

Bald Eagles in Western Alaska

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When Bald Eagles (*Haliaeetus leucocephalus*) are envisioned, most people picture regal white-headed birds in a background of dark green conifers or grey-barked cottonwoods. This is to be expected, for coastal spruce-hemlock and riparian forests are home to the majority of Alaska's Bald Eagles. But Bald Eagles are also found in other parts of Alaska, including the treeless tundra coasts and scattered patches of boreal forest of Bristol Bay and western Alaska.

This report provides information on the distribution and abundance of nesting Bald Eagles on the northern side of the Alaska Peninsula through Bristol Bay and north through coastal western Alaska to the Noatak River drainage (Figure 1). In Kessel and Gibson's (1978) scheme of biogeographic regions, this corresponds to the northern portion of their Southwestern Region and most of their Western Region. The majority of this area lies west of tree line with tundra the dominant habitat.

Methods

A variety of sources have been used in the compilation of information for this report. Because few systematic surveys for Bald Eagles have been reported from the region, most information was in the form of personal communications and unpublished notes. Much of the data was collected by biologists with the U.S. Fish and Wildlife Service (FWS), National Park Service (NPS) and Alaska Department of Fish & Game (ADF&G). Surveys of sufficient detail to develop estimates of eagle density have been conducted in only a few areas in the region. Several potential sources of information were not available when this paper was prepared and, undoubtedly, many knowledgeable sources were never identified.

A minimum estimate of the number of breeding pairs in this region of Alaska may be derived from the information gathered for this report, but several qualifiers must accompany this attempt:

- 1) the data comes from a variety of sources (e.g., specific raptor surveys, waterfowl surveys, fisheries surveys, birding tours, walrus research, air taxi pilot reports);
- 2) different observer platforms were used (e.g., fixed-wing and helicopter aerial surveys, boats and river rafts, on foot);
- 3) in many cases recent information has been combined with 15-20 year-old data when current data was lacking; and
- 4) for several locales only incomplete coverage (of any data) was available.

