

Snowy Plover (*Charadrius nivosus*)**Species Status Statement**Distribution

The range of snowy plover extends over much of the globe. In North America, various disconnected populations breed in southern Saskatchewan, southwestern Wyoming and Montana, central and eastern Colorado, southern New Mexico, central Oklahoma and Kansas, and in the playa lakes region of Texas and Mexico. In addition to these scattered populations, managers recognize four distinct population segments:

- The Pacific coast population breeds from Oregon south to Baja California, and winters along the Pacific coast south to Central America.
- The Atlantic population resides year-round in the Caribbean.
- The Gulf Coast population breeds discontinuously along the Gulf coast from the Yucatan Peninsula and Texas to Florida and winters in within the region.
- The Inland population breeds locally in central Oregon, northern Nevada, the San Joaquin Valley and Salton Sea regions of California, southern Arizona, and northwestern Utah. The inland population winters in California (Salton Sea and Tulare Lake Basin), central Texas, and interior Mexico (Page et al. 2009).

Utah hosts the largest breeding concentration of Inland snowy plovers, located around the Great Salt Lake.

Table 1. Utah counties currently occupied by this species (eBird and Utah NHP)

<b>Snowy Plover</b>	
BOX ELDER	TOOELE
DAVIS	UTAH
JUAB	WEBER
SALT LAKE	

Abundance and Trends

The global population size estimate of snowy plover is 31,000 (Partners in Flight 2019a). Breeding Bird Survey does not cover breeding areas of snowy plovers, so no BBS status trends are available. Overall, snowy plover populations have declined in the US since the 1800s, although some populations seen to have stabilized (Page et al. 2009). The many and distinct isolated populations face individualized threats and recovery needs, especially for the Inland population of which Utah is a central part. Recent population estimates for the Inland population (Senner et al 2016) reinforce the importance of the Great Salt Lake breeding population.

The Great Salt Lake breeding population was estimated to be 10,000 individuals in 1992 (Paton and Edwards 1992), comprising roughly 50% of the estimated US population (Page et al. 2009). However, more recent surveys, between 1997 and 2001, showed the average number of snowy plovers detected on surveys of the Great Salt Lake was 363, with a high count of 1,228 (Paul and Manning 2002). Historical surveys from 1956 to 2002 averaged 11 plovers per survey. In an intensive Great Salt Lake survey in 2007, 657 plovers were recorded (Cavitt 2007).

Currently snowy plover is:

- Listed as *Near Threatened* on the Red List of Threatened Species by the International Union for Conservation of Nature
- Identified by the U.S. Fish and Wildlife Service as a priority species at the continental and Bird Conservation Region scales on the Birds of Conservation Concern list (USFWS draft 2017)
- Listed by Partners in Flight as “REVERSE DECLINE: Yellow Watch List ‘D’ – Species with population declines and moderate to high threats” (Partners in Flight 2019a)
- Considered Highly Imperiled by the US Shorebird Conservation Plan, a Priority species under the Great Basin Ecoregional Conservation Blueprint (The Nature Conservancy), and a Priority species under Utah/Wyoming Rocky Mountains Ecoregional Conservation Plan

## **Statement of Habitat Needs and Threats to the Species**

### Habitat Needs

These shorebirds occupy beaches and dunes along the coastal portions of their range, and are found along alkali or saline lakes, reservoirs, and ponds in the interior portion of their range (Conway et al. 2005). Snowy plovers of the Inland population utilize barren ground to sparsely vegetated areas surrounding water features where they feed on flies, beetles, hemipterans, and brine shrimp (Page et al. 2009). Because interior bodies of water lack tidal influences that refresh foraging areas, plovers using such waters require larger areas of shallow water and adjacent flats over which to hunt than do coastal-dwelling birds.

Snowy plovers lay their eggs on barren ground in a shallow scrape, often in proximity to a feature such as a piece of wood or a small plant. About 40% of nests are partially concealed by an object nearby (Henderson and Page 1981). Such nest placement leaves the eggs vulnerable to predation especially if the incubating parent is disturbed. Nests are located anywhere from 1 m to 3km from a freshwater source (Henderson and Page 1979).

### Threats to the Species

The main threat to Inland-population snowy plovers is loss and degradation of current breeding habitats. Interior alkaline and saline lakes have highly seasonal water levels and accompanying

salinity levels, which may make a site unsuitable at any point within or between years (Jehl 1994). If suitable habitat is not available within a breeding season, productivity will likely be lost for the year. And if a site becomes unsuitable in the long term, that breeding location may cease to host plovers into the future. Changes in local water levels and salinity may also impact site vegetation. Increased flooding may promote more aquatic vegetation, while a drawdown may prompt growth of more upland or shallow water vegetation, both of which can reduce suitable nesting habitat. In Farmington Bay between 2003 and 2008 water level changes enabled stands of the exotic common reed (*Phragmites australis*) to expand from 25 to 130 ha eliminating extensive open areas previously used by nesting snowy plovers (Page et al. 2009). In California, where shallow-water flooding is used extensively to control dust; the flooding of large expanses of exposed flats increased plover abundance from 272 in 2001 to 658 in 2004 (Ruhlen et al. 2006).

The effects of recreation on Inland-population snowy plovers remain largely unknown. In coastal populations, beachgoers greatly influence nest success of plovers. Not only do humans step on and run over camouflaged nests, but they also cause predation of eggs and chicks by disturbing adults and attracting predators to nesting areas. Around the Great Salt Lake, nest success rates in some locations are near zero because of increased numbers of raccoons and red foxes (Page et al. 2009).

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

<b>Snowy Plover</b>
<b>High</b>
Agricultural / Municipal / Industrial Water Usage
Droughts
Invasive Plant Species – Non-native
Storms and Flooding
Water Allocation Policies
<b>Medium</b>
OHV Motorized Recreation
Problematic Animal Species – Native

### **Rationale for Designation**

Most recent ESA listing petitions address distinct population segments. Throughout the Inland portion of the range, snowy plover is imperiled by habitat loss. Though the population appears to be decreasing over time, very little is known about the current population size or trends of the Inland snowy plover population. Inland snowy plovers are highly dependent on the maintenance

of water and salinity levels, which in turn are subject to steadily increasing municipal/agricultural water extractions and increasingly variable climactic fluctuations. Designating snowy plover as a Sensitive Species will facilitate local research leading to defensible data about population status and the development of more robust management guidelines.

### **Economic Impacts of Sensitive Species Designation**

Sensitive species designation is intended to facilitate and endorse coordinated management of this distinct Inland population, and to avoid additional economic impacts associated with Endangered Species Act listing. The costs of designation are likely to include increased regulatory compliance costs for land-use decisions including water withdrawals, GSL mineral salt extraction, and infrastructure projects that directly impact habitat quality and quantity. These costs will remain as long as the species is a credible listing threat under the Endangered Species Act.

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