

44. MARINE WILDLIFE

44.1 Introduction

This study examined the distribution and abundance of marine-oriented wildlife (birds and mammals) during surveys conducted by ABR, Inc.—Environmental Research & Services. The following surveys were conducted:

- Boat-based surveys for birds and mammals during four sampling periods (summer, early winter, late winter, and spring) in each of two study years (2004/2005 and 2005/2006).
- Airplane-based surveys of birds during spring and fall migration in 2004 and 2005.
- Airplane-based surveys of harbor seals between April and December 2005, between May and October 2007, and between June and August 2008.
- Helicopter-based surveys for Steller's Eiders and sea otters throughout the year in 2006 through 2008.

The surveys included species listed as threatened or endangered under the Endangered Species Act (Steller's Eider, sea otter, Steller's sea lion, and beluga), species that have been considered for listing under the Endangered Species Act (Kittlitz's Murrelet), and birds and mammals in general (including species breeding here).

Researchers attempted to describe the distribution and abundance of marine birds and marine mammals in the vicinity of Knoll Head (Figure 1-4 in Chapter 1) in 2004 through 2008. The specific objectives of this study were as follows:

- Determine the seasonal distribution and abundance of birds and mammals during several annual cycles.
- Determine the seasonal distribution and abundance of birds during spring and fall migration.
- Determine the distribution of and seasonal patterns of use for harbor seal haulouts.
- Describe the seasonal species composition of the bird and mammal communities.
- Determine and describe the use of the area by rare, threatened, and endangered species.

44.2 Results and Discussion

During the surveys, researchers recorded at least 69 species of marine-oriented birds. The avian community was dominated numerically by waterfowl and seabirds. These two groups together usually represented more than 95 percent of all birds in the study area, although shorebirds were numerically important during a brief 10-day period in early May, when a few

tens of thousands occupied the extensive mudflats in this area. Other species-groups (waterbirds, raptors, corvids) represented a minor percentage of the avifaunal community. Species richness varied seasonally, with the most species occurring in the spring and, to a lesser extent, in the fall and with the fewest species generally occurring in mid-winter. Abundance also varied seasonally, with the greatest numbers of birds occurring in the spring, when large numbers of waterfowl, seabirds, and shorebirds used the area, and in the fall, when large numbers of waterfowl and seabirds used the area. Densities of birds generally were highest in the nearshore zone.

Species that were particularly abundant included Mallards; Greater Scaup; Harlequin Ducks; Long-tailed Ducks; Surf, White-winged, and Black scoters; and Mew and Glaucous-winged Gulls. During the shorebird migration in the spring, Western Sandpipers and Dunlins also were particularly abundant. In the 1970s, more than 4,100 birds of eight species were estimated to be breeding in the study area, with Tufted Puffins and Glaucous-winged Gulls together representing 85 percent of all birds nesting in the study area (U.S. Fish and Wildlife Service, n.d.). In June 2004, more than 1,200 birds of 10 species were recorded in the study area, although not all were believed to be breeding; in 2005, more than 1,500 birds of 10 species were recorded in the study area, although not all were believed to be breeding. Hence, substantial declines in numbers of Double-crested Cormorants, Common Eiders, Glaucous-winged Gulls, Pigeon Guillemots, Tufted Puffins, and Horned Puffins have occurred since the 1970s.

Twenty species of birds that are classified as being of conservation concern were recorded during the Pebble Project study or are suspected to occur in the study area. Altogether, these 20 species consist of six species of waterfowl, one waterbird species, two raptor species, eight shorebird species, and three seabird species. Of these 20 species, one (Steller's Eider) is protected by the U.S. Fish and Wildlife Service as a threatened species under the Endangered Species Act, and one (Kittlitz's Murrelet) is classified as a candidate species under the Endangered Species Act. (Note that the latter species was not recorded in this study but that the study area is within its range and provides suitable habitat for nesting and foraging.)

