer aridity typical of Mediterranean climates and poor sandstone soils, the endemic Maritime Chaparral community evolved locally in the central California coastal region and includes many plant species found nowhere else in the world. Paleobotanical evidence suggests that much of the Maritime Chaparral flora has survived largely unchanged since at least the latter Pleistocene Epoch 20,000 years ago, and possibly for as long as several hundred thousand years (Gordon, 1977).

Chaparral is a Spanish term that was originally used to describe a thicket of shrubby evergreen oaks, although contemporary usage applies the word to dense brushlands found throughout California west of the Sierra Nevada. The look of the chaparral landscape in California is much the same throughout the state, yet there is incredible floristic diversity reflecting soil types, weather patterns, topography, elevation and fire history. Most chaparral shrub species have hard, leathery leaves and other features adapted to minimize moisture loss during the rainless summer months in Mediterranean climate regions. These species are generally fire-tolerant, in that they readily resprout from basal buds after burning or have seeds that germinate when fire has created an appropriate soil environment.

Maritime Chaparral at Fort Ord is composed of many common shrub species like chamise *Adenostoma fasciculatum*, toyon *Heteromeles arbutifolia*, coffeeberry *Rhamnus californica*, and black sage *Salvia mellifera*. The distinguishing character of the unique Fort Ord Maritime Chaparral is perhaps best defined by a group of manzanitas, which include Monterey manzanita *Arctostaphylos hookeri*, Toro manzanita *A. montereyensis*, sandmat manzanita *A. pumila*, and several sub-species of shaggy-barked manzanita *A. tomentosa*. The Monterey, Toro and sandmat manzanitas are all considered species of concern due to their limited distribution and both Toro and sandmat manzanita are listed by the California Native Plant Society (CNPS) as rare, threatened or endangered (list 1B). Appendix A is a complete list of plant species found on Fort Ord and Table 1 presents plant species of concern and their State and Federal status.

In addition to the unique manzanita species found at Fort Ord, several ceanothus species with varying degrees of rarity occur in the Maritime Chaparral community, including coast whitethorn *Ceanothus incanus*, blue blossom *C. thyrsiflorus*, cropleaf ceanothus *C. dentatus*, and Monterey ceanothus *C. rigidus*, which is on the California Native Plant Society Watch List.

The assemblage of unique plant species found in the Maritime Chaparral at Fort Ord also supports small populations of the very rare shrub Eastwood's golden fleece *Ericameria fasciculata*, a candidate for Federal listing, and several uncommon herbs often found in open sandy areas between shrubs, including the California Endangered seaside bird's beak *Cordylanthus rigidus* ssp. *littoralis*, Monterey gilia *Eriastrum virgatum*, and dune gilia *Gilia tenuiflora* var. *arenaria*, which is listed by the State of California as Threatened and which has recently been selected for Federal listing under provisions of the Endangered Species Act. Although more common in the Dune Scrub closer to the coast, two species of spine-flower *Chorizanthe pungens* var. *pungens* and *C. robusta* occur in sandy openings in the Maritime Chaparral. These spine-flowers are proposed for Federal listing as Endangered.

The Maritime Chaparral is a plant community that is of interest to the California Department of Fish and Game Natural Diversity Data Base (CNDDDB). The Department of Fish and Game has designated the Maritime Chaparral community as S2.2, indicating that there are less than 10,000 acres of this habitat type left extant in the state and what remains is threatened by urban development.

About 16% of Fort Ord is dominated by Woodlands of Coast Live Oak *Quercus agrifolia*. Subjected to salt-laden coastal winds and found on poor sand soils, native oaks in the woodland community are generally stunted in height and grow close together in dense stands. Individual trees in the Oak Woodland community attain greater height and grow more erect along the inland margin of the base and in narrow canyons where moisture collects and soils tend to be deeper.

Typical Coast Live Oak Woodland understory plants include bracken fern *Pteridium aquilinum*, fuchsia-flowered gooseberry *Ribes speciosum*, poison oak *Rhus toxicodendron*, and several species also common in the brushland communities. Oak Woodland habitats support deer and numerous small mammals, and are known for their numbers of diverse bird species.

Riparian Woodland habitat comprises approximately 4% of the natural Fort Ord landscape and fronts about seven linear miles of streamside (Jones and Stokes, 1978). Composed of narrow bands of moisture-dependent plants, riparian vegetation can be found along the banks of seasonal Toro Creek and the Salinas River on the southeast and northeast perimeter of the base.

Arroyo willow *Salix lasiolepis* occurs in discontinuous bands along the generally degraded banks of seasonally flowing Toro Creek and the Salinas River, with occasional black cottonwood *Populus trichocarpa*, box elder *Acer negundo* and seepwillow *Baccharis glutinosa*. Near the Toro Park housing development along Highway 68, an unusual and uncommon Sycamore Woodland *Platanus racemosa* is found on a wide terrace above the modern Toro Creek floodplain. Here the creek has incised approximately 6-8 vertical feet downward, but the watertable has remained relatively high as evidenced by the moisture-dependent sycamores. This type of riparian Sycamore Woodland is an uncommon natural plant community and is relatively rare in California.

Common streamside understory plants in the riparian corridors include wild blackberry *Rubus vitifolius*, stinging nettle *Urtica holosericea*, and mugwort *Artemisia douglasiana*. Riparian Woodlands provide habitat for a richer collection of terrestrial species than any other ecosystem in California. Streamside vegetation offers wildlife an abundance of cover and forage, while stabilizing stream banks and helping to maintain healthy fisheries with shade, food and nutrients.

Grassland habitats found on Fort Ord comprise about 14% of the land area and are particularly significant in that there are many areas that support a rich native flora of perennial bunchgrasses, grasses that have been severely reduced in extent throughout the state. The large expanses of purple needlegrass *Stipa pulchra* at Fort Ord are some of the most extensive stands that remain in the entire state of California (Jones and Stokes, 1978) and have been recognized by ecologists for their relative purity. The native grasslands of California have been dramatically altered by grazing and cultivation, and have been largely replaced by weeds and non-native annual species. Weedy species are present at Fort Ord, but do not dominate in much of the installation's grassland area.

Valley Needlegrass Grassland has been designated by the Department of Fish and Game CNDDDB as S1.1, indicating that there are less than 2,000 acres of this plant community extant in California and what remains is very threatened.

Found primarily along a gradually sweeping arc fringing the eastern and southern margin of the base, native Valley Needlegrass Grasslands tend to occur on the older Paso Robles sandstone soils that have developed a claypan strata below the soil surface. In some areas, the rare Hickman's onion *Allium hickmanii* grows low to the ground among the native grasses. This tiny native onion survives in only a few populations in central California and is rare enough to be considered for Federal listing as Threatened or Endangered.

Isolated isolated patches of native Grassland that occur in the heart of Fort Ord are often surrounded by Oak Woodlands and Maritime Chaparral. These areas have developed an unusual mounded topography where gentle hillocks are separated by shallow depressions that pond water during the rainy season. Called "mima mounds" in the botanical literature, these two to three-foot hills create an undulating landscape that becomes a rich and biologically significant wetland area of vernal pools during the late winter and early spring when water collects in the low lying hollows between the mounds. With a unique assemblage of grasses found growing on the tops of the mounds, and wetland plants adapted to the occasionally saturated soils found growing in the depressions between the mounds, this natural community is a seasonally changing remnant of what once characterized vast grassland areas of the Salinas Valley and California's Central Valley. Some of the interesting plants of the vernal pools that can be seen at Plant Preserve Area B and Area C are large-flowered star tulip *Calochortus uniflorus*, yellow-rayed lasthenia *Lasthenia glabrata*, smooth lasthenia *Lasthenia glaberrima*, and Douglas' pogogyne *Pogogyne douglassii*.

The Department of Fish and Game CNDDDB designated Northern Vernal Pools as S1.1, a very threatened plant community with less than 2,000 acres remaining statewide.

Wetlands, including the seasonal grassland vernal pools and several natural ponds that were enlarged for fishing, are approximately 1% of the Fort Ord land area. As has occurred over time in most of the State, Wetlands on Fort Ord have been filled, dredged and generally degraded. Wetlands are considered to be sensitive areas transitional between terrestrial and aquatic habitats where the water table is usually at or near the surface of the land. Wetland

areas are seasonally flooded during rainy periods and have distinct hydric soil types that support plants adapted to withstand wet conditions.

Seasonal Wetlands and ponds are important areas for wildlife because they provide sites for breeding, nesting, feeding and resting. Large areas that include a variety of habitat types, from open water to fluctuating shore zones and wet meadows, tend to have the highest wildlife productivity because diverse wildlife needs can be met. Aquatic organisms, including algae, micro-organisms, insects, amphibians and fish also thrive in wetland areas.

Coastal dune assemblages comprise about 4% of the Fort Ord land area and are generally situated west of Highway 1. Sand dunes along the Fort Ord shoreline are a critically important component of the extensive dune system fringing the southern portion of Monterey Bay. The Fort Ord dunes comprise about four linear miles and approximately 990 acres of the Monterey Dune system, which extends from the mouth of the Salinas River to the harbor complex in Monterey.

The Fort Ord dunes include a very narrow band of beach and coastal strand bordered by steep and actively eroding bluffs of older, Pleistocene-age sand deposits. Much of the dune areas has been degraded by invasive ice plant and clearing for firing ranges. This area is in one of the most rapidly eroding regions of the coastline, as evidenced by the current perilous location of Stilwell Hall at the brink of a ninety foot sandstone cliff.

Dune vegetation is best established along the summit of the eroding bluffs and extends eastward eventually to merge with Coastal Scrub and Maritime Chaparral habitat types. Although subjected to high winds and salt spray, vegetation on the dune bluffs has stabilized these unconsolidated sands, holding the loose substrate with a vast network of mat-like roots.

