



U.S. Fish & Wildlife Service

Threatened and Endangered Species

Kittlitz's Murrelet

(Brachyramphus brevirostris)

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."

Status

The Kittlitz's murrelet was designated a candidate species for listing throughout its range under the Endangered Species Act (ESA) on May 4, 2004 (Federal Register, vol. 69, p. 24876).

Range and Population Size

The Kittlitz's murrelet's 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 semicolonial 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 the best evidence indicates that 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 during summer are characterized by close proximity to tidewater glaciers, and waters offshore of remnant high elevation glaciers and deglaciated coastal mountains. The egg is 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 found more than 100 nests, and among those followed, nesting success was 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.



James Lowmann / USFWS

Above: a Kittlitz's murrelet chick. Inset, an adult with a capelin. Nick Hatch / USFWS

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 or in the Chukchi Sea. During winter, low numbers of 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. However, more of them may be wintering in the Bering Sea. Kittlitz's murrelets 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, evidence suggests that they have undergone a population decline.

Kittlitz's murrelets are long-lived, highly adapted to their environment, and slow to reproduce. The cumulative impact of low reproduction and increased mortality of breeding adults could have a large population-level effect, but not all factors causing mortality of breeding adults can be clearly identified at this time.

Factors known to result in direct mortality of Kittlitz's murrelets include oil spills, predation, and bycatch in 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.

Red fox (*Vulpes vulpes*), glaucous-winged gulls (*Larus glaucescens*), and ravens (*Corvus corax*) reportedly prey on Kittlitz's murrelet eggs and nestlings. Peregrine falcons (*Falco peregrinus*) and bald eagles (*Haliaeetus leucocephalus*) are known to prey on adults. Predation may play a significant role in population declines.

The number of Kittlitz's murrelets killed in salmon gillnets 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 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 seabird deterrent devices; b) involving fishermen in development and implementation of techniques used to minimize bycatch of seabirds, and c) promulgating and enforcing regulations requiring the use of seabird avoidance techniques and deterrent devices.
2. Work with and inform 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 and be proactive in coastal management issues.
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 and distribution/ abundance in areas not well surveyed; and determine contaminant load in their environment.
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.

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A well-camouflaged Kittlitz's murrelet egg (right) and adult on a nest (inset).



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