

OBSERVATIONS ON THE BALD EAGLE OF THE ALASKA PENINSULA

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Abstract: The nesting chronology and success of 12 northern bald eagles on the Alaska Peninsula is recorded. Thirty-six observations of eagles' fishing activities were observed, four of which were successful and are related in detail. Eagles were observed feeding on dead or dying fish and mammals on nineteen occasions, two of which are described. Remains of prey found in and around the base of six bald eagle nests are listed.

INTRODUCTION

Because the U. S. Fish and Wildlife Service has classified the southern bald eagle (Haliaeetus leucoccephalus leucoccephalus) as an endangered species (Bureau Sport Fisheries and Wildlife, 1966) I felt it worthwhile to see what information I could collect during the summer of 1968 on the status of the birds closest subspecies on the Alaska Peninsula. This information supplements two other recent studies by Troyer & Kensel (1965) and Robard & King (1966) on the northern bald eagle (H. l. alasanus).

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METHODS

Nests were located by flying over areas suspected of harboring bald eagles. I used 7 x 35 binoculars to locate birds and nests. Nests were carefully examined from the air to see if they were occupied. The location of nests was marked on a map. Time permitting, nests were checked on the ground. Whenever possible nests were rechecked throughout the summer.

RESULTS

I obtained a total of 321 observations of bald eagles on the Alaska Peninsula from June 23, 1968 to September 7, 1968. One hundred and five of these observations were of non-nesting juveniles. The area examined extended from Unimak Island (lat. 54.5N; long. 163.8W) northeast to Bear Lake (lat. 57.8N; long. 160.5W) a distance of approximately 128 miles. A total of 12 nests were discovered. All but one of the nests were on the mountain range on the Pacific side of the Peninsula, presumably because this side lacks mountains providing elevated nesting sites. The 11 nests on the Pacific side of the Peninsula were spread over approximately 39 miles of shore line from Iktatan Bay northeast to Belkofski Bay (Figure 1); this is approximately one nest per 3.5 miles of shoreline.

The majority of the nests were on rocky pinnacles and outcrops adjacent to water (ocean or lakes) and were 20 to 450 feet above the water. The nests were constructed with driftwood, sea weed, grass and debris. The outside diameter of the nests varied from 68 to 73 inches and averaged 70.5 inches. The inside diameter varied from 13 to 16 inches and averaged 14.5 inches. The nests varied from 3.5 to 4.5 inches in depth and averaged 4 inches.

Nesting Chronologs. I found eggs and small downy young on June 19. Assuming an incubation period of 35 days (Bent, 1936), the eggs were probably laid during the second week of May.

The first chicks I observed were quite small and covered with a very light sooty-gray, silky down. Six weeks later the down was largely replaced by dark gray to black plumage. At nine weeks they were very large. They probably fledged when 10 to 11 weeks of age since several nests were empty when last inspected 10 to 11 weeks after they contained eggs or young chicks.

Nesting Success. Six nests contained from 1 to 3 eggs with an average of 1.91 eggs per nest. The other 6 nests contained from 1 to 3 downy young when first discovered, also with an average of 1.91 chicks per nest (Table 1). Subsequent inspections of the nests revealed that all but one of the eggs hatched and that all of the chicks that hatched survived to the age of fledglings (Table 1), resulting in a calculated fledgling rate of 1.83 young per nest.

The fledgling rate found in this study averaged 0.13 higher than that reported by Troyer & Kensel (1965) for Kodiak Island and 0.39 higher than that reported by Robards & King (1966) for southeast Alaska. However the number of nests examined by these investigators was 15 to 54 fold greater than the number examined by me. The fledgling rates on the Alaska Peninsula probably are comparable to the rates reported by Troyer & Kensel (1965) and possibly slightly higher than the rate reported by Robards & King (1966).

