

SNOWY PLOVER (*Charadrius alexandrinus*)

Associated Species: Other bird species which may respond similarly to habitat components used by the Snowy Plover are: Killdeer, Black-necked Stilt, and Black-bellied Plover.

Distribution (Page et al. 1995): In North America, the Snowy Plover is mainly found in some of the western states and along the Gulf Coast. The Snowy Plover is a summer resident and migrant in the Great Basin (Ryser 1985). It is considered to be an uncommon summer resident at some of its breeding locales in the Basin, such as in northern Utah, in northeastern Nevada, and at Malheur National Wildlife Refuge. It appears to be rather common at other locales such as in central Utah, at Pyramid Lake, and along the western edge of the Great Basin at Upper and Lower Alkali lakes, Honey Lake, and Mono Lake in California. Perhaps the majority of North American Snowy Plovers breed in the Great Salt Lake region (Page et al 1991).

The mean number of Snowy Plover detected during a five year survey (1997-2001) of Great Salt Lake was 363, with a high count of 1,228 in 1997 (Paul and Manning 2002). An occurrence estimate of 10,000 Snowy Plover at the Great Salt Lake was made for two separate years in the 1990s (Paton 1994). Historic Refuge surveys (1956-2002) show an average of 11 Snowy Plover detected during weekly waterbird surveys for the month of June.

Ecology (Page et al. 1995): The Snowy Plover inhabits beaches, lagoons, and salt-evaporation ponds on coasts and barren to sparsely vegetated salt flats and braided river channels inland. Snowy Plover nest in the open on the ground. Their clutches are frequently destroyed by predators, people, or weather, but they renest readily after these losses, up to six times in some locations. Double brooding is common and triple brooding regular where the breeding season is long. In such circumstances, females desert their mates and broods about the time the chicks hatch and initiate new breeding attempts with other mates. Despite this species' breeding tenacity, its numbers are small. Along the U.S. Pacific and Gulf coasts, the population is shrinking because of habitat degradation and expanding recreational use of beaches. The Pacific Coast population is now designated as Threatened by the U.S. Fish and Wildlife Service (Page et al. 1995).

In Great Basin saline and alkaline lakes, the Snowy Plover feeds on flies, beetles, hemipterans, and brine shrimp. The feeding behavior, typical of plovers, is to pause, look, run, and then seize prey from the surface of beach or tide flat. The Snowy Plover will probe in certain circumstances. This species sometimes lowers its head and charges with an open mouth into dense aggregations of adult flies on the ground, and snapping its bill at those flushed.

Males usually make multiple scrapes within a territory. The scrape selected for most copulations typically becomes the nest site. Usual clutch size is 3 eggs. Though both sexes incubate complete clutches, there is evidence that the females incubate during the majority of daylight hours. The incubation period varies by location and early versus late season nests, but is in the range of 25-28 days. Chicks are precocial, and leave the nest 1-3 hours after hatching. They forage unassisted from parents, but require periodic brooding for many days after hatching. Females generally desert mates and broods by 6 days after hatching, leaving males in sole care of young. Males stay with young until they are 29-47 days old.

Habitat Requirements: Snowy Plovers nest in the open on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs and ponds. Nests are often located with respect to some conspicuous feature of otherwise barren landscape; e.g., near a piece of kelp, driftwood, clam shell, cow pie, or tumbleweed; or on small rises. At inland locations, this bird feeds on shores of lakes, reservoirs, ponds, river deltas and playas. Most feeding is in shallow (less than 1 inch deep) water or on wet mud or sand. On playas, some foraging occurs on dry flats.

Seasonal Use/Refuge Habitats: See Tables 5 and 6 for a summary of Refuge habitat and seasonal use by shorebirds. Snowy Plovers nest and feed on large expanses of remote, undisturbed mudflats with nearby water sources. They also nest on the cross-dikes of Units 3E, F and G. Snowy Plover may be present from mid-April to the end of September. More details will be added to this section in subsequent updates as time permits. Updates may include which Refuge units the species has historically and currently used, timing of use (arrival, departure, and peak dates) and nesting success.

Habitat and/or Population Objectives: North American population estimate is 16,000 birds (Brown et al. 2000). Considered a Bird of Conservation Concern by the Mountain-Prairie Region (6) of the Service and Bird Conservation Region 9, Great Basin (Pashley et al. 2000).

Breeding Snowy Plover are difficult to detect on Bear River Refuge without target monitoring efforts. Due to low detection rates, the breeding population on the Refuge is estimated at 20 pair (K. Lindsey pers. comm. 2003).

Population Objective: Maintain breeding population level at 20 pair.

Habitat Objective: Provide 50 acres of undisturbed dike habitat (Unit 3E, F, G. about 6 miles) and 6,800 acres of unvegetated mudflat habitat throughout the nesting season (April-July).

Habitat Management Strategy: See Section V. Habitat Management Strategies: Dikes and Saltair Mudflat.

Refuge Specific Monitoring Needs:

1. Develop protocol to monitor breeding number of Snowy Plover on Refuge.

Landscape Scale Research Needs (Haig and Oring 1998 and Page et al. 1995):

1. Develop protocol to monitor breeding number of Snowy Plover in Utah and the Great Basin.
2. Develop statistically valid monitoring protocol to estimate reproductive success.
3. Develop management techniques specifically aimed at increasing productivity.
4. Investigate effects of predator control program on productivity.
5. Determine survival rates of one year old birds.
6. Determine juvenile dispersal patterns.
7. Determine level of reproductive success required for population stability.
8. Determine effects of food availability on breeding success.