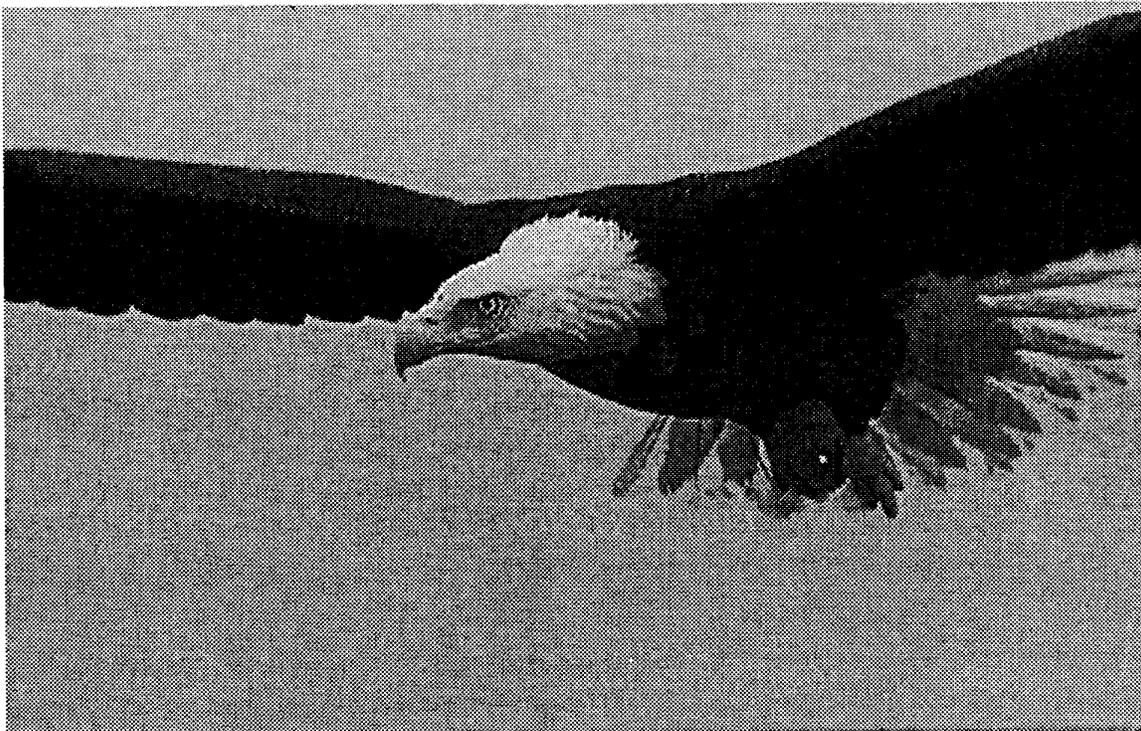
Breeding Distribution and Abundance

Nesting Bald Eagles are found in coastal areas from the western tip of the Alaska Peninsula near Izembek Lagoon, north to Goodnews Bay. Inland from the coast, nesting Bald Eagles are found on the Alaska Peninsula throughout Bristol Bay, north to the Yukon and Andreafsky rivers and occasionally as far north as the Unalakleet River. A very preliminary minimum estimate of the number of Bald Eagles for the entire region would be 160-175 nesting pairs.

For the following discussion, the region has been broken down into the following subregions: north side of the Alaska Peninsula, Naknek River drainage, Kvichak River drainage, Nushagak River drainage, Togiak, Yukon/Kuskokwim Delta and North of the Yukon drainage (Figure 2).

North Side of the Alaska Peninsula

On the north side of the Alaska Peninsula, southwest of, but not including the Naknek River drainage, approximately 30 nest sites are known. Nineteen sites were active in the Port Moller/Herendeen Bay/ Nelson Lagoon in a single year, 1976 (Gill et al. 1981). This is the only locale that has been thoroughly surveyed in this subregion. No information was found for the Port Heiden/Black Lake, Cinder River and Egegik/Becharof Lake locales. With Bald Eagles using a variety of nest sites in this subregion, including bluffs, cliffs, pinnacles, sand dunes, shrubs, balsam poplar (*Populus balsamifera*) trees and man-made structures, many locales that on first sight might be considered unsuitable for nesting require a detailed search before they can be considered vacant.



Bald Eagle gliding. Photo by Daniel Zatz. Naknek River Drainage

In the Naknek River drainage, an average of 16 active nests occur annually. Over the past 15 years, more than 30 different nest sites have been located. Recently about two thirds have been found in spruce (*Picea*) trees, with the remainder in balsam poplars; but in the 1970's poplar nest sites outnumbered spruce nests 2.4 to 1 (Katmai Natl. Park unpubl. rep.). One ground nest on a small island in Naknek Lake was reported in the late 1960's (D. Gibson pers. comm.) and occasional cliff nests on islets were reported in the 1970's (W. Troyer, Katmai Natl. Park, unpubl. rep.).

Kvichak River Drainage

Around 35-40 nests are likely active each year in the Kvichak River drainage. About 15 of these are found on the Alagnak River and the lakes it drains. Iliamna Lake and the streams feeding into it have not been systematically surveyed, but at least 10 nesting pairs are probably found there. Eleven active nests were found around Lake Clark and drainages feeding into it in 1990. The majority of nests in Lake Clark National Park are found in balsam poplar trees (J. Fowler, pers. comm.).

Williamson and Peyton (1962) discuss the historical abundance of Bald Eagles in the Iliamna Lake area and suggest their numbers have increased markedly since 1900. At the turn of the century, Osgood saw just one Bald Eagle on this large lake and only five in total while crossing the peninsula (Osgood 1904). By the 1930's and 40's, Bald Eagles were considered common in most natural history reports from the area.