In the gentle swales on top of the bluffs, dune and coast buckwheats *Eriogonum parvifolium* and *Eriogonum latifolium* support the Federally Endangered Smith's Blue Butterfly. Mock heather *Ericameria ericoides* and dune lupine *Lupinus chamissonis* shelter dainty beach primrose *Camissonia cheiranthifolia*, pink sand verbena *Abronia umbellata* and beach wallflower *Erysimum ammophilum*, a Federal Category 2 plant which merits further life history investigation. Succulent live forever *Dudleya caespitosa* grows in areas free of the ubiquitous, ice plant *Carprobrotus chilense*, and the candidate Federally Endangered Black Legless Lizard, can be found in the leaf debris below mature native plants where ice plant is not established. The Fort Ord dunes also support several plant species that are listed, or are proposed for Federal listing. They include dune gilia *Gilia tenuiflora* var. *arenaria*, Monterey spine-flower *Chorizanthe pungens* var. *pungens*, and robust spine-flower *Chorizanthe robusta*.

Central Dune Fore-dune vegetation is designated S1.2, with less than 2,000 acres remaining statewide, and Central Dune Scrub is classified S2.2, with less than 10,000 acres remaining in California. Fort Ord includes suitable habitat for the State Endangered Menzies' wallflower *Erysimum menziesii*, a species documented in dune areas both north and south of the military property.

The vegetation mosaic at Fort Ord includes some of the rarest habitat types in California and the world. From Coastal Dune through endemic Maritime Chaparral, Coast Live Oak Woodlands and native Purple Needlegrass Grasslands, the composite natural landscape is one of astounding rarity and biological diversity.

Figure 2 displays the Fort Ord Plant Preserves. These areas were protected for their concentrations of rare species representative of the habitats found on base.

Fort Ord Native Plant Preserve Areas

- 1 - Maritime Chaparral
Arctostaphylos tomentosa ssp. *tomentosa*
forma *hebeclada*, shaggy-barked manzanita
Arctostaphylos tomentosa ssp. *tomentosa*,
shaggy-barked manzanita
- 2 - Coastal Dune Scrub
Euphilotes enoptes smithi, Smith's Blue butterfly
- 3 - Maritime Chaparral and Coastal Scrub
Ceanothus rigidus, Monterey ceanothus
Ceanothus dentatus, cropleaf ceanothus
Arctostaphylos pumila, sandmat manzanita
- 4 - Maritime Chaparral
Garrya elliptica, coast silk-tassel
Arctostaphylos pumila, sandmat manzanita
- 5 - Maritime Chaparral
Arctostaphylos hookeri, Monterey manzanita
- 6 - Coast Live Oak Woodland
Ceanothus incanus, coast white thorn
Gilia tenuiflora var. *arenaria*, dune gilia
- 7 - Freshwater marsh
- 8 - Maritime Chaparral
Arctostaphylos montereyensis, Toro manzanita
- 9 - Grassland
Papaver californicum, Western poppy
- 10 - Coastal Dune Scrub
Euphilotes enoptes smithi, Smith's Blue butterfly
Erysimum amorphilum, coast wallflower
- A - Grassland, Wetland
Allium hickmanii, Hickman's onion
- B - Vernal Pools
- C - Vernal Pools
- D - Maritime Chaparral
expansion of Plant Preserve 6
Ericameria fasciculatum, Eastwood's golden fleeca
Arctostaphylos montereyensis, Toro manzanita

FORT ORD PLANT PRESERVES AND
AREAS OF SPECIAL CONCERN

AREAS OF SPECIAL CONCERN
(Shown in red circles)

- I Vernal Pond Habitat
- II Mixed Grassland Habitat
- III Dense Oak Woodlands
- IV Sandstone Ridge Habitat
- V Wetlands & Mudhen Land
- VI Willows in Grassland
- VII Sycamore Groves
- VIII Coast silktassel
- IX Archeological Sites

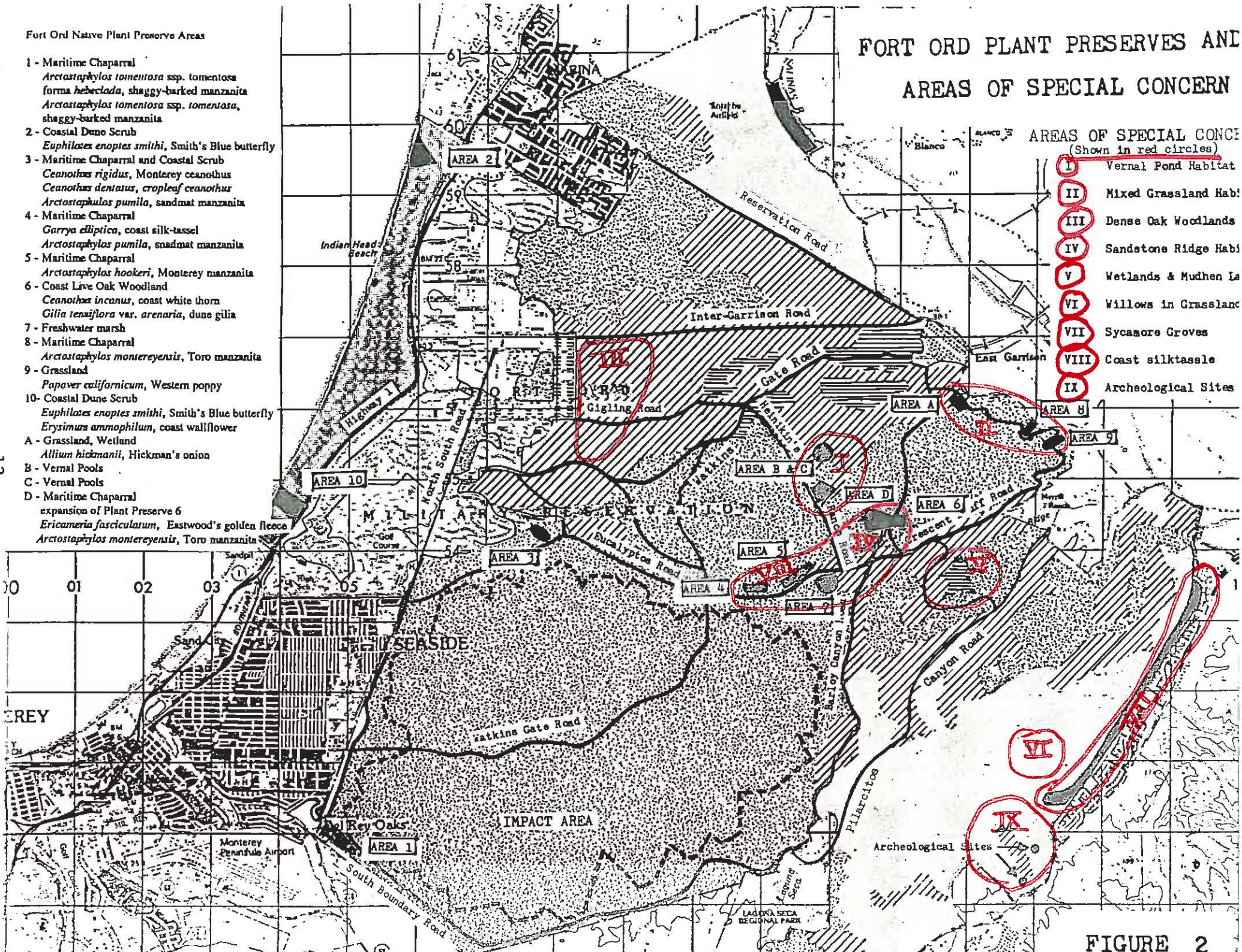


FIGURE 2

12

TABLE 1

Listed, Proposed, and Candidate Plant Species that occur on Fort Ord

Species	Federal	State	CNPS	State Rank	R-E-D Code
<i>Allium hickmanii</i> , hickman's onion	Category 1		1B	S2.2	2-2-3
<i>Arctostaphylos hookeri</i> , Monterey manzanita			3		?-?-3
<i>Arctostaphylos montereyensis</i> , Toro manzanita	Category 2		1B	S2.1	3-2-3
<i>Arctostaphylos pumila</i> , sandmat manzanita	Category 2		1B	S2.2	3-2-3
<i>Castilleja latifolia</i> , seaside painted cup			4		1-1-3
<i>Ceanothus rigidus</i> , Monterey ceanothus	Category 2		4		1-2-3
<i>Chorizanthe robusta</i> , robust spine-flower	Endangered (proposed)		4	S1S2	1-1-3
<i>Chorizanthe pungens</i> var. <i>pungens</i> , Monterey spine-flower	Endangered (proposed)		1B	S1.1	3-3-3
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> , seaside bird's beak	Category 1	Endangered	1B	S1.1	2-3-3
<i>Eriastrum virgatum</i> , Monterey gilia			4		1-1-3
<i>Ericameria fasciculata</i> , Eastwood's golden fleece	Category 2		1B	S2.1	3-3-3
<i>Erysimum ammophilum</i> , coast wallflower	Category 2		4		1-2-3
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> , dune gilia	Endangered (proposed)	Threatened	1B	S2.1	3-3-3
<i>Lomatium parvifolium</i> , small-leaved lomatium			4		2-1-1
<i>Piperia elongata</i> ssp. <i>michaelii</i> , piperia			4		1-2-3

Federal: Category 1 plants have sufficient biological information to support a proposal for listing as Endangered or Threatened.
Category 2 plants have existing information that indicates listing may be warranted, but biological data to support a designation are lacking.

CNPS (California Native Plant Society) lists:

- 1A Plants presumed extinct in California
- 1B Plants rare, threatened or endangered in California and elsewhere
- 2 Plants rare, threatened or endangered in California, but more common elsewhere
- 3 Plants about which more information is needed; a review list
- 4 Plants of limited distribution; a watch list

State Ranking: The state rank is assigned much the same way as the global rank, except state ranks in California often also contain a threat number attached to the S-rank.

