

## Sabine's Gull

*Xema sabini*

Class: Aves

Order: Charadriiformes

Review Status: Peer-reviewed

Version Date: 23 June 2020

### Conservation Status

Table 1 Conservation status according to state, national, and international organizations and agencies.

Organization	Rank
NatureServe	G5/S5B
ADF&G	Species of Greatest Conservation Need
IUCN	Least Concern

### Final Rank

Conservation Category: **IX. Blue**

Low status and low biological vulnerability and action need

Table 2 ASRS categorical scores. Higher numerical scores denote greater concern.

Category	Range	Score
Status	-20 to 20	-10
Biological	-50 to 50	-32
Action	-40 to 40	0

### Status

Variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

#### Population Trend in Alaska (-10 to 10)

Increasing on the Yukon-Kuskokwim Delta from 1992-2014 (Platte and Stehn 2015) and on the Arctic Coastal Plain from 1992-2011 (Larned et al. 2012a).

Score: -10

#### Distribution Trend in Alaska (-10 to 10)

Unknown.

Score: 0

**Status Total: -10**

## Biological

Variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

### Population Size in Alaska (-10 to 10)

>25,000, based on data from the Arctic Coastal Plain and the Yukon-Kuskokwim Delta (Larned et al. 2012a; Fischer and Stehn 2015; Platte and Stehn 2015).

Score: -10

### Range Size in Alaska (-10 to 10)

Breeds in coastal areas from the central Aleutian Islands east to the Alaska Peninsula, and north to the Arctic Coastal Plain, where its distribution extends east into Canada (Day et al. 2020). Individuals from Alaska likely overwinter in South America (Davis et al. 2016; Day et al. 2020). Estimated breeding range is 286,000 sq. km, based on range map from ACCS (2017a).

Score: -8

### Population Concentration in Alaska (-10 to 10)

Nests in pairs and in small colonies typically less than 10-20 pairs (Norment et al. 2015; Day et al. 2020). Given the extent of their range and population size in Alaska, we assume that number of sites >250.

Score: -10

### Reproductive Potential in Alaska

#### *Age of First Reproduction (-5 to 5)*

Unknown, but suspected to be 2 years (Day et al. 2020).

Score: -3

#### *Number of Young (-5 to 5)*

Females lay a single clutch per year (Day et al. 2020). Clutch sizes range from 1 to 4, but mean clutch size is typically less than 3 eggs (Blomqvist and Elander 1981; Day et al. 2020).

Score: 3

### Ecological Specialization in Alaska

#### *Dietary (-5 to 5)*

Highly opportunistic forager in both marine and terrestrial environments. During breeding, consumes terrestrial and aquatic invertebrates, small fish, and sometimes bird eggs (Day et al. 2020). Notably, their summer diet includes more terrestrially derived prey than Arctic Terns (Pratte et al. 2017), which they nest in association with, particularly at higher latitudes (Day et al. 2020).

Score: -5

### *Habitat (-5 to 5)*

Breed on the mossy edges of tundra lakes and ponds, and on small islands within wetlands or tidal flats (Johnson and Herter 1989; Kessel 1989; Day et al. 2021). Nests are made in small depressions in the ground or a tussock (Johnson and Herter 1989; Kessel 1989); at higher latitudes, often nests sympatrically with Arctic Terns (Pratte et al. 2017). After breeding is complete, they move to saltwater shores, and then out to offshore waters (Johnson and Herter 1989; Kessel 1989), before their fall migration takes them south for the winter to large coastal upwelling areas in the southern hemisphere (Stenhouse et al. 2012; Davis et al. 2016).

Score: 1

**Biological Total: -32**

### **Action**

Variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due to lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

### Management Plans and Regulations in Alaska (-10 to 10)

Protected under the Migratory Bird Treaty Act (MBTA 1918). Subsistence harvest is allowed and subject to closed seasons (AMBCC 2020). Data suggest rates of harvest are low for Bonaparte's/Sabine's gulls (Naves and Otis 2017).

Score: -10

### Knowledge of Distribution and Habitat in Alaska (-10 to 10)

Range and habitat associations during breeding are well-known (e.g., Liebezeit et al. 2011; Larned et al. 2012a; Norment et al. 2015; Platte and Stehn 2015). Additional research is needed to determine migration routes and wintering grounds.

Score: 2

### Knowledge of Population Trends in Alaska (-10 to 10)

Monitored for several decades in large parts of its breeding range on the Arctic Coastal Plain and Yukon-Kuskokwim Delta (Larned et al. 2012a; Platte and Stehn 2015). Data are adequate for estimating population indices and determining trends, with measures of variance.