Nushagak River Drainage

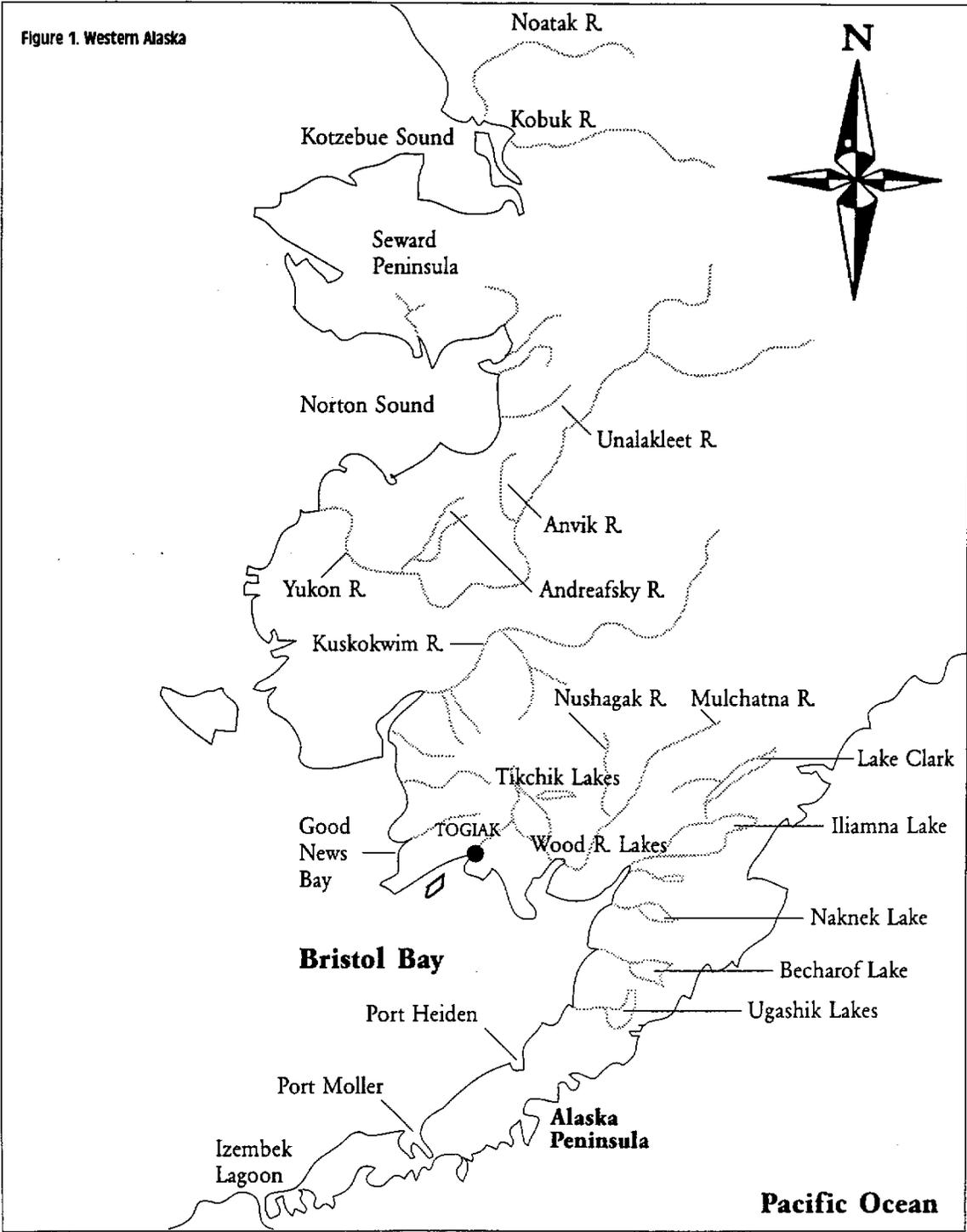
A minimum of 25 nesting sites have been reported over the years by a variety of sources. Twelve of these were in the Mulchatna River drainage, with the remainder from the Wood/Tikchik Lakes and the Nushagak River. Nearly all reports are of tree nests, though a ground nest has been observed on an island in Tikchik Lake.

