



Threatened and Endangered Species

Kittlitz's Murrelet

(Brachyramphus brevirostris)

Status

The Kittlitz's murrelet was designated a candidate species for listing as threatened throughout its range under the Endangered Species Act (Federal Register May 4, 2004).

Description

The Kittlitz's murrelet is a small diving seabird in the Auk family. Its summer plumage is mottled gray or tan, and is easily confused with its close relative, the marbled murrelet (*Brachyramphus marmoratus*). It is a secretive breeder, laying a single egg in a depression on bare ground. The bird's association with tidewater glaciers has earned it the nickname, "Glacier Murrelet."

Range and Population Level

The Kittlitz's murrelet has a Beringian distribution. The breeding range is limited to Alaska and the Russian Far East; nests have been documented throughout this breeding range.

Unlike many other seabirds, Kittlitz's murrelets are neither colonial nor semi-colonial nesters. The isolated, remote, and secretive nesting behavior of the Kittlitz's murrelet, makes terrestrial monitoring impractical for the purposes of estimating abundance. However, using at-sea surveys to estimate abundance of Kittlitz's murrelets has also been challenging. Thus, there is significant uncertainty associated with population estimates, but we believe the world-wide abundance of Kittlitz's murrelets probably number between 30,000 and 57,000 individuals.

Habitat and Habits

During the breeding season, Kittlitz's murrelet distribution is clumped within its geographic range. The marine habitats in which Kittlitz's murrelets are most often associated



The cryptic mottled plumage of an adult Kittlitz's murrelet acts as camouflage in its sparsely vegetated habitat.

during summer are characterized by close proximity to tidewater glaciers, and waters offshore of remnant high-elevation glaciers and deglaciated coastal mountains. Their eggs are typically laid on bare ground in unvegetated scree fields, coastal cliffs, rock ledges, and talus above timberline in coastal mountains. Until the late 1990's only about two dozen nest records existed. Today, as a result of considerable search effort, we have studied more than 100 nests and believe that nest success among Kittlitz's murrelets is very low.

Little information exists regarding migration patterns, molting areas, or winter habitats of Kittlitz's murrelets, but satellite transmitter and radio

telemetry data indicate significant diurnal and seasonal movements. Molting likely occurs during late August, and it is suspected that some proportion of the population undergoes flightless molt in the vicinity of the protected bays of the Alaska Peninsula. During winter, Kittlitz's murrelets have been observed around Prince William Sound, Kenai Fjords, Kachemak Bay, Kodiak Island, Sitka Sound, and in the northern Gulf of Alaska along the Alaska Coastal Current and mid-shelf regions. They have also been observed in the Sireniki polynya (areas of open water in sea ice covered regions) of southern Chukotka in Russia and in the polynyas south of St. Lawrence Island.

