

## **SNOWY PLOVER**

*Charadrius alexandrinus*

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**Management Status:** Federal: Threatened (Pacific Coast population only, 1993)  
California: Species of Special Concern (CDFG, 1998)

### **General Distribution:**

The species as a whole (known in the English-speaking Old World as “Kentish Plover” or “Sandplover”) breeds over much of Eurasia, Africa, Australia, the eastern coast of Asia, the western coast of South America, and western, south-central and southeastern North America (Johnsgard, 1981). It occurs widely in North America; on the Pacific coast Snowy Plovers nest as far north as northern Washington and south to southern Baja California, including the northern Gulf of California. Coastal breeding populations also occur along the Gulf of Mexico, portions of the Greater Antilles, and eastern Mexico. Western populations may winter as far south as Guatemala. Inland, Snowy Plovers nest as far north as southern Saskatchewan and as far east as central Nebraska, Oklahoma and Texas (Page et al., 1995). Interior populations in the west breed at playa lakes and other shallow water habitats from east-central Oregon south to the Salton Sea, Imperial County, and east through the Great Basin (Page et al., 1995; Shuford, 1995). In California, wintering Snowy Plovers largely withdraw from the colder, more northerly latitudes, particularly in the interior, while plover numbers remain rather constant in the San Joaquin and Imperial valleys (Shuford, 1995).

### **Distribution in the West Mojave Planning Area:**

Snowy Plovers nest on certain playas (dry lakes) and other wetland areas in the WMPA; most appear to depart the region for the winter, but migrants and wintering birds are known from a few localities as well. Page et al. (1991) reported small, relatively stable Snowy Plover breeding populations in their 1978 and 1988 censuses for China, Koehn, and Rosamond dry lakes. Largest numbers (61 plovers) were reported from Harper Lake during both surveys. The first documented nesting of Snowy Plovers and the highest counts of 96 plovers at Harper wetlands was provided by LeValley in June of 1978 (CNDDDB). Page et al. (1991) attribute the lack of Snowy Plovers at Searles Lake during their 1988 census to reductions in suitable habitat (high lake levels). Since the early 1980s breeding has been suspected at Piute Ponds where as many as 20 adults have been observed at one time. From May through July, territorial and nest-scraping behaviors have often been observed. Nesting was finally confirmed at Piute Ponds in 1991 when K. L. Garrett (unpubl. data) noted the presence of two young chicks and 18 adults in July. During the breeding season, Snowy Plovers are also regularly observed at the salt evaporator ponds at Dale Dry Lake and at the Edison Solar I ponds near Daggett (Michael Patten, unpubl. data) and it is likely that they also nest at these sites.

Snowy Plovers are generally absent from the WMPA in winter (Garrett and Dunn, 1981). A few do winter at Piute Ponds and the Lancaster Sewage Ponds. Here, the presence of Snowy Plovers has been erratic during the period 1979 through 1996. As many as 26 plovers have been recorded here on the Lancaster Christmas Bird Count (American Birds/National Audubon Society Field Notes), with the species found on eight of 18 such counts. Although as many as 30 Snowy Plovers have been recorded in late October at Harper Lake (S. Myers, unpubl. data) in recent years, four to six birds are typically found there from November through February (Shuford, 1995). One additional published winter record within the WMPA reported a single plover at East Cronese Lake in mid-November, 1978 (McCaskie, 1979).

### **Natural History:**

Snowy Plovers are small shorebirds (5-7 in., 15-17 cm) that show little or no sexual dimorphism in size. The mean mass of Snowy Plovers in California was 40-43 g (Page et al.,

1995). These plovers are distinguished by an incomplete breast band that is restricted to dark lateral patches at the shoulders. Their pale brown upperparts (matching dry alkali mud remarkably well), thin black bill, blackish legs and feet, and abbreviated breast band distinguish them from the Semipalmated Plover (*Charadrius semipalmatus*) of similar size (Scott 1993). Markings at the forecrown, ear coverts and at sides of breast are black in males and tend to be somewhat browner in females and inconspicuous in immature birds (Page et al., 1995; Scott, 1983).

Page et al. (1995) provide the following natural history information for this species; no specific data are available from breeding populations in the WMPA. Snowy Plover pair formation and nesting generally begins by mid-March; but may vary geographically, with later nest initiation dates among northern populations. On the coast, Snowy Plovers nest on sandy beaches with little slope, while in the interior, plovers nest on sparsely vegetated alkali flats, at dry lake margins and at evaporation ponds. Nest scrapes are usually placed away from cover and are lined with small pebbles, fish bone, and shell fragments. Egg clutches range from 2-6, but 3 eggs are most common. Both male and female Snowy Plovers participate in incubation, which generally lasts between 26-32 days. Young plovers attain flight at 29-33 days of age. Coastal California Snowy Plovers may raise multiple clutches during a single breeding season.