Feeding and Feeding Behavior. I made a total of 36 observations on the fishing activities of bald eagles. On four of these occasions the birds were successful in capturing fish. On June 23, on the Pacific side of the Peninsula at a small stream just north of Cape Pankof, a bird was perched on a rock in the middle of the stream. I watched it for almost two hours when suddenly it plunged from its

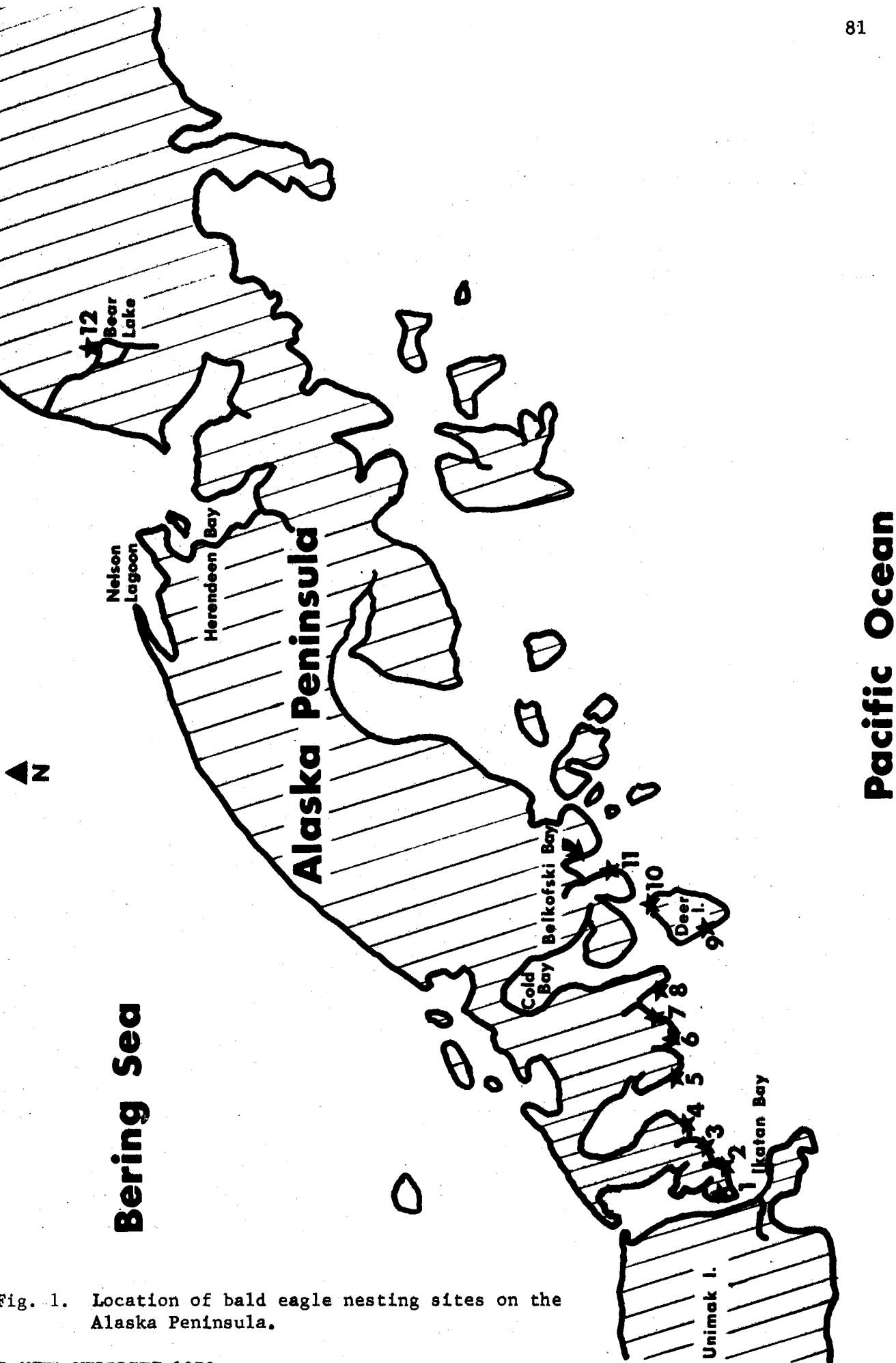


Fig. 1. Location of bald eagle nesting sites on the Alaska Peninsula.

Table 1. Nesting Success of 12 Bald Eagle Nests on the Alaska Peninsula.

