NORTHERN FULMAR *Fulmarus glacialis*

Conservation Status

ALASKA: Moderate **N. AMERICAN: Moderate Concern** **GLOBAL: Least Concern**

Breed	Eggs	Incubation	Fledge	Nest	Feeding Behavior	Diet
May-Sept	1	46-51 d	49-58 d	cliff shelf, ground scrape	plunge dive, surface dip	fish, squid, crustaceans, fish waste

Life History and Distribution

The Northern Fulmar *(Fulmarus glacialis)* looks like a gull, but is actually a tubenose bird related to petrels, shearwaters, albatrosses, and storm-petrels. They can be distinguished from gulls by a thick-necked appearance and their flight pattern. Flying low over the water, wings are held stiffly and alternate between rapid wingbeats and long glides. A truly pelagic species, the fulmar spends most of its life at sea and comes to land only to breed.

Two color phases are common: pale gray on the back and wings, with white elsewhere, or uniformly dark gray. Every gradation between the extremes and nearly all-white birds also occur. There is no generally accepted explanation for the variation in color. Fulmars from the North Pacific have relatively slender bills and greater extremes of color variation than occur anywhere in the Atlantic. Bering Sea colonies have few dark colored birds (0-0.2%), Aleutian Island birds are mostly dark (99%), and the Gulf of Alaska colonies are 75-85% dark. Three subspecies are recognized and all fulmars from the North Pacific are in the subspecies, *Fulmarus glacialis rodgersii.* There is also a close relationship between the Northern Fulmar and the Southern, or Antarctic Fulmar (*Fulmarus glacialoides).*

Northern Fulmars are abundant in Alaska, but are rarely seen because they breed in a few remote breeding locations. Usually, they breed on cliff shelves, laying a single white egg in a depression or scrape. The egg is laid on bare rock and loose pebbles. To repel unwanted visitors, both chicks and adults can eject foul smelling stomach oil up to six feet. The oil will matt the plumage of avian predators and can lead to death of the predator.

Reproduction of Northern Fulmars is slow. Generally, they do not breed until they are 8-10 years old and breeding can continue over a period of 40 years or more. They have a mean life expectancy of over 40 years.

Breeding in North America occurs in Alaska, British Columbia, and in arctic and eastern Canada. Half of the colony sites identified are in Alaska. Ninety-nine percent of the Alaskan population breeds at only four sites: the Semidi Islands in the Gulf of Alaska, Chagulak Island in the Aleutian Islands, the Pribilof Islands, and on St. Matthew and Hall islands in the Bering Sea. Breeding is also common in Europe and Asia.

Alaskan populations are common in winter to the

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northern limits of open water in the Bering Sea. They are also scattered over the North Pacific Ocean, but are common only north of 35-40°N. Birds from the Canadian Arctic are commonly found to 43°N along the western Atlantic Coast.

Alaska Seasonal Distribution

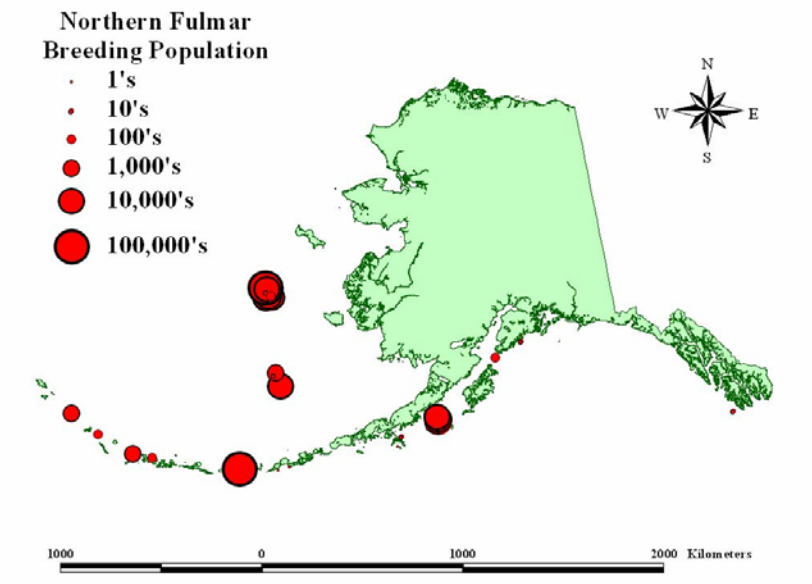
AK Region	Sp	S	F	W
Southeastern	U	U	U	U
Southcoastal	C	C	C	U
Southwestern *	C	C	C	U
Central	-	-	-	-
Western *	U	C	U	R
Northern	-	R	R	-

