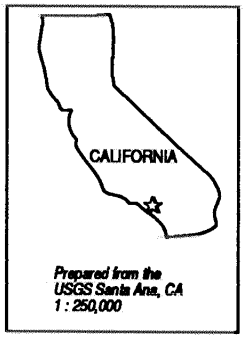
Camp Pendleton Marine Corps Base

Camp Pendleton, California
Region 9
CA2170023533

Site Exposure Potential

The Camp Pendleton Marine Corps Base is a 51,000-hectare site in San Diego County, with San Clemente to the north, Oceanside to the south, and Fallbrook to the east (Figure 1). The base is a training base and logistics support facility in operation since 1941.

Support activities and waste handling practices have generated hazardous wastes including pesticides, petroleum products, PCB-contaminated oils, and solvents. Over 140,000 liters of these wastes have been disposed of on the site (EPA 1988). Past practices have included direct discharge of excess pesticides to surface water and use of PCB-contaminated oils for dust control. Sites of concern include burn areas, disposal pits, salvage yards, drainage ditches, and two landfills. The majority of these sites are located within the Santa Margarita River basin.



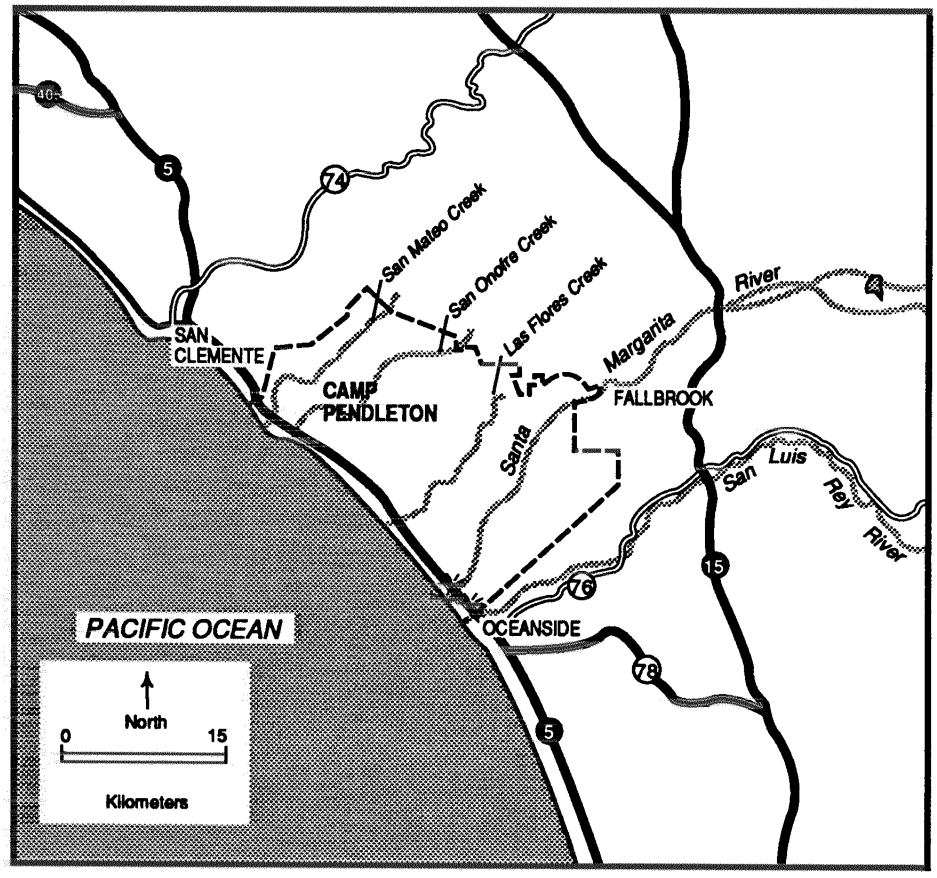


Figure 1.
The U.S. Marine Corps Base, Camp Pendleton, California.