Less than 6 EOs (element occurrences) OR less than 1000 individuals OR less than 2000 acres = S1:

S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known

6-20 EOs OR 100 - 3000 individuals OR 2000 - 10,000 acres = S2:

S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known

21-100 EOs OR 3000 - 10,000 individuals OR 10,000 - 50,000 acres = S3:

S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known

R (Rarity) -E (Endangerment) -D (Distribution) Code:

R1 - rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.

R2 - occurrence confined to several populations or to one extended population.

R3 - occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E1 - not endangered

E2 - endangered in a portion of its range

E3 - endangered throughout its range

D1 - more or less widespread outside California

D2 - rare outside California

D3 - endemic to California

Animal Life

Natural areas within Fort Ord support a wide variety of animal species, both common and rare. Over 279 species of vertebrates have been counted in faunal surveys (Appendix B), including 46 species of mammals, 24 species of reptiles and amphibian, 6 freshwater and anadromous fish species (both native and introduced fishes as well as numerous saltwater species), at least 209 species of birds, including resident and migratory varieties (*Fort Ord Directorate of Facilities Engineering*, 1975; Roberson, 1985; D. Roberson, pers. comm.)

Two uncommon animal species inhabiting Fort Ord that are particularly noteworthy are Smith's Blue Butterfly *Euphilotes enoptes smithi* and the Black Legless Lizard *Anniela pulchra nigra*. Smith's Blue Butterfly was listed as Endangered by the United States Fish and Wildlife Service in 1976. The butterfly inhabits coastal dunes and scrub habitats within the Fort complex where its obligate host plants dune buckwheat *Eriogonum parvifolium* and seacliff buckwheat *Eriogonum latifolium* are found. The butterfly is endemic to the central California coastal area and has been observed along the Fort Ord dunes, as well as in interior areas where its buckwheat host plants occur. The preferred habitat of this butterfly species in coastal dunes and along rocky sea bluffs is being reduced as a result of development and competition between native plants and the more aggressive introduced ice plant.

The Black Legless Lizard is a California Department of Fish and Game Species of Special Concern. The Black Legless Lizard is even more limited in distribution than the Smith's Blue Butterfly in that it is found only in natural coastal dune vegetation between the mouth of the Salinas River and Carmel River State Beach. The lizard prefers protected habitat underneath the debris of old leaves and plant material that collects below native dune vegetation. The Black Legless Lizard may be updated to Threatened or Endangered in the future. Like the Smith's Blue Butterfly, the distribution of the legless lizard is limited to the relatively high quality, undisturbed coastal dunes fringing the central and southern Monterey Bay area.

Fort Ord possesses significant bird populations, of which at least 78 species nest on or immediately adjacent to the base (D. Roberson, pers. comm.). Among these birds are important "indicator species" of habitat assemblages that are very scarce in the Monterey Peninsula region. A small population of Greater Roadrunner *Geococcyx californianus* exists in the Maritime Chaparral and Coast Live Oak Woodlands, the only such population in coastal Monterey (former populations at Point Lobos State Reserve and Castroville have been extirpated), and surveys indicate that these habitats contain good numbers of all other characteristic species.

The Riparian corridor, while somewhat disturbed, still has nesting Swainson's Thrush *Catharus ustulatus*, Yellow Warbler *Dendroica petechia* a Species of Special Concern, and Common Yellowthroat *Geothlypis trichas*, all riparian or marshland indicator species that are declining elsewhere in the Monterey Bay area.

Fort Ord beaches have a few nesting Snowy Plovers *Charadrius alexandrinus*, a species currently proposed for Federally Endangered status and suffering drastic statewide declines. The shore zone supports many migratory shorebirds, including high concentrations of Sanderling *Calidris alba*. Sandy beaches around Monterey Bay are now known to be important staging areas for long distance migrant shorebirds, including Sanderling, which feast

on the high concentrations of sand crabs *Emerita* sp. typical of the Monterey Bay shoreline environment (A. Baldrige, pers. comm.).

Other Endangered or Threatened bird species that seasonally visit Fort Ord beaches include the California Endangered Brown Pelican *Pelecanus occidentalis*, the Federally Endangered Peregrine Falcon *Falco peregrinus* and California Endangered-Federally Threatened Marbled Murrelet *Brachyramphus marmoratus*, which occurs just offshore (Roberson, 1985; D. Roberson, pers. comm.; Jones and Stokes, 1978). A large raptor population (owls, hawks, vultures, eagles) also occurs on Fort Ord, with 20 species documented. Raptors are fully protected by both State and Federal law.

In addition to the legless lizard, uncommon or protected reptiles occurring in the area include the Coast Horned Lizard *Phrynosoma coronatum*, and the Western Pond Turtle *Clemmys marmorata*. Both the San Joaquin Whipsnake *Masticophis flagellum ruddocki* and the Alameda Striped Racer *Masticophis lateralis euryxanthus* likely occur. The Alameda Striped Racer is a State Threatened species. Inventory surveys are urgently needed to determine the range and critical local habitats of these species (S. Ruth, pers. comm.).

The following amphibian species which may reside on Fort Ord are ranked as Category 2 by the U.S. Fish and Wildlife Service or considered Species of Special Concern by the State of California: California Tiger Salamander *Ambystoma tigrinum*, Red-legged Frog *Rana aurora*, and California Newt *Taricha torosa* (S. Ruth, pers. comm.).

Two terrestrial mammals found at the complex, the Salinas Harvest Mouse *Reithrodontomys megalotis distichlis*, and the American Badger *Taxidea taxus*, are noted by the State of California as being Species of Special Concern.

A number of marine mammal species are common to the coastal regions off Fort Ord, or may frequent the coast in some part of the year, including, Southern Sea Otters *Enhydra lutris nereis*, Northern Elephant Seals *Mirounga angustirostris*, Pacific Harbor Seals *Phoca vitulina richardsi*, Steller Sea Lions *Eumetopias jubatus*, California Sea Lions *Zalophus californianus*, Harbor Porpoises *Phocoena phocoena*, Bottlenose Dolphins *Tursiops truncatus*, California Gray Whales *Eschrichtius robustus*, Killer Whales *Orcinus orca*, Humpback Whales *Megaptera novaeangliae*, and Minke Whales *Balaenoptera acutorostrata*. Of the marine mammals found in coastal waters, four species are Federally listed species, including the Threatened Southern Sea Otter and Steller Sea Lion, and the Endangered Humpback and California Gray Whales. Harbor Porpoises are in the process of being added to the list. Table 2 describes Listed, Proposed, and Candidate Species that occur on Fort Ord and vicinity.

Noteworthy coastal marine invertebrates, some of which have commercial value, include Pismo Clams *Tivela stultorum* and a variety of crab, amphipod and snail species. Various finfish species that are important ecologically and commercially include Salmon *Oncorhynchus* spp., California Halibut *Paralichthys californicus*, Northern Anchovy *Engraulis mordax*, Starry Flounder *Platichthys stellatus*, and Ling Cod *Ophiodon elongatus* (National Oceanographic and Atmospheric Administration, 1990).

The location of Fort Ord along a four mile section of coastline fringing the new Monterey Bay Marine Sanctuary underscores the importance of preserving the biologically unique Fort Ord habitat mosaic.

TABLE 2

Listed, Proposed, and Candidate Wildlife Species and Sub-Species that occur, or likely occur, on Fort Ord and vicinity

SPECIES	FEDERAL STATUS	STATE STATUS
BIRDS Double-crested cormorant Marbled murrelet California Brown Pelican Cooper's Hawk Sharp-shinned Hawk Northern Harrier Golden Eagle Prairie Falcon Peregrine Falcon Western Snowy Plover California Gull Elegant Tern Burrowing Owl Yellow Warbler	Prop. Threatened Endangered Endangered Category 2	Species of Special Concern Endangered Endangered Species of Special Concern Species of Special Concern Species of Special Concern Species of Special Concern Species of Special Concern Endangered Species of Special Concern Species of Special Concern Species of Special Concern Species of Special Concern
MAMMALS Monterey Ornate Shrew Salinas Pocket Mouse Salinas Harvest Mouse Southern Sea Otter American Badger Steller Sea Lion California Gray Whale Humpback Whale	Category 2 Category 2 Category 2 Threatened Threatened Endangered Endangered	Species of Special Concern Species of Special Concern Species of Special Concern Species of Special Concern
REPTILES and AMPHIBIANS Western Pond Turtle Coast Horned Lizard Black Legless Lizard Alameda Striped Racer San Joaquin Whipsnake California Tiger Salamander Red-legged Frog	Category 2 Category 2 Category 2	Species of Special Concern Species of Special Concern Species of Special Concern Threatened Species of Special Concern Species of Special Concern Speices of Special Concern
BUTTERFLIES Smith's Blue Butterfly	Endangered	

PRESERVATION GOALS

Fort Ord is a habitat island created by tectonic, climatic and biotic forces through time and modified by human activity during the last centuries. The coastal setting, nutrient-poor soils, regional climate and recent military use have influenced the evolution of the Fort Ord landscape and have combined to create a mosaic of unique natural communities that support a host of rare and uncommon plants and animals. Some of the Fort Ord habitat has been lost due to the development of urban areas, roads and firing ranges, but much of the 28,000 acre complex remains largely intact with considerable areas of high quality resources.

The Fort Ord Parklands Vision Statement proposal stratifies the undeveloped portions of the military base into three parkland classifications, Parks/Wildlife Preserve, Open Space, and Recreation. Each parkland classification is characterized by unique ecological features and commensurate management directives. The Main Garrison and East Garrison cantonment areas, the property north of Intergarrison Road, and Fritzsche Air Field have been excluded from the parklands protection proposal. Figure 3 maps the location and extent of the three parkland classifications proposed for protection.

Parks/Wildlife Preserve Land

The bulk of the Fort Ord interior wildlands and the entire Fort Ord coastline west of Highway 1 should be protected as parks and wildlife habitat preserves. The Parks/Wildlife Preserve area encompasses the significant large ensembles of rare species that occur in the Coastal Dune, Maritime Chaparral, Native Grassland, Coast Live Oak Woodland and Wetland natural communities. Zones of special management consideration include the Riparian and Sycamore Woodlands fringing the Salinas River and Toro Creek, and the known archeological sites near the Toro Park residential area.