C= Common, U= Uncommon, R= Rare, + = Casual or accidental, - = Not known to occur, * = Known or probable breeder, Sp= Mar-May, S= June and July, F= Aug-Nov, W= Dec-Feb.

Population Estimates and Trends

The estimated worldwide population (including estimates for prebreeders at sea) is 10-12 million individuals. The North American breeding population is estimated at 2.1 million individuals. About 70% or 1.4 million of those birds are found in Alaska at 38 colonies.

In the boreal zone of the Atlantic Ocean there has been an increase in population numbers and distribution of fulmars. It has been suggested that the increase in fulmar populations was a result of food provided by an expanding fishing industry. Fulmars are known to feed extensively on fish waste. However, the possible causes are much



Seabird breeding population maps created from data provided by the Beringian Seabird Colony Catalog Database. U. S. Fish and Wildlife Service, Anchorage, Alaska.

debated and probably more complex oceanographic factors also played a part. In Alaska, at least four small colonies established since about 1970 are thought to be growing, but the proportion of the total population remains negligible. Trends are uncertain at other colonies, including aggregations in the Semidi and Pribilof islands.

Conservation Concerns and Actions

There is no immediate threat to the conservation status of Northern Fulmars. However, high local densities of breeding populations may make the species vulnerable to catastrophic changes in food supplies, other environmental conditions, and several human activities.

The attraction of Northern Fulmars to fishing vessels that discard fish waste at sea results in birds being entangled or drowned in fishing gear. In Alaska, the Northern Fulmar is the most frequently taken species in the groundfish fisheries in both the Bering Sea/Aleutian Islands and the Gulf of Alaska. Between 1993-2003, fulmars comprised 59% of the total bycatch in the longline fisheries in the Bering Sea/Aleutian Islands (7,431 individuals per year) and 46% of the total seabird bycatch in the Gulf of Alaska. In the Alaskan trawl fisheries, fulmars comprised >53% of the total bycatch between 1998 and 2003 and the number of birds could range from ~1,000-12,000. Since 2000, increased use of mitigation measures by longline fishermen has greatly reduced seabird bycatch. Nonetheless, the effects of bycatch and food provisioning as a result of fisheries require further research.

Predators such as arctic foxes *(Alopex lagopus)*, red foxes *(Vulpes vulpes)*, and ground squirrels *(Spermophilus spp.)* were introduced to Alaska in the late 1800s and early 1900s. Undoubtedly, they reduced or eliminated some former colonies. Three noted examples of decimated colonies were in the Aleutian Islands on Gareloi, Unalga, and Agattu islands. In 1986, on northeast Baffin Island, Canada, three pairs of arctic foxes with dens above fulmar nesting cliffs fed adult fulmars to their young, almost exclusively.

Recommended Management Actions

- Expand surveys of populations at key index colonies and establish a monitoring program.
- Continue to work with state and federal agencies and fisheries councils to better understand and minimize the impacts of fisheries interactions.
    - Identify the colony of origin of birds taken in longline fisheries in Alaska.
    - Identify geographic, seasonal, and age specific patterns of exploitation of fish waste for Alaskan fulmars.
- Continue efforts to reduce introduced predators such as foxes on Alaskan islands.

Regional Contact

Branch Chief, Nongame Migratory Birds, Migratory Bird Management, USFWS, 1011 E. Tudor Rd., Anchorage, Alaska 99503
Telephone (907) 768-3444

References

Armstrong 1995; Dragoo *et al*. In Press; Hatch and Nettleship 1998; IUCN Internet Website (2005); Kushlan *et al.* 2002; NOAA Internet Website (2005); Stephensen and Irons 2003; U.S. Fish and Wildlife Service 2006, 2002.
Full credit for the information in this document is given to the above references.