Camp Pendleton Marine Corps Base

Site Exposure Potential, *cont.*

The four main drainage basins at Camp Pendleton, formed by the Santa Margarita River, Las Flores Creek, San Onofre Creek, and San Mateo Creek, empty into coastal wetlands within Camp Pendleton boundaries. In addition, there are two wetland habitats that are protected by state and county agencies. These habitats (vernal pools and coastal marshes) support several threatened or endangered plant, bird, and mammal species.

Drainage basins within Camp Pendleton are characterized by water-bearing alluvial deposits. Soil is highly permeable and groundwater is shallow, averaging 2 to 4 m below the surface (Jacobs 1990). Groundwater movement has only been identified for the Santa Margarita basin and is generally to the southwest.

Potential pathways of contaminant transport at the Camp Pendleton site are direct discharge of contaminated groundwater to surface drainages, surface runoff, or subsurface migration.

Site-Related Contamination

Limited information is available for evaluation of levels of contamination present at the Camp Pendleton site. Available data indicate that groundwater and surface water may be contaminated in the Santa Margarita River Basin (SCS Engineers 1984). The herbicide Silvex was measured in surface water at concentrations of 13 µg/l and in groundwater at concentrations of 73 µg/l near the pest control facility drainage ditch leading to the Santa Margarita River. Other pesticides have been detected in surface water from this river, including 2,4-D (98 µg/l), 2,4,5-TP (51 µg/l), and methoxychlor (6 µg/l). Methoxychlor, the only one of these pesticides with an ambient water quality criteria value, exceeds its freshwater chronic AWQC of 0.03 µg/l. Mercury has also been measured at 2.6 µg/l in surface water and 49 µg/l in groundwater, exceeding its freshwater chronic AWQC of 0.012 µg/l (EPA 1986).

NOAA Trust Habitats and Species

Camp Pendleton contains 27 km of undeveloped shoreline along the Pacific Ocean, including three saltwater marshes at the outlets of San Mateo and Las Flores creeks and the Santa Margarita River. A variety of marine species use the offshore habitats, including marine mammals that migrate through the area (Table 1; Buck personal communication 1990; Mitsos personal communication 1990; USFWS 1990).

Camp Pendleton Marine Corps Base

NOAA Trust Habitats and Species, *cont.*

The mouth of the Santa Margarita River forms a lagoon that is sometimes silted over and blocked from saltwater influence. The U.S. Fish and Wildlife Service, the Marine Corps, and the California Department of Fish and Game plan to maintain artificially saltwater access to the lagoon, allowing it to function continuously as an estuarine habitat (Goodbread personal communication 1990). Fish sampling by the U.S. Fish and Wildlife Service in the lagoon from 1986 to 1989 found 24 different species of fish, including many juveniles (USFWS 1990). Among the species caught were the commercially important California halibut. Salmon and trout runs have not occurred in the Santa Margarita River since the 1920s.

Table 1. Species and habitat use along the coast and offshore of the site, including the lagoon at the mouth of the Santa Margarita River.

Species		Habitat		
Common Name	Scientific Name	Spawning	Nursery	Adult Forage
MARINE				
Fish				
white seabass	*Atractoscion nobilis*		◆	◆
northern anchovy	*Engraulis mordax*		◆	◆
opaleye	*Girella nigricans*		◆	◆
garibaldi	*Hypsypops rubicundus*	◆	◆	◆
California corbina	*Menticirrhus undulatus*			◆
kelp bass	*Paralabrax clathratus*	◆	◆	◆
barred sand bass	*Paralabrax nebulifer*	◆	◆	◆
California halibut	*Paralichthys californicus*		◆	◆
California sheepshead	*Semicossyphus pulcher*			◆
Invertebrates				
spiny lobster	*Panulirus interruptus*	◆	◆	◆
Marine Mammals				
grey whale	*Eschrichtius robustus*		M	M
killer whale	*Orcinus orca*			M
harbor seal	*Phoca vitulina*			M
California sea lion	*Zalophus californianus*			M

M: species is present in the area as a migrant only

The marine habitat offshore of Camp Pendleton is largely sandy, with rocky reefs and kelp forests in the northern portion that harbor fish communities, including garibaldi and bass. The California Department of Fish and Game constructed an artificial reef in 1980 south of San Onofre. Commercial fishing for white seabass, California halibut, and lobster takes place in the area. California halibut, lobster, barred sand bass, kelp bass, halibut, and lobster are all fished recreationally in the area.

