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USFWS said this Biological
Assessment was good.

**BIOLOGICAL ASSESSMENT
FOR THE PROPOSED
SHORELANDS PROJECT**

HAYWARD, ALAMEDA COUNTY, CALIFORNIA

Prepared for:

**U.S. Army Corps of Engineers
San Francisco District**

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BIOLOGICAL ASSESSMENT -- SHORELANDS PROJECT

4.6.5 Impacts

The project would produce no significant direct impacts on the black rail. Although existing salt marsh habitats adjacent to the proposed development in Mt. Eden Creek do not appear to currently support a breeding black rail population, the habitat is suitable and could potentially be inhabited. If successful, the mitigation program would yield a net increase in available, potential black rail habitat (123 acres of new salt marsh and transitional marsh on the Oliver/Perry duck club property and mouse corridor). To the extent that it is practicable to restore the project site to tidal marsh, development of the Shorelands' project site would, however, decrease the acreage of potentially restorable black rail habitat in the region by 735.9 acres. Wintering black rails could also be adversely affected by increases in predator populations similar to the impacts described for clapper rails.

4.7 WESTERN SNOWY PLOVER, CHARADRIUS ALEXANDRINUS NIVOSUS

4.7.1 Status

The western snowy plover is classified as a Category 2 candidate for inclusion on the Federal Endangered Species List (USFWS 1985). This classification offers no legal protection for the species or its habitat. It does indicate that the species is a "taxa for which existing information may warrant listing, but for which substantial biological information to support a proposed rule is lacking." The plover has also been listed as a bird species of special concern by the State of California as a second priority species. Second priority species have been shown to be declining in a large portion of their range in California, but their populations are still sufficiently substantial that danger is not immediate (Remsen 1978).

4.7.2 Distribution

The western snowy plover is found along the Pacific coast from northern Mexico to Washington, and is found inland in the Central Valley of California and at Salton Sea and Mono Lake. The snowy plover is commonly found from September through March on sandy beaches and bayshore sand flats. It is uncommon to fairly common all year long on salt pond dikes around San Francisco Bay where nesting occurs. Observations show fairly continuous use of the general project area by snowy plovers for foraging, resting, and breeding.

Information on population trends of the snowy plover in California is scant. Grinnell and Miller (1944) had already detected a decrease in abundance by the 1940's. Recent surveys along the coast of northern California document fewer than 100 pairs nesting between Marin County and the Oregon border. Populations in south San Francisco Bay appeared to do well in 1977 by nesting on dikes in salt ponds and may have numbered up to 150 pairs (Gill 1977). WESCO (1985 field data) located at least 12 post-breeding pairs with young (Figure 14).

BIOLOGICAL ASSESSMENT -- SHORELANDS PROJECT

Snowy plovers have been sighted on and around the Shorelands project site for a number of years. The greatest number of nests was in 1978 when about 30 pairs (nests or broods) and 3 single birds were identified in the expanded study area (Page and Stenzel 1979). Of these, 16 occurred on the project site and were primarily located within or immediately adjacent to the old pickle pond (6B, 7A, and 7B) and on the dike separating ponds B1 and 11. (Figure 14). In more recent years, fewer numbers have been identified but the surveys have not been as intensive as 1978 or conducted during the most appropriate periods. Nesting pairs (nests or broods) identified in the project area (includes adjacent salt ponds) were 9 pairs in 1985 and 12 pairs in 1986 (WESCO 1985 field surveys; SFBBO 1985 and 1986 survey data). The distribution of the nesting pairs is shown on Figure 14. Surveys of the pickle pond in 1987 conducted independently by WESCO (May 14, 1987) and Dr. Howard Cogswell (May 16, 1987) identified a minimum of three nesting pairs in the area.

Howard Cogswell has kept records of snowy plovers sightings along Mt. Eden Creek, the Baumberg tract area, and Oliver salt ponds since 1964 (see Appendix 4 to the Mitigation Plan, attached). His observation dates are sporadic but do span the entire year, including both wintering and breeding periods. Dr. Cogswell has noted a few apparently nesting birds on the pickle pond from year to year, and over 100 roosting birds.

Snowy plovers also winter in the Bay Area. Recent counts have estimated up to 780 individuals wintering in the Hayward/Fremont area (Drennan 1985). In February 1986, the Ohlone Chapter of the Audubon Society counted approximately 300 individuals on the pickle pond, which was one of the largest concentrations of snowy plovers recorded in recent years (Ohlone Audubon Society 1985). Winter use he has observed from year to year, ranged between 20 and about 200 birds, also on the pickle pond.

