

Northern Fulmar

Fulmarus glacialis

Class: Aves

Order: Procellariiformes

Review Status: Peer-reviewed

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Conservation Status

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

Organization	Rank
NatureServe	G5/S4S5
ADF&G	Species of Greatest Conservation Need
IUCN	Least Concern

Final Rank

Conservation Category: **II. Red**

High status and either high biological vulnerability or high action need

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

Category	Range	Score
Status	-20 to 20	1
Biological	-50 to 50	10
Action	-40 to 40	-20

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)

Trends vary between islands, with stable to increasing on St. Paul and St. George Islands, and decreasing on Chowiet Island from 2009-2018 (Dragoo et al. 2019). Renner et al. (2013) estimated that there was a 24% decline in the presence of Northern Fulmars in the Bering Sea and waters near the Aleutian Islands from 1975-2009. Overall, we rank this species as B-Suspected to be declining.

Score: 6

Distribution Trend in Alaska (-10 to 10)

Renner et al. (2013) found that the center of this species' foraging distribution has shifted northward, which was correlated with shifts in fishery catches (a proxy for prey distribution). The authors did not quantify the areal extent of the historic or current distribution, though they did state that they "are unaware of any data suggesting a northward shift in the location of fulmar colonies, or of the numbers of individuals attending extant fulmar colonies" (Renner et al. 2013). We therefore rank this question as D- Stable or suspected stable.

Score: -5

Status Total: 1

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)

The most recent estimate is approximately 1.4 million birds in Alaska (Denlinger 2006), however, this estimate is based on data that is several decades old. It should therefore be viewed as a very rough approximation of the current population.

Score: -10

Range Size in Alaska (-10 to 10)

Breeding colonies are patchily distributed from the western Aleutian Islands east through Southeast Alaska (Mallory et al. 2020). Overwinters in the Bering Sea and waters located near the Aleutian chain (Denlinger 2006; Gibson and Byrd 2007). Estimated breeding range is 820 sq. km, based on range map from ACCS (2017a).

Score: 8

Population Concentration in Alaska (-10 to 10)

There are an estimated 38 breeding colonies of Northern Fulmars in Alaska, however, approximately 99% of the population breeds at one of 4 colonies (Denlinger 2006; Gibson and Byrd 2007). We therefore rank this question as B- 1-25 sites.

Score: -2

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5)

Unknown in Alaska. In Scotland, most female birds in a study bred at 12 years (Mallory et al. 2020).

Score: 5

Number of Young (-5 to 5)

One egg per clutch, 1 clutch annually (Gabrielson and Lincoln 1959; Denlinger 2006; Mallory et al. 2020).

Score: 3

Ecological Specialization in Alaska

Dietary (-5 to 5)

Consumes zooplankton, fish, jellyfish, squid, fish waste, and offal (Gabrielson and Lincoln 1959; Hatch 1993; Jahncke et al. 2005; Denlinger 2006). Recent die-offs documented in the Bering Sea appear to have been caused by starvation, possibly due to changes in food supply linked to warming ocean temperatures (Van Hemert et al. 2021).

Score: 1

Habitat (-5 to 5)

Places nests in recesses of shelves and ledges in sea cliffs and steep sea-facing slopes (Gabrielson and Lincoln 1959; Squibb and Hunt 1983; Hatch 1993; Denlinger 2006; Gibson and Byrd 2007). Forages and overwinters within inshore and off-shore marine waters (Gibson and Byrd 2007).

Score: 1

Biological Total: 10

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). Birds and their eggs open to subsistence harvest, which is subject to closed seasons (AMBCC 2019).

Score: -10

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

Habitat associations and breeding ranges are well known throughout the state through surveys and studies (Day 2006; Renner et al. 2008; Hatch et al. 2010; Sydeman et al. 2010; Wong et al. 2014; Suryan et al. 2016).

Score: -10

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

Monitored on three major breeding colonies: Chowiet, St. Paul, and St. George Islands (Dragoo et al. 2019). Although not all breeding colonies are monitored, most of the population is covered by these surveys.

Score: -2

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

Bycatch is considered one of the main limiting factors (Denlinger 2006; Mallory et al. 2020). Indeed, northern fulmars in Alaska are frequently caught in fishery lines and nets (Krieger et al. 2019; Melvin et al. 2019). From 2010-2018, an average of 3,600 birds were caught in nets annually every year (Krieger et al. 2019). In recent decades, scientists have documented several mass die-offs of seabirds, including northern fulmars (Van Hemert et al. 2021). Decreases in food supply and harmful algal blooms, both linked to warmer ocean temperatures,

may explain these die-offs, but additional research is needed (Van Hemert et al. 2020). Finally, plastic ingestion has been studied elsewhere in its breeding range (Ivar do Sul and Costa 2014; Tanaka et al. 2019; Kuhn and van Franeker 2020; Provencher et al. 2020) and may also be a major cause of mortality. Additional research is needed to determine the impacts of plastic ingestion in Alaskan populations.

Score: 2

Action Total: -20

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: Year-round

Taxonomic Significance: Monotypic species

% Global Range in Alaska: <10%

% Global Population in Alaska: <25%

Peripheral: No

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