Score: -2

### Knowledge of Factors Limiting Populations in Alaska (-10 to 10)

Little is known about the factors that limit this species' population or distribution in Alaska. Egg predation may be an important cause of mortality, especially in years or locations where small mammals occur at low densities (Day et al. 2020), however, additional research is needed to test this hypothesis. Severe weather during migration or early in the breeding season may also affect survival and recruitment (Day et al. 2020). Pratte et al. (2017) suggested that intraspecific competition with Arctic Terns is likely minimized by dietary segregation, with Sabine's Gulls exploiting more terrestrial prey than Arctic Terns.

Score: 10

**Action Total: 0**

## Supplemental Information

Variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

**Harvest:** Not substantial

**Seasonal Occurrence:** Breeding

**Taxonomic Significance:** Monotypic genus

**% Global Range in Alaska:** >10%

**% Global Population in Alaska:** <25%

**Peripheral:** No

## References

- Alaska Center for Conservation Science (ACCS). 2017a. Wildlife Data Portal. University of Alaska Anchorage. Available online: <http://aknhp.uaa.alaska.edu/apps/wildlife>
- Alaska Migratory Bird Co-Management Council (AMBCC). 2020. Regulations for the 2020 Alaska Subsistence Spring/Summer Migratory Bird Harvest. Office of the Alaska Migratory Bird Co-Management Council, U.S. Fish & Wildlife Service, Anchorage, AK, USA.
- Blomqvist, S., and M. Elander. 1981. Sabine's gull (*Xema sabini*), Ross's gull (*Rhodostethia rosea*), and ivory gull (*Pagophila eburnea*). Gulls in the Arctic: A review. *Arctic* 34(2):122–132. DOI: 10.14430/arctic2513
- Davis, S. E., M. Mattei, and M. L. Mallory. 2016. Migratory Connectivity at High Latitudes: Sabine's Gulls (*Xema sabini*) from a Colony in the Canadian High Arctic Migrate to Different Oceans. *PLoS ONE* 11(12):e0166043.
- Day, R. H., I. J. Stenhouse, and H. G. Gilchrist. 2020. Sabine's Gull (*Xema sabini*), version 1.0. In Billerman, S. M., ed. *Birds of the World*. Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.sabgul.01>
- Fischer, J. B., and R. A. Stehn. 2015. Nest population size and potential production of geese and spectacled eiders on the Yukon-Kuskokwim Delta, Alaska, 1985-2014. Page 54. Unpublished report, U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, AK, USA.
- Johnson, S. R., and D. R. Herter. 1989. *The birds of the Beaufort Sea*. BP Exploration Inc., Anchorage, AK, USA.
- Kessel, B. 1989. *Birds of the Seward Peninsula, Alaska: Their biogeography, seasonality, and natural history*. University of Alaska Press, Fairbanks, AK, USA.
- Larned, W., R. Stehn, and R. Platte. 2012a. Waterfowl breeding population survey Arctic Coastal Plain, Alaska 2011. Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Anchorage, AK, USA.
- Liebezeit, J. R., G. C. White, and S. Zack. 2011. Breeding ecology of birds at Teshekpuk Lake: A key habitat site on the Arctic Coastal Plain of Alaska. *Arctic* 64(1):32–44. DOI: 10.14430/arctic4078
- Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.

- Naves, L. C., and D. Otis. 2017. Alaska subsistence harvest of birds and eggs, 2016, Alaska migratory bird co-management council. Alaska Department of Fish and Game, Division of Subsistence, Anchorage, AK, USA.
- Norment, C. J., R. A. Stehn, J. B. Fischer, and T. Moser. 2015. Sabine's gull nesting aggregations in western Alaska. *Northwestern Naturalist* 96(2):101–106. DOI: 10.1898/1051-1733-96.2.101
- Platte, R. M., and R. A. Stehn. 2015. Abundance and trend of waterbirds on Alaska's Yukon-Kuskokwim Delta coast based on 1988 to 2014 aerial surveys. Waterfowl Management Branch, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Anchorage, AK, USA.
- Pratte, I., K. A. Boadway, S. E. Davis, M. Maftelj, and M. L. Mallory. 2017. Diet dichotomy between two migrant seabirds breeding near a high Arctic polynya. *Royal Society Open Science* 4(3):160982.
- Stenhouse, I. J., C. Egevang, and R. A. Phillips. 2012. Trans-equatorial migration, staging sites and wintering area of Sabine's Gulls *Larus sabini* in the Atlantic Ocean: Sabine's Gull migration. *Ibis* 154(1):42–51.