<u>Nest</u>	<u>Status when Discovered</u>	<u>No. of Full Feathered Chicks</u>	<u>Status When Last Examined</u>
1	2 eggs	2	2 fledglings
2	2 downy young	2	empty
3	3 downy young	3	empty
4	4 downy young	2	empty
5	2 eggs	1	1 fledgling
6	2 eggs	2	2 fledglings
7	2 downy young	2	empty
8	2 downy young	2	empty
9	1 egg	1	1 fledgling
10	2 eggs	2	2 fledglings
11	2 eggs	2	2 fledglings
12	1 downy young	1	1 fledgling

perch and struck something in the water with its talons. The water was only a few inches deep. The eagle struggled for a few seconds with its prey, then flapped its wings and hopped to shore on one foot, the other foot retaining the victim. The bird stood on the stream bank and pecked its catch, a sizable pink salmon (Oncorhynchus gorbusha), on the head a few times. After a few minutes the eagle flew off with the fish, presumably to its nest.

The remaining three successful fishing observations (July 2, 9, and August 6) were also quite similar. The eagles would perch on a rock or tree in or immediately adjacent to the mouth of a stream. They would fly off their perches with two or three quick strokes of their wings and strike fish entering the shallow waters of the mouths of streams. The eagles always hit the water talons first and would hop to shore on one foot, while dragging their prey with the other foot. The prey on these latter instances were red salmon (Oncorhynchus nerka) and were estimated to weigh from 2 to 10 pounds.

Eagles also were observed feeding on dead or dying fish and mammals on 19 separate occasions. Nine times on king salmon (Onchorhynchus tshawytscha), three times on red salmon, five times on harbor seals (Phoca vitulina), once on a decapitated walrus (Odobenus rosmarus) and once on a narwhal (Monodon linnaeus).

Of these observations, two were of interest. On July 23, I had been watching two eagles working the beach of Nelson Lagoon. I saw them land and start feeding on a stranded but still living male narwhal about 14 feet long. On August 7, just north of Cape Sinievan, I observed an eagle feeding on a harbor seal; as I watched, a wolverine (Gula luscus), which apparently had been combing the beach, ran directly toward the eagle and drove it off the dead seal. The eagle did not resist but simply flew away.

On August 11 and September 5 a total of 10 plastic fish tags were found at nest number 12, near Bear Lake (Figure 1). The tags were from red salmon tagged by personnel of the Alaska Department of Fish and Game at a weir on the mouth of Bear Lake. Biologists tag 1% of the run in order to determine where the red salmon are spawning. If eagles captured fish on a random basis, then the ten tags would represent 1% of the total number of fish caught. One might infer that the birds captured a total of 1,000 red salmon during a period of 3 months. In actuality however, tagged fish were probably more vulnerable than untagged fish to predation by bald eagles.

I observed eagles concentrated on streams a total of 69 times. The majority of the concentration involved from 1 to 3 eagles which were attracted to the streams by runs of spawning salmon. One stream on the southwest side of Herendeen Bay is of particular interest. It contained an unusually large number of dog salmon (Oncorhynchus keta). Concentrations of 8 to 22 eagles (averaging 11 adults and 4 juveniles) were observed in the vicinity of the mouth of the stream on eight separate occasions (July 17, 23, 25, 30, 31, August 1, 10, and 12). There are some very large cliffs on either side of the canyon in which the stream is located and I believe there are probably several active nests in the area. Table 2 contains a listing of nests investigated for prey remains. Species included fish, birds, and mammals.

Table 2. Prey Remains Found In and Around Six Bald Eagle Nests.

<u>Prey Species</u>	<u>No. of Nests</u>
1. Dolly Varden Trout (<u>Salvelinus malma</u>)	2
2. Red Salmon (<u>Oncorhynchus nerka</u>)	3
3. Dog Salmon (<u>Oncorhynchus keta</u>)	3
4. Pink Salmon (<u>Oncorhynchus gorbuscha</u>)	1
5. Rock Fish (<u>Sebastes sp</u>)	1
6. Unknown Fish	3
7. Cormorant (<u>Phalacrocorax sp</u>)	1
8. Harlequin Duck (<u>Histrionicus histrionicus</u>)	2
9. Red Breasted Merganser (<u>Mergus serrator</u>)	1
10. Glaucous Winged Gull (<u>Larus glaucescens</u>)	1
11. Unknown Bird	1
12. Caribou Leg	1

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