Snowy Plovers sometimes cover eggs with a shallow layer of fine gravel when disturbed from their nests. This behavior does not necessarily appear to protect eggs from the lethal effects of direct insolation (Grant, 1986; K. C. Molina, pers. obs.). While not possessing any apparent physiological adaptations for breeding in hot environments, Snowy Plovers appear to be behaviorally adapted to nesting in arid and saline environments (Purdue, 1976; Purdue and Haines, 1977).

Snowy Plover dietary items include brine flies, shrimp, amphipods, polychaetes, and beetles along with other invertebrate prey. These plovers may also feed by stamping their feet in shallow water, which presumably enhances prey capture (Page et al., 1995).

#### **Habitat Requirements:**

Coastally, Snowy Plovers use sandy beaches, lagoons and salt-evaporation ponds for nesting and feeding. In the interior, plovers inhabit salt flats around playa lakes and evaporation ponds. In the WMPA breeding populations have been found on several such playas and evaporation ponds. Additional habitats within the WMPA that are used by breeding birds include diked sewage treatment ponds (as at Lancaster) and ponds managed for wintering waterfowl (Piute Ponds on the Edwards Air Force Base).

Snowy Plovers lay their eggs in scrapes excavated in sandy or silty substrates. On mudflats, nests and eggs may be placed in existing depressions such as in the dried tracks of humans, animals and motor vehicles (Page et al., 1995; Mellink et al., 1996).

Snowy Plovers forage for small invertebrate prey along tidal flats or at shallow water margins (Page et al., 1995).

#### **Population Status:**

Most recent information estimates the U.S. breeding population of Snowy Plovers at 21,000 individuals. During their western North American survey of 1988-89, Page et al. (1991) reported a maximum of 9,800 breeding Snowy Plovers in Washington, Oregon, California, Nevada and Utah, a decline of 20% over population censuses taken almost a decade earlier. The coasts of Oregon and California north of San Francisco appear to have suffered the greatest declines during this period. California populations of interior nesting plovers have experienced no net difference in the number of breeding plovers; declines observed at Owens Lake are somewhat offset by the increases in the San Joaquin Valley (Page et al., 1991). These authors indicated relatively stable Snowy Plover breeding populations between their 1978 and 1988 censuses for China, Koehn, and Rosamond lakes, and attributed the lack of Snowy Plovers at Searles Lake during the 1988 census to reductions in suitable nesting habitat.

Recent surveys by Shuford et al. (1995) indicate that in the interior, most California Snowy Plovers winter in the San Joaquin Valley and at the Salton Sea.

### **Threats Analysis:**

Startling declines among Pacific coast populations in the late 1980s (Page et al., 1995) led to the federally threatened listing and the identification of critical habitat for those populations occurring within 50 miles of the coast (USFWS 1993). Although interior populations lack any special status and are treated as discrete from coastal ones, limited banding data indicate some movement of Snowy Plovers from the interior to the coast during winter and may indicate some degree of interpopulational mixing. (Page et al., 1995). Because Snowy Plovers nest on open coastal strand beaches, their eggs and young are susceptible to tidal inundation of low lying mudflats and sandbars on the coast and near river mouths. Their nests are also vulnerable to disturbances by humans, their pets and off-road vehicles. Common avian predators include gulls (*Larus* spp.), ravens (*Corvus corax*), and Northern Harriers (*Circus cyaneus*). Snowy Plover nests are also susceptible to mammalian predators such as foxes (*Vulpes vulpes*), feral dogs and cats (Page et al., 1995). On desert alkali playas and other breeding habitats in the WMPA, breeding Snowy Plovers are similarly vulnerable to human disturbances including off-road vehicle use in the vicinity of dry lake beds and to mammalian predators (e.g. coyotes, *Canis latrans*). Potential avian predators of eggs and young of these plovers in the WMPA include Loggerhead Shrikes (*Lanius ludovicianus*), falcons (*Falco* spp.), gulls, crows (*C. brachyrhynchos*), and ravens (Page et al., 1995). Breeding Snowy Plovers may also be susceptible to rising water levels at managed impoundments that inundate low-lying islets used for nesting (Barnum et al., 1992).

### **Biological Standards:**

Within the WMPA, the restriction of lake margins from off highway vehicle use during the breeding season in areas where significant numbers of Snowy Plovers are known to nest (e.g. Harper, China, Koehn, and Rosamond dry lakes, and Piute Ponds) is essential. Appropriate water management regimes (draw downs) in impoundments can enhance Snowy Plover breeding and foraging habitat in artificial systems. Snowy Plovers nesting on evaporation ponds in the San Joaquin Valley appear to be relatively insensitive to selenium accumulation (Shuford 1995), a potential problem that is characteristic of evaporation impoundments in arid environments.

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