

## 45. THREATENED AND ENDANGERED SPECIES AND SPECIES OF CONSERVATION CONCERN

### 45.1 Introduction

A review of existing information was conducted to derive a list of the threatened or endangered bird and mammal species and species of conservation concern that occur in the Cook Inlet drainages study area (Figure 1-4 in Chapter 1), including adjacent marine waters, and to summarize what is currently known about the conservation status of those species. This work focused on bird and mammal species of conservation concern and did not address other high-profile wildlife species (e.g., bears and moose) that are of concern for subsistence, sport hunting, or ecological reasons, but are not of conservation concern in this part of Alaska. Similarly, another high-profile and federally protected species (Bald Eagle) was not addressed because in Alaska Bald Eagles are abundant and are not considered of conservation concern. In addition to the work on bird and mammal species, an analysis of the potential for a set of rare vascular plant species to occur in the Cook Inlet drainages study area was conducted.

Researchers conducted two activities: a review of data from field surveys and a literature review. Field survey data from 2004 through 2008 (the studies are summarized in Chapter 41 for terrestrial wildlife and Chapter 44 for marine wildlife) were reviewed for species-occurrence information. The literature review was used to assess which species are currently listed as threatened or endangered or of conservation concern and to summarize information on why each of those species is of concern.

To determine which rare vascular plant taxa could potentially occur in the Cook Inlet drainages study area, researchers requested information from the Alaska Natural Heritage Program on those species that have state rankings that indicate rarity (S1, S2, S1S2, or S2S3) and that have been collected in the area. The potential for these species to actually occur in the area was assessed by evaluating the known ranges of the plants, their habitat associations, and the habitats available in the Cook Inlet drainages study area.

### 45.2 Results and Discussion

One bird species (Steller's Eider) that was recorded in the Cook Inlet marine study area is protected as a threatened species under the Endangered Species Act. Critical habitat for Steller's Eiders has been designated and includes breeding and staging areas in the Yukon-Kuskokwim Delta region and molting/staging areas on the northern coast of the Alaska Peninsula; no critical habitat for this species was designated in Cook Inlet. Steller's Eiders were recorded regularly in the Cook Inlet marine study area during winter and early spring; they occurred primarily in offshore waters in the middle portions of Iniskin and Iliamna bays and occasionally in nearshore waters.

Kittlitz's Murrelet is a candidate species under the Endangered Species Act and may be present in the Cook Inlet drainages study area (onshore and/or offshore) given the appropriate nesting and wintering habitat in the area. However, to date, there are no records of the species in the region.

Twenty-four bird species that were recorded in the Cook Inlet drainages study area are considered of conservation concern for Alaska. These species were listed as being of concern by at least two of 10 statewide or national-level management agencies or nongovernmental organizations that address bird conservation issues in the state. These species are Trumpeter Swan, King Eider, Common Eider, Surf Scoter, Black Scoter, Long-tailed Duck, Red-throated Loon, Horned Grebe, Red-faced Cormorant, Pelagic Cormorant, Golden Eagle, Peregrine Falcon, Black Oystercatcher, Marbled Godwit, Black Turnstone, Surfbird, Rock Sandpiper, Dunlin, Short-billed Dowitcher, Marbled Murrelet, Olive-sided Flycatcher, Gray-cheeked Thrush, Varied Thrush, and Blackpoll Warbler. Of these 24 species, 20 are of concern primarily because population declines have been documented or are strongly suspected, either in Alaska or in breeding or wintering areas outside the state. These species also are of concern for a variety of additional reasons, which, depending on the species, can include the following issues:

- Sensitivity to disturbance and contaminants.
- Vulnerability to habitat loss and alteration during the breeding, migration, and wintering periods, but especially during migration and on the wintering grounds, which are often outside Alaska.
- Susceptibility to hunting pressure, fisheries bycatch, or heavy natural mortality during migration.
- Naturally small population sizes.
- Restricted breeding and/or wintering ranges.

Three marine mammal species that have been recorded in the Cook Inlet marine study area are protected as threatened or endangered under the Endangered Species Act. In Alaska, the western "distinct population segment" of Steller's sea lion, which occurs west of 144°W longitude (near Cape Suckling), is listed as endangered. Critical habitat for the western distinct population segment has been designated around known rookery and haulout areas; no critical habitat, however, was designated in lower Cook Inlet in the vicinity of Iniskin and Iliamna bays. Steller's sea lions were recorded during the Pebble Project studies in the Cook Inlet marine study area in small numbers from spring to fall and occurred most often on islands at the mouth of Iniskin Bay and in the open bight between Iliamna and Iniskin bays.

The Cook Inlet population of belugas also is listed as endangered. Critical habitat for belugas within the Cook Inlet marine study area includes all waters within 2 nautical miles of the mean higher high water mark. Belugas have been recorded rarely in the Cook Inlet marine study area, with the most recent observations, in 2007 and 2008, occurring in the fall months; some earlier observations, from 1978 to 2002, occurred during spring and early summer.