Reasons for Current Status

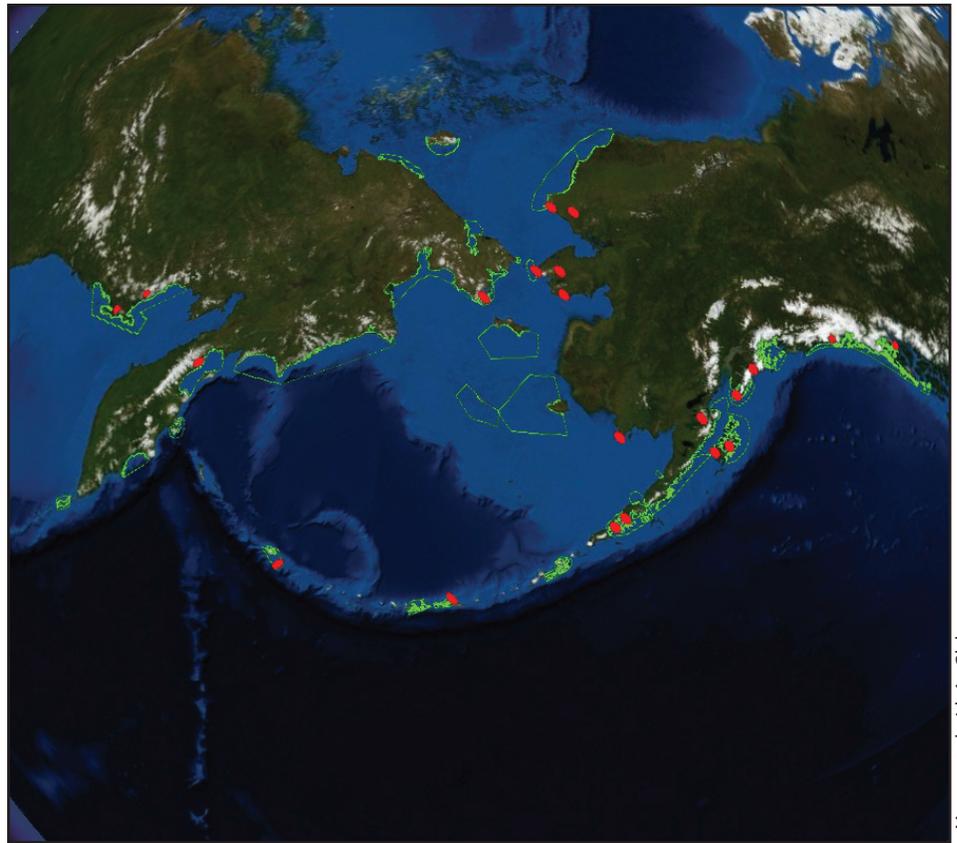
Prior to the 1970's, Kittlitz's murrelets in the northern Gulf of Alaska were estimated to number in the hundreds of thousands. Thus, even though today's estimates are imprecise, we believe Kittlitz's murrelets have undergone a population decline. Kittlitz's murrelets are long-lived, are highly adapted to their environment, and are slow to reproduce. As stated above, nest success is reportedly very low. The cumulative impact of low reproduction and increased mortality of breeding adults could have a large population level effect, but factors causing mortality of breeding adults have yet to be clearly identified.

Factors that are known to result in direct mortality of Kittlitz's murrelets include oil spills, predation, and gillnet fisheries. Mortality estimates from the Exxon Valdez oil spill that resulted in nearly 11 million gallons of heavy Alaska crude oil spilling into Prince William Sound, range from 500 to over 1,000 Kittlitz's murrelets (perhaps 7-15% of the local population). The proportion of resident Kittlitz's murrelets lost in this oil spill exceeded that of all other species impacted by this spill.

While red fox (*Vulpes vulpes*), glaucous-winged gulls (*Larus glaucescens*) and corvids reportedly prey on Kittlitz's murrelet eggs and nestlings, peregrine falcons (*Falco peregrinus*) and bald eagles (*Haliaeetus leucocephalus*) are known to prey on adult Kittlitz's murrelets. Predation on both nests and adults may play a significant role in the population decline of Kittlitz's murrelets.

The number of Kittlitz's murrelets killed in salmon gill-nets are not monitored regularly, but may be significant. Other factors suspected to have negative effects upon Kittlitz's murrelet populations include chronic oil pollution, disturbance by commercial and recreational boating, and climate related impacts.

Changes in the marine environment as a consequence of climate change play a significant role in the population regulation of phytoplankton, zooplankton, and fish, and can disturb the balance in predator-prey relationships. Widespread changes in ocean climate and forage fish abundance



Kittlitz's murrelet at-sea distribution (green) and nesting sites (red).

could result in decreased survivorship and reproductive capability of Kittlitz's murrelets.

Management and Protection Needs

1. Quantify fishing mortality and reduce bycatch of Kittlitz's murrelets by: a) developing and distributing of seabird deterrent devices; b) educating fishermen on techniques used to catch fewer seabirds and explaining why catching fewer seabirds is desirable; and c) promulgating and enforcing regulations requiring the use of seabird avoidance techniques and deterrent devices .

2. Work with and educate the tourist industry and recreational boaters on the need to minimize speed and reduce disturbance to Kittlitz's murrelets in upper fjords with tidewater glaciers.

3. Develop oil spill risk assessments for Kittlitz's murrelets in specific concentration areas.

4. Fill data gaps in Kittlitz's murrelet biology that include: demographics, diet, fledging dispersal, diurnal and seasonal migration, identify at-sea concentration areas during critical periods such as molt, contaminant load

in their environment, and distribution/abundance in areas not well surveyed.

5. Work with the International community (e.g., Russia and Japan) to assess the potential risk to Kittlitz's murrelets from at-sea drift net fisheries.

For more information on Kittlitz's Murrelet, contact the U.S. Fish & Wildlife Service.

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