

# Aleutian Tern

*Onychoprion aleuticus*

Class: Aves  
Order: Charadriiformes

**Review Status:** Peer-reviewed

**Version Date:** 08 January 2019

## Conservation Status

NatureServe:

Agency:

G Rank: G4

ADF&G: Species of Greatest Conservation Need

IUCN: Vulnerable

Audubon AK: Red

S Rank: S3B

USFWS: Bird of Conservation Concern

BLM: Sensitive

Final Rank		
Conservation category: <b>II. Red</b>		
high status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	6
Biological	-50 to 50	-21
Action	-40 to 40	4
<b>Higher numerical scores denote greater concern</b>		

**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).

**Score**

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

6

Renner et al. (2015) proposed that known colonies have declined from 1960 to 2013. However, there are several issues with the data that complicate trend analysis, including outdated or non-existent counts at some colonies, little temporal replication, lack of standardized protocols, low data quality, and natural variation in yearly colony attendance (Renner et al. 2015). Given this uncertainty, we score this question as B- Suspected to be decreasing.

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

0

Uncertain. At least 26 previously undocumented colonies have been documented since 1995, while 29 historically active colonies were found to be devoid of any breeding individuals upon their last visit (Renner et al. 2015).

Status Total: 6

**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).

**Score**

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

-2

Minimum population size is estimated at 5,529 individuals (Renner et al. 2015). USFWS (2009) offers a population size of 9,500.

<i>Range Size in Alaska (-10 to 10)</i>	-8
Widely distributed along much of Alaska's coastline, from Glacier Bay north along the coast to the Chukchi Sea (Renner et al. 2015). Also found on several islands including the Kodiak Archipelago, the Aleutian Islands as far west as Attu Island, and Nunivak Island (North 2013; Renner et al. 2015). Estimated range size is >100,000 sq. km. but <400,000 sq. km. Overwinters in southeast Asia and Oceania (Goldstein et al. 2019).	
<i>Population Concentration in Alaska (-10 to 10)</i>	-6
There are at least 110 documented colonies in Alaska, though colony attendance among years is uncertain (Renner et al. 2015).	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-3
Unknown, but estimated to be at least 3 years old (North 2013).	
<u>Number of Young (-5 to 5)</u>	2
Single clutch per year containing 1 to 3 eggs (North 2013). In a study of 165 nests in the Gulf of Alaska, nearly 85% of clutches contained two eggs (Holtan 1980). Elsewhere in its Alaskan range, average clutch sizes of $1.8 \pm 0.4$ and $1.4 \pm 0.5$ eggs have been reported (Kessel 1989).	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	-5
Few studies available. Diet consists primarily of small fish (e.g. capelin, Pacific sand lance, walleye pollock, Pacific cod) and zooplankton (euphausiids) (Holtan 1980; North 2013; Tengeres and Corcoran 2018). Insects (e.g. dragonflies) and aquatic invertebrates such as polychaete worms and crustaceans are also consumed (Holtan 1980; North 2013).	
<u>Habitat (-5 to 5)</u>	1
Nesting colonies are typically restricted to coastal sites such as islands, mudflats, and estuaries, though within this habitat they seem to prefer upland sites further from shore (Holtan 1980; Kessel 1989; Arimitsu et al. 2007; Tengeres and Corcoran 2018). Nest in dense vegetation dominated by graminoid or dwarf shrub meadows (Holtan 1980; Kessel 1989; Arimitsu et al. 2007; Gibson and Byrd 2007; Tengeres and Corcoran 2018). In the Gulf of Alaska, only found on a small strip of vegetation near mudflats; the patchy, concentrated distribution of these colonies suggest a strong degree of habitat specialization (Holtan 1980), though nesting habitat is not believed to limiting (Renner et al. 2015). Forages in offshore and nearshore marine waters and occasionally freshwater ponds (Holtan 1980; Kessel 1989; Gibson and Byrd 2007).	
	Biological Total: -21

**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 of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

**Score**

<i>Management Plans and Regulations in Alaska (-10 to 10)</i>	-10
Protected under the Migratory Bird Treaty Act (MBTA 1918). Open to subsistence harvesting except during the summer months (AMBCC 2018).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Habitat associations during breeding have been described in several parts of its Alaskan range (e.g. Holtan 1980; Kessel 1989; Byrd et al. 2005; Gibson and Byrd 2007; Tengeres and Corcoran 2018). Distribution of known colonies is available through the USFWS Beringian Seabird Colony Catalog (Hyrenbach et al. 2013; see also Renner et al. 2015). Additional colonies are being discovered and	

not all documented colonies are visited frequently enough to understand patterns of colony attendance. At-sea distribution has been somewhat documented through shipboard surveys compiled in the USGS North Pacific Pelagic Seabird Database (Piatt and Drew 2015), but relatively few records exist. Non-breeding distribution is not well-understood, but is the subject of ongoing research (Goldstein et al. 2019).

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

2

Population declines are suspected (e.g. Corcoran 2012; Renner et al. 2015; Cushing et al. 2018). However, few colonies are frequently monitored in Alaska and there are problems with existing data (Renner et al. 2015) that complicate trend assessment. Trend certainty can be improved by increasing the spatial and temporal replication of colony counts and ensuring that counts follow standardized protocols (Renner et al. 2015).