Camp Pendleton Marine Corps Base

NOAA Trust Habitats and Species, *cont.*

Several species of marine mammals occur intermittently in the area, including harbor seals and California sea lions that may haul out on the beaches (Buck personal communication 1990). Grey whales, especially females and calves, may come close inshore to feed during migrations up and down the coast (SCS Engineers 1984).

References

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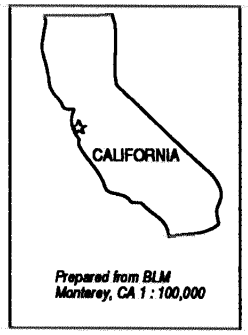
Fort Ord Army Base

Marina, California
Region 9
CA7210020676

Site Exposure Potential

The 11-km^2 Fort Ord Army Base site is located on Monterey Bay near Marina, California (Figure 1). Established in 1917 as a maneuvers and field artillery range, the base is currently used for training. Waste-generating activities included fire drills, vehicle maintenance, battery repair, spray painting, photo processing, laundry, dry cleaning, and arms repair. Hazardous wastes from these activities were stored on the base prior to off-site disposal. More than 20 potentially contaminated areas have been identified on the base; one of the eight on-site landfills is still active. Four main areas have been investigated for type and extent of contamination in soils and groundwater: the 14th Engineers Motor Pool, the 707th Maintenance Facility, the Cannibalization Area, and the Fire Department Burn Pit (E.A. Engineering 1990).



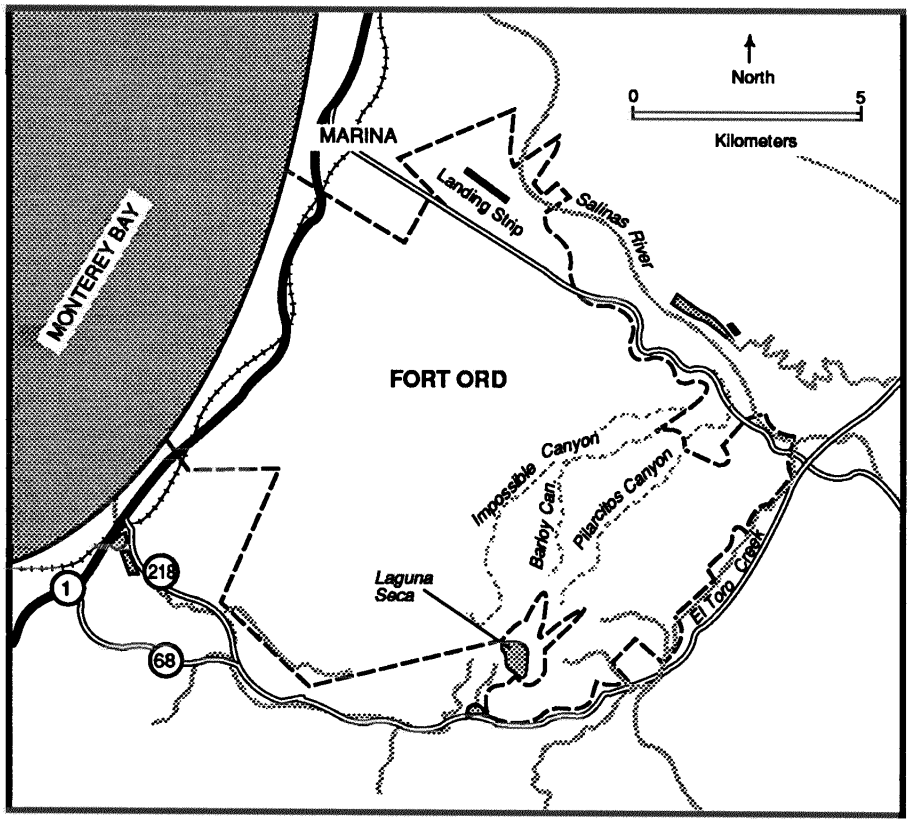


Figure 1.
Fort Ord Army Base, Marina, California.