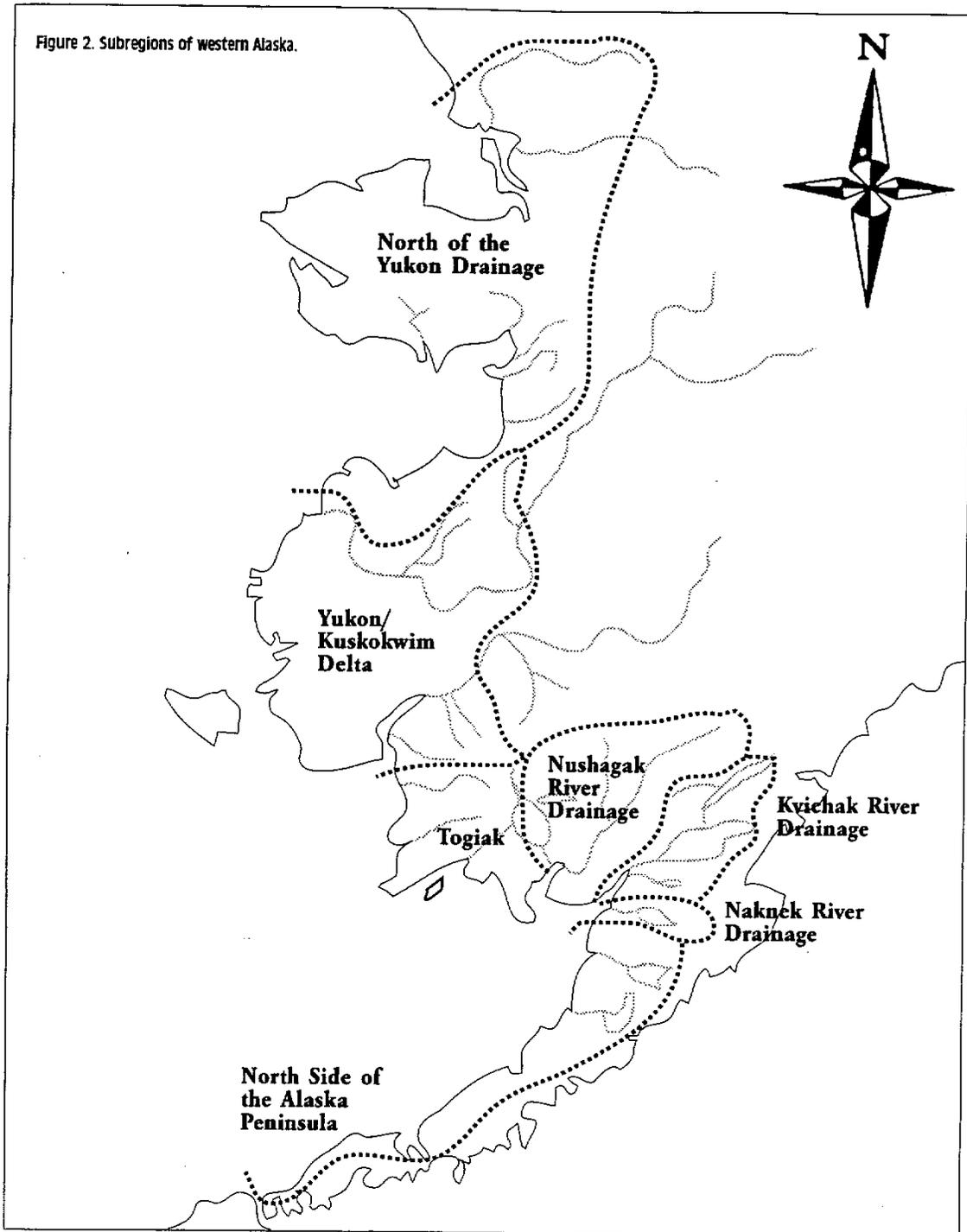
Togiak

Forty-five to fifty nests are likely active in this subregion each year. Inland from the immediate coast, Togiak National Wildlife Refuge (NWR) personnel have accumulated records for 40 nest sites, with approximately 25 active each year (L. Hotchkiss and D. Campbell, Togiak NWR unpubl. rep.). Most nests are found in deciduous trees clustered in groves (90%, mostly balsam poplar), or spruce standing alone on the tundra (10%), though at least one nest has been found atop a rock outcrop on a tundra-covered hill. A recent survey of the coast in the center of the subregion found 11 active nests. These nests were on pinnacles, cliffs and bluffs overlooking the sea (J. Wright, unpubl. data).