During the marine wildlife surveys, researchers recorded six species of marine mammals, saw another one off-transect (gray whale), and had a record of another species from other scientific researchers working in the area (common minke whale). The mammal community was dominated numerically by harbor seals in the summer and sea otters in the winter; together, these two species represented 90 to 99 percent of all marine mammals in the study area. Other species (Steller's sea lion, beluga, and harbor and Dall's porpoise) represented a minor percentage of the mammalian community in the study area. Species richness was difficult to discern because so few species occurred in the study area, but the greatest number of species tended to occur in the spring. Seals were more common in the nearshore zone, whereas sea otters occurred throughout the entire area. Areas occupied by sea otters, Steller's sea lions, and belugas in the spring were similar to those recorded earlier, during Alaska Department of Fish and Game surveys for Pacific herring.

Five of the eight species of marine mammals that either were recorded during the surveys or are known to occur in this area are classified as being of conservation concern. One of the five

species is a mustelid (sea otter), two are pinnipeds (Steller's sea lion, harbor seal), and two are cetaceans (gray whale, beluga). Of these species, two (Steller's sea lion and beluga) are protected as endangered species under the Endangered Species Act, one (sea otter) is protected as a threatened species under the Endangered Species Act, and one (gray whale) is classified as a delisted species under the Endangered Species Act..

In general, islands were the most important habitats for harbor seals and sea otters because they are used as haulout locations; the "Iniskin Islands" (those islands off of the eastern side of the mouth of Iniskin Bay) in particular were of importance to these two species. Sea otters generally started moving into the study area from summering areas farther south in Kamishak Bay in large numbers in November; they generally moved out of the study area by late April or early May, with just a few animals remaining to summer there. The maximal count of sea otters was 1,433 animals during helicopter-based surveys in January 2008. Numbers of seals hauled out in the study area tended to peak during the annual molt in late July to mid-August. The peak count of harbor seals in all three years of fixed-wing surveys was 1,410 animals in August 2007; after applying correction factors for Julian date, time of day, and proportion of seals not hauled out, the estimated total number present in the study area was $1,841 \pm 96$ seals, with a 95 percent confidence interval of 1,652 to 2,029 seals. These numbers are approximately 27 to 35 percent of the total number of harbor seals estimated by the National Marine Fisheries Service to occur in western Cook Inlet.

Belugas were recorded in Iliamna, Iniskin, and Chinitna bays, but only in the fall of 2007 and 2008, and Steller's sea lions generally occur in the area in the spring, presumably because that is when Pacific herring enter the area to spawn.

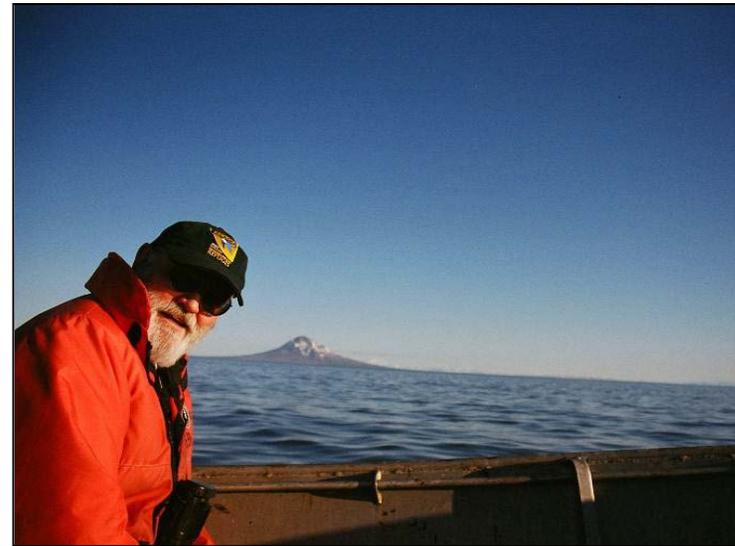
44.3 References

U.S. Fish and Wildlife Service. n.d. Catalog of North Pacific Seabird Colonies. Anchorage, AK. <http://alaska.fws.gov/mbsp/mbm/northpacificseabirds/colonies/default.htm> (accessed May 20, 2010).

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Outer Iniskin Bay in March 2007.



Bob Day conducts boat-based surveys of marine wildlife between Iliamna and Iniskin bays, 2005.



Julie Parrett surveys for Steller's Eiders in Iniskin Bay, 2006.



A flock of Steller's Eiders in Iniskin Bay, 2008.

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Skiff driver David Peterson, bear guard Manuel Anelon, and biologist Pam Seiser observe a brown bear eating a seal and digging up puffin burrows on an islet at the mouth of Iniskin Bay, 2010.