The physical boundaries of the interior wildland Parks/Wildlife area are delimited by Intergarrison Road on the north, the border of the Fort Ord property on the east and southeast (excluding the East Garrison cantonment area), Laguna Seca on the south, Barloy Canyon Road on the west of the southern portion of the habitat preserve, Eucalyptus Road and the inland limit of the Main Garrison on the southwest and west. All areas west of Highway 1 are also included in the Parks/Wildlife Preserve designation. Roads serve to bound the habitat preserve near the 8,000 acre Impact Area, although the lands fringing the Impact Area are valuable greenbelt recreational land buffers.

The Parks/Wildlife Preserve area is designed to maintain defensible, healthy, functioning ecosystems that sustain concentrations of rare species and high quality examples of endangered habitats. These areas provide excellent examples of natural communities once characteristic of the Monterey region, but now largely fragmented or destroyed. Large, contiguous blocks of natural habitat ensure the long-term viability of the uncommon species, as well as the continued, uninterrupted ecological and physical processes inherently necessary for ecosystem maintenance. Large tracts of habitat provide numerous ecotone edges, are easier to control to minimize threats, implement restoration plans and develop strategies for long-term management. The Parks/Wildlife Preserve lands incorporates all the Plant Preserves, except

Area 1 near the southwestern corner of the Impact Zone. The Parks/Wildlife Preserve lands include:

- Unique Dune habitat west of Highway 1.
- Salinas River Riparian areas.
- Endangered vernal pond habitat, including Plant Preserves B and C.
- The "Bluffs" mixed grassland habitat, with Plant Preserves A, 8 and 9.
- The densest and most extensive patch of healthy live oak woodlands backing onto the edge of Parker Flats. These woodlands include the only known nesting Lazuli Buntings and Blue-gray Gnatcatchers on post, and form the northwestern corner of the known Greater Roadrunner range.
- Excellent examples of Maritime Chaparral and the Coastal Scrub interface, including Plant Preserve 3.
- Sandstone Ridge habitat, with Plant Preserves 4,5,6,7 and D.
- The primary small wetlands, including Mudhen Lake and surrounding habitats.
- Riparian willow thickets and Sycamore Woodlands along Toro Creek.
- Native Valley Needlegrass grasslands along the Highway 68 corridor.
- Known archeological sites and the area of high archeological sensitivity along Toro Creek.

Comprehensive biological inventories are recommended to document location and distribution data for all plant and animal species of concern.

Open Space Land

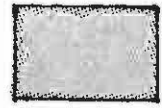
The 8000 acre Impact Area should be protected as ecologically valuable Open Space lands. The majority of the Impact Area is vegetated with the endemic Maritime Chaparral community, a habitat type harboring many of the unique and uncommon species found on the fort. The Impact Area is biologically significant in that although it is unsafe for human entry, natural ecological processes have continued and have been protected throughout the history of military training exercises. Despite the unnatural disturbance associated with the Impact Area, most species of plants and wildlife within its borders maintain natural life cycles in a relatively intact habitat.

Recreation Land

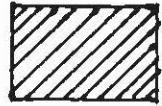
The buffer zone fringing the Impact Area should be maintained as Recreation lands. This greenbelt extends from the urban limits of Seaside and Del Rey Oaks and buffers the hazardous Impact Zone. It could provide a wide range of recreational opportunities to the local community. A network of recreational trails could be developed to parallel Highway 1 and the Highway 68 corridor linking roads and paths in the interior Park/Wildlife area with the Peninsula and Salinas communities. There are expansion potentials for the Monterey Peninsula Regional Park District Frog Pond Natural Area in Del Rey Oaks and access and parking facilities may be developable at the Canyon Del Rey entrance to North-South Road.

In summary, the Fort Ord Parklands Protection Goals target the bulk of the undeveloped habitat lands on the military complex and recommend that these valuable ecological treasures be preserved both for their inherent biological importance and their potential recreational value. The parklands could be managed by a consortium of public and private groups, with specific areas administered by key agencies.

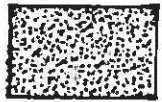
PRESERVATION CLASSIFICATIONS



Parks/Wildlife



Open Space



Recreation

FORT ORD UNDEVELOPED LANDS

TO BE PRESERVED

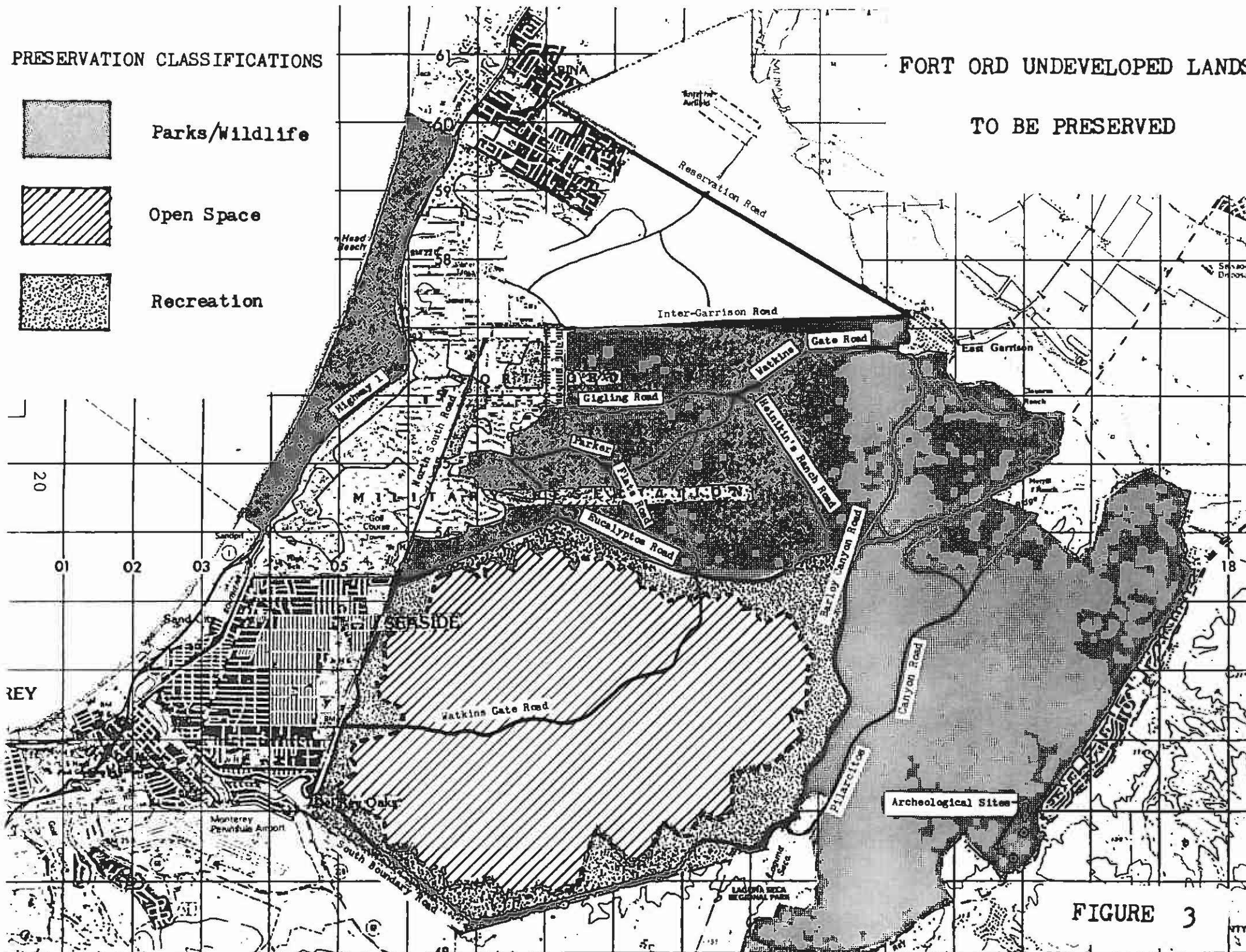


FIGURE 3

RECREATION

When Fort Ord closes, the primary economic base for the Monterey Peninsula will be tourism, a clean industry well established in this splendid region. Although the large number and variety of hotels and resorts available to visitors provides a great attraction, it is the outstanding natural beauty of the open space landscape that draws most people to the area. It is economically sound to provide recreational opportunities that enhance the visitor experience, fulfill the recreation needs of the local resident community, and maintain the ecological integrity of the natural landscape.

Eco-tourism is increasingly advocated as a sensitive way to enjoy the outdoors and derive inspiration from the environment. In the Monterey Peninsula region, with its great diversity of natural habitats, eco-tourism will be a long-term, sustainable economic protection which offers recreation that both respects and protects the environment, as well as helps people to understand and appreciate the value and fragility of the earth's natural resources.

Although habitat protection of large tracts of the Fort Ord backcountry and seashore is the priority issue outlined in the Fort Ord Parklands Vision Statement, there are large areas of the Fort's 28,000 acres where ecological habitat preservation can co-exist with recreational and educational activities. Recreational trails for hiking, horseback riding and bicycling, sites for passive recreation activities like picnicking, and even camping in limited areas and the Recreational Vehicle site near the East Garrison, are recreational land uses that can be managed to be compatible with habitat protection objectives.

Educational land uses could include an interpretive center near the Native American archeological sites and field testing areas for Search and Rescue dog training. An interesting concept to consider is the development of research centers with educational and historical value. For example, ecological restoration work, or archeological digs could be a focus at research facilities. An equestrian research center could be established similar to the successful Kentucky Horse Park near Lexington, Kentucky.