Sea otters of the southwestern Alaska population of northern sea otter (listed as threatened) also occur in the Cook Inlet marine study area. The Cook Inlet marine study area is located

within designated critical habitat for this population of northern sea otters; most of the critical habitat area in the study area is composed of waters within the 20-meter isobath (depth contour). During the Pebble Project studies, sea otters were recorded in the study area primarily during winter with only scattered individuals recorded during the spring and summer; they occurred broadly throughout the study area, but most otters were found outside Iniskin and Iliamna bays, in offshore habitats and among the islands at the mouths of the bays.

Two additional marine mammal species recorded in the Cook Inlet marine study area are considered of conservation concern for Alaska. The gray whale was delisted as an endangered species under the Endangered Species Act after its population recovered completely, but the species is still considered of conservation concern (ADF&G, 2006; NMFS, 2010). A single gray whale was recorded in the Cook Inlet marine study area in summer 2004.

The harbor seal also is listed as a species of conservation concern for Alaska. Populations of harbor seals in Alaska are not considered to be depleted (NMFS, 2010); however, some populations in the Gulf of Alaska and Prince William Sound experienced significant declines during the 1980s and 1990s (Angliss and Outlaw, 2007). Those declines presumably led to designation of the harbor seal as a species of conservation concern by two management agencies (ADF&G, 1998; BLM, 2005). Harbor seals were recorded in the Cook Inlet marine study area during all seasons and were the most abundant marine mammals encountered during the marine wildlife surveys.

One terrestrial small mammal of conservation concern, the Alaska tiny shrew, may occur in the Cook Inlet drainages study area. The occurrence of this recently described species in the study area has not been confirmed. The tiny shrew is listed as of conservation concern by the Alaska Natural Heritage Program (AKNHP, 2008). The Alaska Natural Heritage Program classified this shrew as vulnerable in the state (ranking S3), presumably because of its apparent rarity and uncertain conservation status. This ranking warrants further scrutiny, however, as more information becomes available, especially in view of the species' cryptic nature, the possibility of misidentification, the difficulty of capture, and the shrew's widespread distribution, as documented by inventory work in various parts of the state in the decade since the species was described.

The wood frog, which has been recorded in the mine study area (Chapter 16, Section 16.12) and may occur in the Cook Inlet drainages study area as well, is considered of conservation concern in Alaska (ADF&G, 2006). The wood frog is the only species of amphibian that occurs in Alaska north of the southeastern panhandle of the state (Hodge, 1976). In developed areas in eastern Cook Inlet, the species was found to be abundant and widespread (Gotthardt, 2004). Nevertheless, the species is considered of conservation concern in Alaska, as are amphibians worldwide, because of widespread population declines in all groups of amphibians (McCallum, 2007).

Based on data compiled through 2006 (AKNHP, 2006), 17 rare vascular plant taxa with state rankings that indicate rarity (S1, S2, S1S2, or S2S3) were determined to have some potential to occur in the Cook Inlet drainages study area. These species are *Arabis lemmonii*, *Botrychium alaskense*, *Botrychium multifidum*, *Botrychium virginianum*, *Carex heleonastes*, *Catabrosa aquatica*, *Ceratophyllum demersum*, *Draba lonchocarpa* var. *vestita*, *Eleocharis kamtschatica*,

*Eleocharis quinqueflora*, *Eriophorum viridicarinatum*, *Geum aleppicum* var. *strictum*, *Myriophyllum farwellii*, *Potentilla drummondii*, *Primula tschuktschorum*, *Saxifraga adscendens* ssp. *oregonensis*, and *Smelowskia pyriformis*. The conclusion that these species could occur in the Cook Inlet drainages study area is based on the existence of known collections of these taxa within a broad region surrounding and including the study area and the availability of suitable habitats in the study area. Of these 17 rare taxa, six are listed as critically imperiled in Alaska (S1 or S1S2 ranks). These six taxa, however, are ranked as secure globally; they are considered S1 or S1S2 primarily because there are few collection records and/or small populations of these species in Alaska. The remaining 11 taxa are listed as imperiled in Alaska (S2 or S2S3 ranks). Among these 11 taxa, three species (*Botrychium alaskense*, *Primula tschuktschorum*, and *Smelowskia pyriformis*) also are listed as globally imperiled (G2 or G2G3 ranks), primarily because there are few collection records and/or small populations of these species worldwide. All three of these species are endemic to Alaska.

### 45.3 References

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Black Oystercatcher on its nest, Cook Inlet marine study area, June 2011.



Harbor seals hauled out on rocks, Cook Inlet marine study area, August 2007.

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Sea otters resting on ice floes, Cook Inlet marine study area, March 2008.