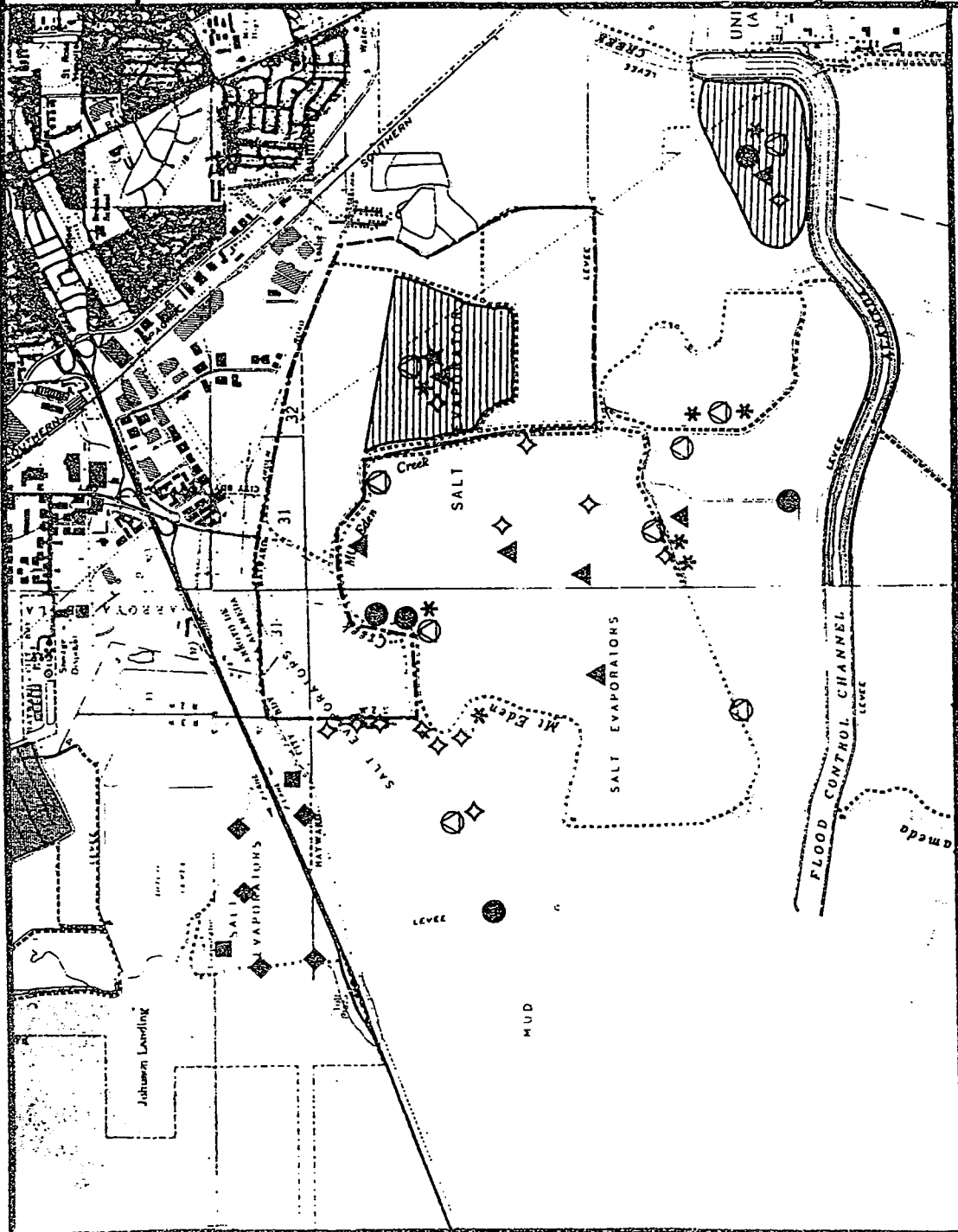
Three main sites within the study area appear to be preferred concentration areas by the snowy plover. These sites are the old pickle pond (6B, 7A, and 7B) in the central portion of the project site, the abandoned bittern pond (B1) and the southeastern part of pond 6 (Figure 14). Both sites (when not flooded) provide large open areas with little vegetative cover such as preferred by this species. The uneven, slightly undulating ground surface of these two areas provides an element of cover lacking in the crystallizer ponds and may be one of the reasons the snowy plovers appear to select these areas over other ponds in the study area. Within the project site pickle pond, the lack of water (and food sources) into early summer appears to be the primary factor limiting nesting activity.