Within the wildlife preserve habitat areas, recreational lands, and special riparian and coastal management zones, a network of paved and unpaved roads and trails crisscrosses the Fort Ord property. Many of the unpaved roads and trails are serious erosion hazards and should be rehabilitated or eliminated, but careful planning could establish an excellent pattern of trailways and paths. A perimeter pathway for hiking, biking and equestrian use could be developed to bound the entire Fort Ord property. As an adjunct to hiking, biking and horseback trail use, some carefully located campsites could be provided with minimal facilities. Bird watching, photography, hang gliding, nature walks and ocean sports such as surfing and diving are other activities compatible with habitat preservation both in the coastal zone and in the inland wildlife areas of the property.

A variety of more active recreation opportunities already exist in the developed cantonment areas of the Fort Ord installation. The golf courses, swimming pool, gymnasium, craft shop complex and RV Park at East Garrison should be preserved for public use if not retained by the military. Commercial "fun zone" recreation should be avoided and left to the Boardwalk in Santa Cruz.

Just as some activities are suitable for eco-tourism in the Monterey Peninsula region, some others are not appropriate because of incompatible impacts on the natural environment. Destructive, consumptive recreation, such as hunting and off-highway-vehicles are not recommended for the Fort Ord wildlands. Some activities like unprotected ocean swimming are not recommended for safety reasons.

All recreational activities result in some visitor impact on the Monterey Peninsula and should be carefully evaluated for effects on natural resources, traffic, employment, housing, etc. The design and management of a wildlands preserve and recreational complex at Fort Ord is an appropriate focus for a truly regional government wherein all local communities would receive benefits from the wise use and stewardship of the many natural treasures found on Fort Ord.

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APPENDIX A

Vandevere, 1992

Fort Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
ABRONIA	LATIFOLIA	YELLOW SAND VERBENA
ABRONIA	UMBELLATA	PINK SAND VERBINA/BEACH SAND VERBENA
ACACIA	SP.	ACACIA
ACER	NEGUNDO VAR. CALIFORNICUM	CALIFORNIA BOX-ELDER
ACHILLEA	MILLEFOLIUM VAR. CALIFORNICA	(=A. BOREALIS SSP. C.) YARROW
ADEMOSTOMA	FASCICULATUM	CHAMISE
AESCULUS	CALIFORNICA	BUCKEYE
ALLIUM	HICKMANII	HICKMAN ONION
AMBROSIA	CHAMISSONIS	(=FRANSERIA C./P. C. SSP. BIPINNATISECTA) BEACH BUR
AMMOPHILA	ARENARIA	BEACH GRASS
AMSINCKIA	INTERMEDIA	COMMON FIDDLENECK
ANAGALLIS	ARVENSIS	SCARLET PIMPERNEL
ANAPHALIS	MARGARITACEAE	PEARLY EVERLASTING
APIASTRUM	ANGUSTIFOLIUM	WILD CELERY
ARABIS	GLABRA	TOWER MUSTARD
ARCTOSTAPHYLOS	HOOKERI	MONTEREY MANZANITA
ARCTOSTAPHYLOS	MONTEREYENSIS	TORO MANZANITA
ARCTOSTAPHYLOS	PUMILA	SANDMAT OR DUNE MANZANITA
ARCTOSTAPHYLOS	TOMENTOSA	(=TRICHOCLADA/HEBECLADA) SHAGGY-BARKED MANZANITA
ARCTOSTAPHYLOS	TOMENTOSA SSP. CRINITA	SHAGGY-BARKED MANZANITA
ARCTOSTAPHYLOS	TOMENTOSA SSP. CRUSTACEA	BRITTLELEAF MANZANITA
ARCTOSTAPHYLOS	TOMENTOSA ssp. TOMENTOSA	SHAGGY-BARKED MANZANITA
ARMERIA	MARITIMA SSP. CALIFORNICA	THRIFT
ARTEMISIA	CALIFORNICA	CALIFORNIA SAGEBRUSH
ARTEMISIA	DOUGLASIANA	MUGWORT
ARTEMISIA	PYCNOCEPHALA	BEACH SAGEWORT
ASTER	SUBSPICATUS	DOUGLAS' ASTER
ATHYSANUS	PUSILLUS	SANDWEED
AVENA	BARBATA	SLENDER OAT
BACCHARIS	GLUTINOSA	(=B. VININEA) WATER-WALLY/MULE FAT/SEEP-WILLOW
BACCHARIS	PILULARIS VAR. CONSANGUINEA	COYOTE BRUSH
BRASSICA	GENICULATA	SHORTPOD MUSTARD
BRASSICA	NIGRA	BLACK MUSTARD
BRIZA	MAXIMA	RATTLESNAKE GRASS
BRIZA	MINOR	LITTLE QUAKING GRASS
BRODIAEA	TERRESTRIS	(=B. CORONARIA VAR. MACROPODA) EARTH BRODIAEA
BROMUS	DIANDRUS	(=B. RIGIDUS) BRONCO GRASS/RIPGUT
BROMUS	HORDEACEUS	(=B. MOLLIS) SOFT CHESS
BROMUS	MOLLIS	SOFT CHESS
BROMUS	RIGIDUS	RIPGUT GRASS
BROMUS	RUBENS	RED BROME
CAKILE	MARITIMA	SEA ROCKET
CALANDRINIA	CILIATA	(=C.C. VAR. MENZIESII) RED MAIDS
CALLITRICHE	MARGINATA	CALIFORNIA WATER STARWORT
CALOCHORTUS	ALBUS	WHITE GLOBE LILY
CALOCHORTUS	LUTEUS	YELLOW MARIPOSA-LILY
CALOCHORTUS	UNIFLORUS	LARGE-FLOWERED STAR LILY
CALYSTEGIA	SOLDANELLA	BEACH MORNING-GLORY
CAMISSONIA	CHEIRANTHIFOLIA	BEACH PRIMROSE
CAMISSONIA	MICRANTHA	(=OENOTHERA M. V. M.) SMALL PRIMROSE
CAMISSONIA	OVATA	(=OENOTHERA O.) SUN-CUP

Fort Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
CARDAMINE	CALIFORNICA	(=DENTARIA C./D. INTEGRIFOLIA VAR. C.) TOOTHWORT/MILKMAIDS
CARDAMINE	OLIGOSPERMA	FEW-SEEDED BITTER CRESS
CARDIONEMA	RAMOSISSIMUM	SANDMAT
CARPOBROTUS	AEQUILATERUS	(=MESEMBRYANTHEMUM CHILENSIS) SEA FIG
CARPOBROTUS	EDULIS	(=MESEMBRYANTHEMUM E.) HOTTENTOT FIG
CASTILLEJA	LATIFOLIA	INDIAN PAINT BRUSH/SEASIDE PAINTED CUP
CEANOETHUS	DENTATUS	DWARF/CROPLEAF CEANOETHUS
CEANOETHUS	DENTATUS VAR. FLORIBUNDUS	CEANOETHUS
CEANOETHUS	INCANUS	COAST WHITETHORN
CEANOETHUS	RIGIDUS	MONTEREY CEANOETHUS
CEANOETHUS	THYRSIFLORUS	BLUE BLOSSOM/BLUE BRUSH
CENTAURIUM	DAVYI	DAVY'S CENTAURY
CHENOPODIUM	CALIFORNICUM	GOOSEFOOT/SOAP PLANT
CHLOROGALUM	POMERIDIANUM	SOAP ROOT/MOLE
CHORIZANTHE	CUSPIDATA	SPINE-FLOWER
CHORIZANTHE	CUSPIDATA VAR. MARGINATA	SAN FRANCISCO SPINE-FLOWER
CHORIZANTHE	DOUGLASSII	DOUGLAS SPINE-FLOWER
CHORIZANTHE	PUNGENS	MONTEREY SPINE-FLOWER
CIRSIIUM	OCCIDENTALE	COBWEB THISTLE
CIRSIIUM	PROTEANUM	(=C. COULTERI) RED OR VENUS THISTLE
CIRSIIUM	QUERCETORUM	BROWNIE THISTLE
CIRSIIUM	VULGARE	BULL THISTLE
CLARKIA	LEWISII	CLARKIA/FAREWELL-TO-SPRING
CLAYTONIA	PERFOLIATA	(=MONTIA P./ C. P. VAR. NUBIGENA) MINERS LETTUCE
COLLINSIA	HETEROPHYLLA	CHINESE HOUSES
CONIUM	MACULATUM	POISON HEMLOCK
CONYZA	CANADENSIS	(=ERIGERON C.) HORSEWEED
CORDYLANTHUS	LITTORALIS	(=C. RIGIDUS SSP. L.) MULE WEED, SEASIDE BIRD'S-BEAR
CORETHROGYNE	CALIFORNICA	BEACH ASTER
CORETHROGYNE	FILAGINIFOLIA	CORETHROGYNE
CORETHROGYNE	FILAGINIFOLIA VAR. VISCIDULA	CORETHROGYNE
CORETHROGYNE	LEUCOPHYLLA	BRANCHING BEACH ASTER
CORTADERIA	ATACAMENSIS	PAMPAS-GRASS
COTULA	CORONOPIFOLIA	BRASS BUTTONS
CRASSULA	ERECTA	(=TILLAEA E.) SAND PIGMYWEED
CROTON	CALIFORNICUS	SAND SPURGE
CRYPTANTHA	MICROHERES	MINUTE-FLOWERED CRYPTANTHA
CUPRESSUS	MACROCARPA	MONTEREY CYPRESS
CYNOGLOSSUM	GRANDE	HOUND'S TONGUE
CYTISUS	MONSPESSULANUS	FRENCH BROOM
DAUCUS	PUSILLUS	RATTLESNAKE WEED
DELPHINIUM	PATENS	COAST LARKSPUR
DICHELOSTEMMA	PULCHELLUM	BLUE DICKS
DICHONDRA	DONNELLIANA	(=D. REPENS) CALIFORNIA DICHONDRA
DRYOPTERIS	ARGUTA	WOOD FERN
DUDLEYA	CAESPITOSA	SEA LETTUCE
ELYMUS	CONDENSATUS	GIANT RYEGRASS
ELYMUS	MOLLIS	DUNE RYEGRASS
ERECHTITES	ARGUTA	CUT-LEAVED COAST FIREWEED
ERIASTRUM	VIRGATUM	MONTEREY GILIA
ERICAMERIA	ERICOIDES	(=HAPLOPAPPUS E. & SSP. BLAKEI) MOCK HEATHER