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

10

Reasons for current population declines are unknown and factors are largely speculative or based on observations from only a few years or colonies. Several factors may be at play, including: habitat loss, climate-driven changes to food availability, threats on wintering grounds, predation, harvesting, and human disturbance (Corcoran 2012; Renner et al. 2015; McDonald and Carlisle 2018). Declines in Prince William Sound have been linked to changes in ocean climate, which affect the availability of forage fish (Agler et al. 1999; Cushing et al. 2018). At some colonies, predation has been documented as the main cause of nesting failure (Baird 1983 qtd in Corcoran et al. 2018; Tengeres and Corcoran 2018) and recently resulted in complete abandonment of one of the largest colonies in the Kodiak Archipelago (Corcoran et al. 2018). Other colonies, however, do not seem to be strongly affected by predation (Holtan 1980) and the degree to which localized predation contributes to overall population dynamics are unknown. Nesting habitat is not thought to be limiting, but shrub encroachment and geomorphic processes may render habitat unsuitable from one year to the next (Holtan 1980; Renner et al. 2015). Data do not distinguish between Aleutian and Arctic terns, but harvest of eggs may be substantial relative to productivity (Naves 2018).

Action Total: 4

**Supplemental Information** - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

<b>Harvest:</b>	Substantial, regulations
<b>Seasonal Occurrence:</b>	Breeding
<b>Taxonomic Significance:</b>	Monotypic species
<b>% Global Range in Alaska:</b>	>10%
<b>% Global Population in Alaska:</b>	<25%
<b>Peripheral:</b>	No

## References

- Agler, B. A., S. J. Kendall, D. B. Irons, and S. P. Klosiewski. 1999. Declines in marine bird populations in Prince William Sound, Alaska coincident with a climatic regime shift. *Waterbirds: The International Journal of Waterbird Biology* 22(1):98-103. DOI: 10.2307/1521998
- Arimitsu, M. L., J. F. Piatt, and M. D. Romano. 2007. Distribution of ground-nesting marine birds along shorelines in Glacier Bay, southeastern Alaska: An assessment related to potential disturbance by back-country users. Scientific Investigations Report 2007-5278, U.S. Geological Survey, Reston, VA, USA.
- Byrd, G. V., H. M. Renner, and M. Renner. 2005. Distribution patterns and population trends of breeding seabirds in the Aleutian Islands. *Fisheries Oceanography* 14(S1):139-159. DOI: 10.1111/j.1365-2419.2005.00368.x

Corcoran, R. M. 2012. Aleutian tern counts from seabird colony and nearshore marine bird surveys in the Kodiak Archipelago, Alaska 1975-2012. Refuge Report 01-12, U.S. Fish and Wildlife Service, Kodiak National Wildlife Refuge, Kodiak, AK, USA.

Corcoran, R. M., S. Stuebaker, and R. A. Macintosh. 2018. Aleutian tern *Onychoprion aleuticus* colony abandonment in response to bald eagle *Haliaeetus leucocephalus* nest predation. *Marine Ornithology* 46:113–115.

Cushing, D. A., D. D. Roby, and D. B. Irons. 2018. Patterns of distribution, abundance, and change over time in a subarctic marine bird community. *Deep Sea Research Part II* 147:148–163. DOI: 10.1016/j.dsr2.2017.07.012

Denlinger, L. M., comp. 2006. Alaska Seabird Information Series. Unpublished report, U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, AK, USA.

Drew, G. S., and J. F. Piatt. 2015. North Pacific Pelagic Seabird Database (NPPSD): U.S. Geological Survey data release (ver. 3.0, February, 2020). DOI: 10.5066/F7WQ01T3 Available at: [https://www.usgs.gov/centers/asc/science/north-pacific-pelagic-seabird-database?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/asc/science/north-pacific-pelagic-seabird-database?qt-science_center_objects=0#qt-science_center_objects)

Gibson, D. D., and G. V. Byrd. 2007. *Birds of the Aleutian Islands, Alaska*. Nuttall Ornithological Club, Cambridge, MA, USA.

Goldstein, M. I., D. C. Duffy, S. Oehlers, N. Catterson, J. Frederick, and S. Pyare. 2019. Interseasonal movements and non-breeding locations of Aleutian terns *Onychoprion aleuticus*. *Marine Ornithology* 47:67–76.

Holtan, L. H. 1980. Nesting habitat and ecology of Aleutian terns on the Copper River Delta, Alaska. MSc thesis, Oregon State University, Corvallis, OR, USA.

Kessel, B. 1989. *Birds of the Seward Peninsula, Alaska: Their biogeography, seasonality, and natural history*. University of Alaska Press, Fairbanks, AK, USA.

Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.

McDonald, T. L., and J. D. Carlisle. 2018. Report on the 2018 Aleutian Tern Conservation Planning Meeting. Prepared for the Aleutian Tern Technical Committee by Western EcoSystems Technology, Inc., Cheyenne, WY, USA.

Naves, L. C. 2018. Geographic and seasonal patterns of seabird subsistence harvest in Alaska. *Polar Biology* 41(6):1217–1236. DOI: 10.1007/s00300-018-2279-4

North, M. R. 2013. Aleutian Tern (*Onychoprion aleuticus*), version 2.0. In Poole, A. F., ed. *The Birds of North America*. Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.291

Renner, H. M., M. D. Romano, M. Renner, S. Pyare, M. I. Goldstein, and Y. Artukhin. 2015. Assessing the breeding distribution and population trends of the Aleutian tern *Onychoprion aleuticus*. *Marine Ornithology* 43:179–187.

Tengeres, J. E., and R. M. Corcoran. 2018. Aleutian and Arctic Tern colony monitoring, Kodiak Archipelago, 2017. Refuge report 2018.3, Kodiak National Wildlife Refuge, U.S. Fish and Wildlife Service, Kodiak, AK, USA.

---

Alaska Center for Conservation Science  
Alaska Natural Heritage Program  
University of Alaska Anchorage  
Anchorage, AK