WESTERN SNOWY PLOVER SURVEY

SPRING CONCENTRATION AREAS

SNOWY PLOVER NESTING AND TERRITORIAL PAIR LOCATION

- 1989, LEORA FEENEY
- ◆ 1988, LSA ASSOCIATES
- ★ 1987, DR. H. COGSWELL
- 1986, WESCO
- ▲ 1986, S.F.B.B.O.
- ◌ 1985, S.F.B.B.O.
- 1985, WESCO
- * 1981, S.F.B.B.O.
- ◇ 1979, PAGE/STENZEL
- ◇ 1978, S.F.B.B.O.



THE PROPOSED SHORELANDS DEVELOPMENT
HAYWARD, CALIFORNIA

BIOLOGICAL ASSESSMENT -- SHORELANDS PROJECT

Leora Feeney (1989) observed adult plovers and chicks or nests on the project site in 1988 on the pickle pond (6B) and B1 (abandoned bittern pond) (see Figure 15). She also observed plovers with chicks or nests on salt ponds 6B and 15 and adult birds on ponds 10 and 11 adjacent to the project site and on the levees separating the site from Leslie salt ponds 12 through 14. The highest snowy plover count of the year was 197 birds resting or feeding on Pond 11 during the August post-breeding period. The total area of these ponds is 222 acres (141 in pickle pond, 81 in bittern pond B1), though not all of these ponds may be utilized for plover nesting.

4.7.3 Habitat

The western snowy plover prefers the dry sand and upper sand flats of open beaches backed by sand dunes and bordered by marsh or brackish lagoons (Bent 1927). Nesting is typically solitary and occurs on flat sand and shell mix with no vegetative cover and a good supply of amphipods and ground beetles for food.

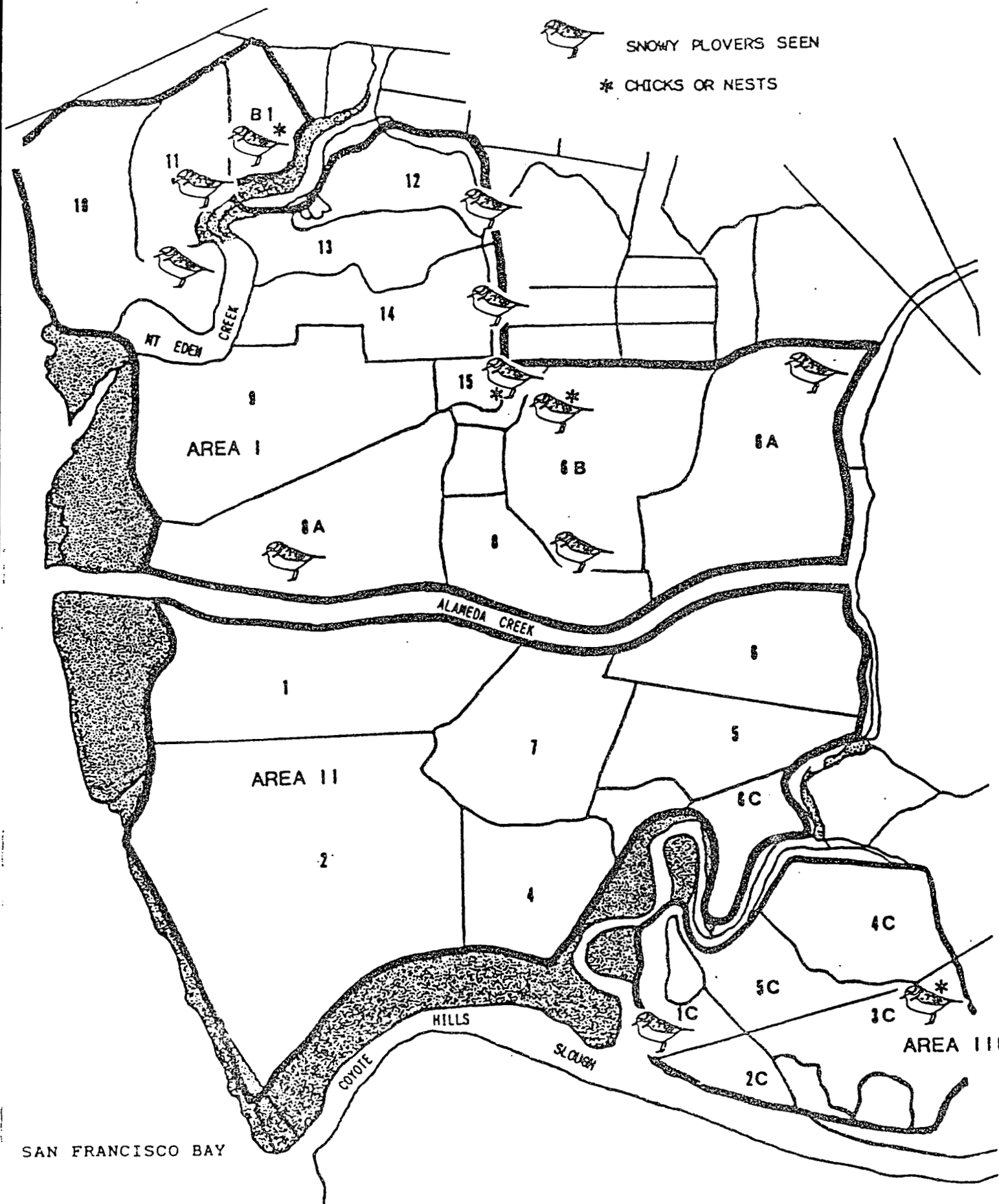
Historically the birds commonly nested along the coastal dunes and beaches from Mexico to Washington. The nests are a simple scrape in the sand or bare earth, usually with a simple lining of bits of shell, gravel, or grass (Cogswell 1977). Most prime nesting habitat in low dunes is now so subject to human disturbance that populations have dwindled (Remsen 1978). The plovers, however, have partially compensated for this loss by shifting their breeding activities in several areas, including San Francisco Bay, to include nesting on salt pond dikes, bare flats, or sand fills.