Port Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
ERICAMERIA	PASCICULATA	(=HAPLOPAPPUS EASTWOODAE) EASTWOOD'S ERICAMERIA
ERIODICTYON	CALIFORNICUM	YERBA SANTA
ERIOGONUM	LATIFOLIUM	BEACH BUCKWHEAT
ERIOGONUM	NUDUM	(=E. LATIFOLIUM SSP. N.) NAKED ERIOGONUM/TIBINAGUA
ERIOGONUM	PARVIFOLIUM	(=E. P. SSP. LUCIDUM) DUNE BUCKWHEAT
ERIOPHYLLUM	CONFERTIFLORUM	(=E. C. VAR. LAXIFLORUM) GOLDEN YARROW
ERIOPHYLLUM	STAECHADIFOLIUM	(=E. S. VAR. ARTEMISIIFOLIUM) LIZARD TAIL/GOLDEN YARROW
ERODIUM	BOTRYS	LONG-BEAKED FILAREE
ERODIUM	CICUTARIUM	RED-STEMMED FILAREE
ERODIUM	MOSCHATUM	WHITE-STEMMED FILAREE
ERYSIMUM	AMMOPHILUM	DUNE WALLFLOWER
ESCHSCHOLZIA	CALIFORNICA	CALIFORNIA POPPY
ESCHSCHOLZIA	CALIFORNICA VAR. MARITIMA	CALIFORNIA/BEACH POPPY
FILAGO	CALIFORNICA	CALIFORNIA FILAGO
FILAGO	GALLICA	(=LOGFIA G.) NARROW-LEAVED FILAGO
FRAGARIA	VESCA SSP. CALIFORNICA	(=F. C.) CALIFORNIA STRAWBERRY
FRITILLARIA	LANCEOLATA	CHECKER LILY
GALIUM	APARINE	GOOSE GRASS
GALIUM	CALIFORNICUM	CALIFORNIA BEDSTRAW
GALIUM	PORRIGENS	(=G. NUTTALLII VAR. OVALIFOLIUM) CLIMBING BEDSTRAW
GARRYA	ELLIPTICA	COAST SILK-TASSEL
GERANIUM	DISSECTUM	CUT-LEAVED GERANIUM
GILIA	TENUIFLORA SSP. ARENARIA	SLENDER FLOWERED GILIA
GNAPHALIUM	CALIFORNICUM	CALIFORNIA EVERLASTING
GNAPHALIUM	CHILENSE	COTTON-BATTING PLANT
GNAPHALIUM	LUTEO-ALBUM	WEEDY CUDWEED
GNAPHALIUM	PURPUREUM	PURPLE CUDWEED
GNAPHALIUM	RAMOSISSIMUM	PINK EVERLASTING
GRINDELIA	LATIFOLIA	COAST GUM PLANT
HELIANTHEMUM	SCOPARIUM	(=H. S. VAR. VULGARE) RUSH ROSE
HEMIZONIA	CORYMBOSA	COAST TARWEED
HERREA	ELONGATA	(=MESEMBRYANTHEMUM E.) HOTTENTOT FIG
HETEROMELES	ARBUTIFOLIA	(=PHOTINIA A.) TOYON/CHRISTMAS BERRY
HETEROTHECA	GRANDIFLORA	TELEGRAPH WEED
HORDEUM	LEPORINUM	BARNYARD FOXTAIL
HORKELIA	CUNEATA	WEDGE-LEAF HORKELIA
HYPOCHOERIS	GLABRA	SMOOTH CAT'S EARS
HYPOCHOERIS	RADICATA	HAIRY CAT'S EARS
IRIS	DOUGLASIANA	DOUGLAS'/MOUNTAIN IRIS
LASTARRIAEA	CORIACEA	(=CHORIZANTHE C.) SPINE-FLOWER
LASTHENIA	CALIFORNICA	(=L. CHRYSOSTOMA/BAERIA C. SSP. GRACILIS & HIRSUTULA)
LASTHENIA	GLABERRIMA	SMOOTH LASTHENIA
LASTHENIA	GLABRATA	GOLDFIELDS, YELLOW-RAYED LASTHENIA
LATHYRUS	LITTORALIS	BEACH PEA
LAVATERA	ASSURGENTIFLORA	CALIFORNIA TREE-MALLOW/MALVA ROSA
LAYIA	HIERACIODES	TALL LAYIA
LAYIA	PLATYGLOSSA	TIDY TIPS
LEPECHINIA	CALYCINA	PITCHER SAGE
LEPIDIUM	NITIDUM	COMMON PEPPERGRASS
LESSINGIA	GLANDULIFERA VAR. PECTINATA	LESSINGIA
LILAEA	SCILLOIDES	FLOWERING QUILLWORT

Fort Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
LINANTHUS	ANDROSACEUS	COMMON LINANTHUS
LINANTHUS	BICOLOR	BICOLORED LINANTHUS
LINANTHUS	GRANDIFLORUS	LINANTHUS
LINARIA	CANADENSIS	TOAD-FLAX
LITHOPHRAGMA	AFFINE	WOODLAND STAR
LOBULARIA	MARITIMA	SWEET ALYSSUM
LOLIUM	MULTIFLORUM	(=L.H. VAR. MUTICUM/VAR. RAMOSUM) ITALIAN RYEGRASS
LOMATIUM	PARVIFOLIUM	(=L. P. VAR. PALLIDUM) SMALL-LEAVED LOMATIUM
LOMATIUM	UTRICULATUM	BLADDER PARSNIP
LOTUS	HEERMANNII	HEERMANN'S LOTUS
LOTUS	HUMISTRATUS	HILL LOTUS
LOTUS	MICRANTHUS	SMALL-FLOWERED LOTUS
LOTUS	SCOPARIUS	DEERWEED
LOTUS	SCOPARIUS FORMA PROSTRATUS	LOTUS
LOTUS	STRIGOSUS	BISHOP LOTUS
LOTUS	SUBPINNATUS	CALIFORNIA LOTUS
LUPINUS	ALBIFRONS	SILVER LUPINE
LUPINUS	ARBOREUS	YELLOW BUSH/TREE LUPINE
LUPINUS	CHAMISSONIS	BLUE BUSH LUPINE
LUPINUS	NANUS	ANNUAL LUPINE/PIGMY LUPINE
LUPINUS	TRUNCATUS	WOOD LUPINE
LYTHRUM	HYSSOPIFOLIA	WALLOW POLY
MALVA	PARVIFLORA	CHEESEWEED
MARAH	FABACEUS	MANROOT/WILD CUCUMBER
MARRUBIUM	VULGARE	COMMON HOREHOUND
MICROSERIS	DOUGLASII	SILVER PUFFS
MICROSERIS	PALUDOSA	(=SCORZONELLA P.) MARSH SCORZONELLA
MIMULUS	AURANTIACUS	(=DIPLACUS A.) STICKY MONKEY FLOWER
MINUARTIA	DOUGLASII	(=MINUARTIA D.) DOUGLAS SANDWORT
MINUARTIA	PUSILLA	SANDWORT
MONARDELLA	UNDULATA	CURLY-LEAVED MONARDELLA
NAVARRETIA	ATRACTYLOIDES	HOLLY-LEAVED NAVARRETIA
NAVARRETIA	INTERTEXTA	NAVARRETIA
NAVARRETIA	MITRACARPA	PURPLE NAVARRETIA
NEMOPHILA	MENZIESII	BABY BLUE-EYES
OROBANCHE	BULBOSA	CHAPARRAL BROOMRAPE
ORTHOCARPUS	ATTENUATUS	NARROW-LEAVED ORTHOCARPUS
ORTHOCARPUS	DENSIFLORUS	OWLS CLOVER
ORTHOCARPUS	PURPURASCENS	ESCOBITA
ORTHOCARPUS	PURPURASCENS VAR. PALLIDUS	PAINT BRUSH
ORTHOCARPUS	PUSILLUS	DWARF ORTHOCARPUS
PAPAVER	CALIFORNICUM	WESTERN POPPY
PEDICULARIS	DENSIFLORA	INDIAN WARRIOR
PETUNIA	PARVIFLORA	WILD PETUNIA
PHACELIA	BRACHYLOBA	SHORT-LOBED PHACELIA
PHACELIA	DOUGLASII	DOUGLAS PHACELIA
PHACELIA	MALVIFOLIA	(=P. M. VAR. LOASIFOLIA) STINGING PHACELIA
PHOLISTOMA	AURITUM	FIESTA FLOWER
PINUS	RADIATA	MONTEREY PINE
PIPERIA	ELONGATA SSP. MICHAELII	(P. MICHAELII) PIPERIA
PITYROGRAMMA	TRIANGULARIS	GOLDBACK FERN