Yukon/Kuskokwim Delta

Few nesting Bald Eagles have been reported from this primarily flat, open expanse of wet tundra. About five nests have been seen in the lower Kuskokwim drainage, mostly on tributaries south of the main river. Two nests have been reported on sloughs of the Yukon River in the vicinity of Marshall and 3 or more may be active annually in the Andreafsky drainage. White and Boyce (1978) reported 2 nests on the Anvik River, on the lower river below the mouth of the Yellow River. All reports from this subregion were of tree nests.





Nesting Density

Four areas have been surveyed with sufficient intensity to determine nesting density. The Port Moller area was surveyed completely by air and boat in 1976 (Gill et al. 1981, R. Gill pers. comm.). Nineteen active nest sites were located along approximately 160 miles of shoreline, roughly 1 nest per 8.5 miles (13.5 km). In Katmai National Park, aerial surveys have been conducted in most years since the mid-1970s. In 1988, 402 miles of

lake and river shore were surveyed. Twenty active nests were counted, equaling 1 nest per 20 miles (32 km) (Katmai Natl. Park unpubl. rep.). The NPS also conducted aerial surveys in Lake Clark National Park. Five active nests were found in 1990 around Lake Clark, roughly 1 nest per 25 miles (40 km) of shoreline (J. Fowler, pers. comm.). The fourth area to be intensively surveyed was the coast in the vicinity of Togiak. A helicopter survey of 212 miles of mainland and island shores in 1990 found 11 active Bald Eagle nests, or approximately 1 nest per 20 miles (32 km). Golden Eagles were seen at 4 sites mixed in with the Bald Eagles (J. Wright, unpubl. data). Data are accumulating in other areas, such as Togiak National Wildlife Refuge; density estimates for large blocks of land within the region may be available in the future.

Productivity

Information on the number of young raised to near fledgling age is available from three areas. At Port Moller in 1976, an average of 1.9 young were found in 15 successful nests (R. Gill, unpubl. data). From 1976-79 in Katmai National Park, the average number of young per successful nest ranged from 1.6 to 2.2 (n = 12 to 16 nests). Considering all active nests found earlier in the season, productivity ranged from 1.2 to 1.8 (n = 15 to 22 nests, W. Troyer, Katmai Natl. Park, unpubl. rep.). On the Togiak NWR, the number of young per successful nest ranged from 1.5 to 1.9 between 1986-88 (n = 7 to 20 nests). The number of young per active nest for 1987-89 ranged from 0.95 to 1.15 (n = 11 to 26 nests, L. Hotchkiss and D. Campbell, Togiak NWR, unpubl. rep.).

Broods of three young were surprisingly common in some years at Katmai National Park. In 1976, 6 of 12 successful nests held three young. From 1977-79, the percentage of successful nests with three young ranged from 7-27%. At Port Moller in 1976, 2 of 15 successful nests held three young. No broods larger than two were reported from Togiak NWR.

Fall and Winter Distributions

Late-spawning red salmon (*Oncorhynchus nerka*), fall runs of silver salmon (*O. kisutch*) and fall-staging waterfowl provide locally concentrated food sources at many sites in the region. Although no systematic effort has been made to identify fall congregation sites of Bald Eagles in this region, several have been noted: Port Moller in August, but dispersed by September; and, Savonoski River between Naknek Lake and Lake Grosvenor in October (173 eagles, including 136 subadults, seen in mid October 1975, W Troyer, Katmai Natl. Park, unpubl. Rep.).

A number of Bald Eagles overwinter in the region. In the Port Moller area, four adults and six subadults were seen in January 1977 and up to 20 adults in December were reported by local residents (Gill et al. 1981). On the Naknek River, 4-5 adults and 8-10 sub-adults were commonly seen in winter (D. Russell, pers. comm.). Approximately 20 eagles remain on the Togiak NWR over winter (L. Hotchkiss and D. Campbell, Togiak NWR, unpubl. rep.) and from one to a few adults were regularly seen just off the refuge at the river outlets of the Wood River lake system.

Prey

Information on prey taken by Bald Eagles has been reported from just one nest site in the region. Prey remains were collected at a coastal nest in the Togiak subregion in the early 1970's. Remains of salmon (*Oncorhynchus* spp.), wolf fish (*Anarhichadidae*), kittiwakes (*Rissa* sp.) and Tufted Puffins (*Fratercula cirrhata*) were identified (M. Dick, unpubl. FWS rep.).

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