4.7.4 General Ecology

Snowy plovers live year-round in the San Francisco Bay Area, and breed between April and early August. Two to three sand-colored eggs are laid in a hollow in the sand or bare earth, and incubated by both parents for about 24 days (Cogswell 1977). The downy young are fairly well camouflaged to match the beach sand, and will follow the parents to the feeding areas within one day of hatching.

The plovers forage on the high beaches for beach hopper amphipods, ground and rove beetles, and other insects attracted to the seaweeds and driftwoods cast ashore. Occasionally they forage in wet sand for young sand crabs. The salt pond populations feed in part on brine flies.

SNOWY PLOVER USE OF THE BAUMBERG SALT PONDS
MAY - SEPTEMBER 1986



SAN FRANCISCO BAY

BIOLOGICAL ASSESSMENT -- SHORELANDS PROJECT

Only limited information is available with respect to snowy plover nesting territories. Warriner et al (1986) reported nest territories of 1.2 acres per breeding pair at Pajaro Dunes and 5.6 acres per pair at Mono Lake. Gary Page (pers. comm.) stated that the Mono Lake figure was probably more representative of the true species requirement because that study considered over 100 breeding adults, while the Pajaro observations were in an unrepresentative situation where there were only 3 breeding pairs restricted to a small area of saltpan. The breeding territory includes the area necessary for the flightless young to forage on their own, and must include access to water. Page (pers. comm.) suggested that an index of plover breeding territories should be separately established for San Francisco Bay.

Snowy plovers show inconsistent patterns of breeding where they may use one site in a given year, and a completely different site the next. They have been observed to breed at one site for several sequential years, then abandon the site the next year, and return to it the following year (Warriner, et al. 1986). Thus, a site that provides suitable plover habitat may be important to the snowy plover population as a whole, but the number of individual birds observed at the site may vary widely from year to year.

4.7.5 Impacts

The project would significantly impact the snowy plover. The old pickle pond (numbers 6B, 7A, and 7B) in the south central portion of the project site is an important nesting and wintering area for the species. This pond once supported and may still support the largest concentration of nesting snowy plovers in California (Page and Stenzel 1978). Over 300 individuals have recently been observed wintering on the pond, which is one of the largest winter concentrations reported in northern California in recent years.

The old bittern pond B1 is also important to the plover as a post-breeding roosting and foraging, and possibly also a nesting area. These areas would be completely lost to plover use if the project site were developed.

Individuals nesting on the dikes or using adjacent salt ponds would also be adversely impacted by predation, human disturbance or degradation in water quality. Because snowy plovers and other shorebirds nest on the ground on narrow dikes between ponds, predators can more easily find nests or capture young. Rats, in particular, apparently avoid moving over open areas to forage (Barnett 1975). Hence large areas, such as the old pickle pond with a broad expanse of suitable nesting habitat may offer inherently greater protection from some predators, although others, such as red fox, may be highly effective nest predators.

It is noteworthy that if the site were restored to tidal marsh, instead of developed, this would adversely impact existing plover habitat. To provide for the plover under such conditions, areas of higher, exposed mud or sand flats would have to be provided.