Fort Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
PLANTAGO	CORONOPUS	CUT-LEAVED PLANTAIN
PLANTAGO	ERECTA	(=P. E. SSP. RIGIDIOR) ERECT PLANTAIN
PLANTAGO	MAJOR	BROAD-LEAVED PLANTAIN
PLATANUS	RACEMOSA	WESTERN SYCAMORE
PLATYSTEMON	CALIFORNICUS	CREAM CUPS
POA	DOUGLASII	DOUGLAS' BLUE GRASS
POGOGYNE	DOUGLASII	MINT
POLYGALA	CALIFORNICA	CALIFORNIA MILKWORT
POLYGONUM	AMPHIBIUM	(=P. COCCINEUM) SWAMP KNOTWEED
POPULUS	BALSAMIFERA SSP. TRICHOCARPA	(=P. T.) BLACK COTTONWOOD
POTENTILLA	GLANDULOSA	STICKY CINQUEFOIL
POTENTILLA	RIVALIS VAR. MILLEGRANA	(=P. M.) DIFFUSE CINQUEFOIL
PSILOCARPHUS	TENELLUS	SLENDER WOOLLY-HEADS
PTERIDIUM	AQUILINUM VAR. PUBESCENS	BRACKEN FERN
QUERCUS	AGRIFOLIA	COAST LIVE OAK
RANUNCULUS	AQUATILIS VAR. CAPILLACEUS	WATER BUTTERCUP
RANUNCULUS	CALIFORNICUS	CALIFORNIA BUTTERCUP
RANUNCULUS	HEBECARPUS	DOWNY BUTTERCUP
RAPHANUS	SATIVUS	WILD RADISH
RHAMNUS	CALIFORNICA	COFFEEBERRY
RHAMNUS	CALIFORNICA SSP. TOMENTELLA	CALIFORNIA COFFEEBERRY
RIBES	MALVACEUM	CHAPARRAL/CALIFORNIA BLACK CURRANT
RIBES	SPECIOSUM	FUCHSIA-FLOWERED GOOSEBERRY
ROSA	CALIFORNICA	CALIFORNIA WILD ROSE
RUBUS	URSINUS	(=R. VITIFOLIUS) PACIFIC BLACKBERRY
RUMEX	ACETOSELLA	SHEEP SORREL
RUMEX	CRISPUS	CURLY DOCK
SALIX	LASTOLEPIS	ARROYO WILLOW
SALVIA	COLUMBARIAE	CHIA
SALVIA	MELLIFERA	BLACK SAGE
SAMBUCUS	MEXICANA	BLUE ELDERBERRY
SANGUISORBA	MINOR	BURNET
SANICULA	ARCTOPOIDES	FOOTSTEPS-OF-SPRING
SANICULA	CRASSICAULIS	GAMBLEWEED
SANICULA	LACINIATA	COAST SANICLE
SATUREJA	DOUGLASII	(=S. CHAMISSONIS) YERBA BUENA
SAXIFRAGA	CALIFORNICA	CALIFORNIA SAXIFRAGE
SCROPHULARIA	CALIFORNICA	BEE PLANT/PIGWORT
SCUTELLARIA	TUBEROSA	DANNIE'S SKULL CAP
SENECIO	ARONICOIDES	CALIFORNIA BUTTERWEED
SENECIO	VULGARIS	COMMON GROUNDSEL
SIDALCEA	MALVIFLORA	CHECKER BLOOM
SILENE	GALLICA	WINDMILL PINK/CATCH-FLY
SILYBUM	MARIANUM	MILK THISTLE
SISYRINCHIUM	BELLUM	BLUE-EYED GRASS
SOLANUM	UMBELLIFERUM	BLUE WITCH
SONCHUS	ASPER	PRICKLY SOW THISTLE
SONCHUS	OLERACEUS	COMMON SOW THISTLE
SPERGULA	ARVENSIS	CORN SPURRY
STACHYS	AJUGOIDES	BUGLE HEDGE NETTLE
STACHYS	BULLATA	HEDGE-NETTLE

Fort Ord CNPS Master Plant List

GENERA	SPECIES	COMMON NAMES
STELLARIA	MEDIA	CHICKWEED
STELLARIA	NITENS	SHINING CHICKWEED
STIPA	PULCHRA	PURPLE NEEDLEGRASS
STYLOCLINE	GNAPHALIOIDES	WOOLLY STYLOCLINE
SYMPHORICARPOS	MOLLIS	SNWBERRY
TETRAGONIA	TETRAGONIOIDES	(=T. EXPANSA) NEW ZEALAND SPINACH
TOXICODENDRON	DIVERSILOBUM	(=RHUS D.) POISON OAK
TRAGOPOGON	PORRIFOLIUS	SALSIFY, OYSTER PLANT
TRIFOLIUM	FRATENSE	RED CLOVER
TRITELEIA	HYACINTHINA	(=BRODIAEA N.) WHITE BRODIAEA
TRITELEIA	IXIODES	(=BRODIAEA LUTEA) GOLDEN BRODIAEA
TYPHA	LATIFOLA	BROAD-LEAVED CAT-TAIL/SOFT FLAG
VACCINIUM	OVATUM	HUCKLEBERRY
VERBENA	LASIOSTACHYS	CALIFORNIA VERVAIN
VIOLA	ADUNCA	WESTERN DOG OR BLUE VIOLET
VIOLA	PEDUNCULATA	JOHNNY JUMP-UP
WYETHIA	ANGUSTIFOLIA	NARROW LEAVED MULE-EARS
ZYGADENUS	FREMONTII	STAR LILY/ZYGADENE

APPENDIX B: VERTEBRATE LISTS

Lists of vertebrate species recorded on Ft. Ord property and, for adjacent Monterey Bay, species observed within a mile of shore. In addition, a wide range of fish occur in the adjacent ocean and within the Salinas River and tributaries, and certain game fish have been stocked in Ft. Ord ponds.

MAMMALS: 46 species, edited from compilations by Directorate of Engineering & Housing (1976), Jones & Stokes Associates (1977); and A. Baldrige, pers. comm.

Common Opossum *Didelphis marsupialis* (Non-native species)

Shrews *Sorex (pacificus and ornatus?)*

Coast Mole *Scapanus (orarius?)*

California Myotis *Myotis (californicus?)*

Big Brown Bat *Eptesicus fuscus*

Black-tailed Jackrabbit *Lepus californicus*

Audubon Cottontail *Sylvilagus auduboni*

Brush Rabbit *Sylvilagus bachmani*

California Ground Squirrel *Utaespermaopnius beecheyi*

Merriam Chipmunk *Eutamias merriami*

Western Gray Squirrel *Sciurus griseus*

Valley Pocket-Gopher *Thomomys bottae*

California Pocket-Mouse *Perognathus californicus*

Santa Cruz Kangaroo-Rat *Dipodomys venustus*

Beaver *Castor canadensis*

Western Harvest-Mouse *Reithrodontomys megalotis*

Dusky-footed woodrat *Neotoma fuscipes*

California Vole *Microtus californicus*

California Mouse *Peromyscus californicus*

House Mouse *Mus musculus* (Non-native species)

Red Fox *Vulpes vulva* (Non-native species)

Gray Fox *Urocyon cinereoargenteus*

Coyote *Canis latrans*

Raccoon *Procyon lotor*

Ring-tailed Cat *Bassariscus astutus*

American Badger *Taxidea taxus*

Long-tailed Weasel *Nyctelia trenata*

Spotted Skunk *Spilogale putorius*

Striped Skunk *Mephitis mephitis*

Mountain Lion *Felis concolor*

Bobcat *Lynx rufus*

Southern Sea Otter *Enhydra lutrus*

Steller's Sea-Lion *Eumatopias jubata*

California Sea-Lion *Zalophus californianus*

Elephant Seal *Mirounga angustirostris*

Harbor Seal *Phoca vitulina*

Harbor Porpoise *Phocoena phocoena*

Pacific White-sided Dolphin *Lagenorhynchus obliquidens*

Bottlenose Dolphin *Tursiops truncatus*

Orca *Orcinus orca*

Gray Whale *Eschrichtius gibbus*

Minke Whale *Balaenoptera acutorostrata*

Humpback Whale *Procyon lotor*

European Wild Pig *Sus scrofa* (Non-native species)

Black-tailed Deer *Odocoileus hemionus*

REPTILES and AMPHIBIANS: 24 species which are known or likely occur based on habitat, edited from surveys by the Directorate of Engineering & Housing (1976); Jones & Stokes Associates (1977); and S. Ruth, pers. comm.

California Tiger Salamander *Ambystoma ligurinum*
California Newt *Taricha torosa*
California Slender Salamander *Batrachoseps attenuatus*
Arboreal Salamander *Aneides lugubris*
Western Toad *Rufo boreas*
Pacific Tree-Frog *Hyla regilla*
Red-legged Frog *Rana aurora*
Foothill Yellow-legged Frog *Rana boylei*
Bullfrog *Rana catesbeiana* (Non-native species)
Western Fence Lizard *Sceloporus occidentalis*
Coast Horned Lizard *Phrynosoma coronatum*
Western Skink *Eumeces skiltonianus*
Southern Alligator Lizard *Gerrhonotus multicarinatus*
Black Legless Lizard *Anniella pulchra nigra*
Pacific Rubber Boa *Charina bottae*
Common Racer *Coluber constrictor*
Alameda Striped Racer *Masticophis lateralis eurvxanthus*
San Joaquin Whipsnake *Masticophis flagellum ruddocki*
Gopher Snake *Pituophis melanoleucus*
Common Kingsnake *Lampropeltis getulus*
Common Garter Snake *Thamnophis sirtalis*
Western Terrestrial Garter Snake *Thamnophis elegans*
Western Rattlesnake *Crotalus viridis*
Western Pond Turtle *Stemmys marmorata*

BIRDS: 209 species, compiled from surveys conducted by the Monterey Peninsula Audubon Society during their Breeding Bird Atlas and Christmas Count projects; with additions gleaned from lists compiled by the Directorate of Engineering & Housing, Ft. Ord (1976) and Jones & Stokes Associates (1977) and edited by D. Roberson, pers. comm.

Red-throated Loon *Gavia stellata*
Pacific Loon *Gavia pacifica*
Common Loon *Gavia immer*
Pied-billed Grebe *Podilymbus podiceps*
Horned Grebe *Podiceps auritus*
Red-necked Grebe *Podiceps grisegena*
Eared Grebe *Podiceps nigricollis*
western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarikii*
Northern Fulmar *Fulmarus glacialis*
Pink-footed Shearwater *Puffinus creatopus*
Buller's Shearwater *Puffinus bulleri*
Sooty Shearwater *Puffinus griseus*
Short-tailed Shearwater *Puffinus tenuirostris*
Black-vented Shearwater *Puffinus opisthomelas*
American White Pelican *Pelecanus erythrorhynchos*
Brown Pelican *Pelecanus occidentalis*
Double-crested Cormorant *Phalacrocorax auritus*
Brandt's Cormorant *Phalacrocorax penicillatus*
Pelagic Cormorant *Phalacrocorax pelagicus*
Magnificent Frigatebird *Fregata magnificens*
Great Blue Heron *Ardea herodias*
Great Egret *Casmerodius albus*
Snowy Egret *Egretta thula*
Green-backed Heron *Butorides striatus*
Black-crowned Night-Heron *Nycticorax nycticorax*
Snow Goose *Anser caerulescens*
Ross' Goose *Anser rossii*
Brant *Branta bernicla*
Canada Goose *Branta canadensis*
Wood Duck *Aix sponsa*
Green-winged Teal *Anas crecca*
Mallard *Anas platyrhynchos*
Northern Pintail *Anas acuta*
Cinnamon Teal *Anas cyanoptera*
Gadwall *Anas strepera*
American Wigeon *Anas americana*
Canvasback *Aythya valisineria*
Lesser Scaup *Aythya affinis*
Oldsquaw *Clangula hyemalis*
Black Scoter *Melanitta nigra*
Surf Scoter *Melanitta perspicillata*
White-winged Scoter *Melanitta fusca*
Common Goldeneye *Bucephala clangula*
Bufflehead *Bucephala albeola*
Red-breasted Merganser *Mergus merganser*
Ruddy Duck *Oxyura jamaicensis*

Turkey Vulture *Cathartes aura*
 Osprey *Pandion haliaetus*
 Black-shouldered Kite *Eiurus caeruleus*
 Bald Eagle *Haliaeetus leucocephalus*
 Northern Harrier *Circus cyaneus*
 Sharp-shinned Hawk *Accipiter striatus*
 Cooper's Hawk *Accipiter cooperii*
 Red-shouldered Hawk *Buteo lineatus*
 Red-tailed Hawk *Buteo jamaicensis*
 Ferruginous Hawk *Buteo regalis*
 Golden Eagle *Aquila chrysaetos*
 American Kestrel *Falco sparverius*
 Merlin *Falco columbarius*
 Peregrine Falcon *Falco peregrinus*
 Wild Turkey *Meleagris gallopavo* (Non-native species)
 California Quail *Callipepla californica*
 Virginia Rail *Rallus limicola*
 Sora *Perzana carolina*
 American Coot *Fulica americana*
 Black-bellied Plover *Pluvialis squatarola*
 Snowy Plover *Charadrius alexandrinus*
 Killdeer *Charadrius vociferus*
 Black-necked Stilt *Himantopus mexicanus*
 American Avocet *Recurvirostra americana*
 Greater Yellowlegs *Tringa melanoleuca*
 Willet *Catoptrophorus semipalmatus*
 Wandering Tattler *Heterosceus incanus*
 Spotted Sandpiper *Actitis macularia*
 Whimbrel *Numenius borealis*
 Long-billed Curlew *Numenius americanus*
 Marbled Godwit *Limosa fedoa*
 Ruddy Turnstone *Arenaria interpres*
 Black Turnstone *Arenaria melanocephalus*
 Sanderling *Calidris alba*
 Western Sandpiper *Calidris mauri*
 Least Sandpiper *Calidris minutilla*
 Dunlin *Calidris alpina*
 Short-billed Dowitcher *Limnodromus griseus*
 Long-billed Dowitcher *Limnodromus scolopaceus*
 Common Snipe *Gallinago gallinago*
 Red-necked Phalarope *Phalaropus lobatus*
 Red Phalarope *Phalaropus fulicaria*
 Parasitic Jaeger *Stercorarius parasiticus*
 Bonaparte's Gull *Larus philadelphia*
 Heermann's Gull *Larus heermanni*
 Mew Gull *Larus canus*
 Ring-billed Gull *Larus delawarensis*
 California Gull *Larus californicus*
 Herring Gull *Larus argentatus*
 Thayer's Gull *Larus thayeri*
 Western Gull *Larus occidentalis*
 Glaucous-winged Gull *Larus glaucescens*
 Caspian Tern *Sterna caspia*
 Elegant Tern *Sterna elegans*

Common Tern *Sterna hirundo*
 Forster's Tern *Sterna forsteri*
 Common Murre *Uria aalga*
 Thick-billed Murre *Uria lomvia*
 Pigeon Guillemot *Cephus columba*
 Marbled Murrelet *Brachyramphus marmoratus*
 Cassin's Auklet *Ptychoramphus aleuticus*
 Rhinoceros Auklet *Cerorhinca monocerata*
 Rock Dove *Columba livia* (Non-native species)
 Band-tailed Pigeon *Columba fasciata*
 Mourning Dove *Zenaidura macroura*
 Greater Roadrunner *Geococcyx californianus*
 Barn Owl *Tyto alba*
 Western Screech-Owl *Otus kennicottii*
 Great Horned Owl *Bubo virginianus*
 Northern Pygmy-Owl *Glaucidium gnoma*
 Burrowing Owl *Athene cunicularia*
 Northern Saw-whet Owl *Aegolius acadicus*
 Common Poorwill *Phalaenoptilus nuttallii*
 White-throated Swift *Aeronautes saxatalis*
 Anna's Hummingbird *Calypte anna*
 Allen's Hummingbird *Selasphorus sasin*
 Belted Kingfisher *Ceryle alcyon*
 Acorn Woodpecker *Melanerpes formicivorus*
 Nuttall's Woodpecker *Picoides nuttallii*
 Downy Woodpecker *Picoides pubescens*
 Hairy Woodpecker *Picoides villosus*
 Northern Flicker *Colaptes auratus*
 Olive-sided Flycatcher *Contopus borealis*
 Western Wood-Pewee *Contopus sordidulus*
 Pacific-slope Flycatcher *Empidonax difficilis*
 Black Phoebe *Sayornis nigricans*
 Say's Phoebe *Sayornis saya*
 Ash-throated Flycatcher *Myiarchus cinerascens*
 western Kingbird *Tyrannus verticalis*
 Horned Lark *Eremophila alpestris*
 Tree Swallow *Tachycineta bicolor*
 Violet-green Swallow *Tachycineta thalassina*
 N. Rough-winged Swallow *Tachycineta serripennis*
 Cliff Swallow *Hirundo pyrnonota*
 Barn Swallow *Hirundo rustica*
 Steller's Jay *Cyanocitta stelleri*
 Scrub Jay *Apelocoma coerulescens*
 American Crow *Corvus brachyrhynchos*
 Chestnut-backed Chickadee *Parus rufescens*
 Plain Titmouse *Parus inornatus*
 Bushtit *Psaltriparus minimus*
 White-breasted Nuthatch *Sitta carolinensis*
 Brown Creeper *Certhia americana*
 Bewick's Wren *Thryomanes bewickii*
 House Wren *Troglodytes aedon*
 Winter Wren *Troglodytes troglodytes*
 Marsh Wren *Cistothorus palustris*
 Golden-crowned Kinglet *Regulus satrapa*

Ruby-crowned Kinglet *Regulus calendula*
 Blue-gray Gnatcatcher *Poliophtila caerulea*
 Western Bluebird *Sialia mexicana*
 Swainson's Thrush *Catharus ustulatus*
 Hermit Thrush *Catharus guttatus*
 American Robin *Turdus migratorius*
 Wren-tit *Chamaea fasciata*
 Northern Mockingbird *Mimus polyglottos*
 Brown Thrasher *Toxostoma rufum*
 California Thrasher *Toxostoma redivivum*
 American Pipit *Anthus rubescens*
 Cedar Waxwing *Bombycilla cedrorum*
 Loggerhead Shrike *Lanius ludovicianus*
 Eurasian Starling *Sternus vulgaris* (Non-native species)
 Mutton's Vireo *Vireo nuttoni*
 Warbling Vireo *Vireo gilvus*
 Orange-crowned Warbler *Vermivora celata*
 Yellow Warbler *Dendroica petechia*
 Yellow-rumped Warbler *Dendroica coronata*
 Black-throated Gray Warbler *Dendroica nigrescens*
 Townsend's Warbler *Dendroica townsendi*
 Black-and-white Warbler *Mniotilta varia*
 MacGillivray's Warbler *Opornis tolmiei*
 Common Yellowthroat *Geothlypis trichas*
 Wilson's Warbler *Wilsonia pusilla*
 Western Tanager *Piranga ludoviciana*
 Black-headed Grosbeak *Pheucticus melanocephalus*
 Lazuli Bunting *Passerina amoena*
 Rufous-sided Towhee *Pipilo erythrophthalmus*
 California Towhee *Pipilo fuscus*
 Chipping Sparrow *Spizella passerina*
 Lark Sparrow *Chondestes grammacus*
 Savannah Sparrow *Passerculus sandwichensis*
 Fox Sparrow *Passerella iliaca*
 Song Sparrow *Melospiza melodia*
 Lincoln's Sparrow *Melospiza lincolni*
 White-throated Sparrow *Melospiza albicollis*
 Golden-crowned Sparrow *Zonotrichia atricapilla*
 White-crowned Sparrow *Zonotrichia leucophrys*
 Dark-eyed Junco *Junco hyemalis*
 Red-winged Blackbird *Agelaius phoeniceus*
 Tricolored Blackbird *Agelaius tricolor*
 Western Meadowlark *Sturnella neglecta*
 Brewer's Blackbird *Euphagus cyanocephalus*
 Brown-headed Cowbird *Molothrus ater*
 Hooded Oriole *Icterus cucullatus*
 Northern Oriole *Icterus galbula*
 Purple Finch *Carpodacus purpureus*
 House Finch *Carpodacus mexicanus*
 Pine Siskin *Carduelis pinus*
 Lesser Goldfinch *Carduelis psaltria*
 Lawrence's Goldfinch *Carduelis lawrencei*
 American Goldfinch *Carduelis tristis*
 House Sparrow *Passer domesticus* (Non-native species)