Alaska Department of Fish and Game
Division of Wildlife Conservation

Research Final Report
1 July 1994 - 30 September 1994

Documentation of Peregrine Falcon Nest Sites in Relation to State Land Use Proposals

by
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and
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Grant SE 2-8 Part II
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SUMMARY

In 1994 we surveyed the Sagavanirktok River in northern Alaska and Tanana River in Interior Alaska to monitor the number and productivity of peregrine falcons (*Falco peregrinus*). Population monitoring began on these rivers in 1979 and they were subsequently established as representative study areas in the Peregrine Falcon Recovery Plan - Alaska Population (US Fish and Wildlife Service 1982). This was the sixteenth annual survey of the recently delisted arctic peregrine falcon (*F. p. tundrius*) along the Sagavanirktok River and the endangered American peregrine falcon (*F. p. anatum*) along the Tanana River. Effective October 4, 1994, the threatened arctic peregrine falcon was delisted by the US Fish and Wildlife Service (FWS).

On the Sagavanirktok River we observed 17 pairs and 4 lone adults. We observed 14 successful pairs with 38 young (2.71 young per successful pair). This year was the highest number of young ever recorded for the Sagavanirktok River. We banded 33 young with an aluminum leg band and a blue color band, each band on separate legs. Warm, sunny, mild weather during the nestling period contributed to the high nesting success observed in 1994. The number of banded adults in the breeding population is low. Among the 38 individuals breeding this year, 4 birds (11%) are marked with color bands, 5 birds (13%) are marked with normal leg bands, 21 birds (58%) are unbanded, and 8 birds (21%) were not observed. Two males banded as nestlings on the Colville River, 1 each in 1988 and 1990, are now breeding successfully on the Sagavanirktok River. Also, 1 male hatched in 1990 near Pump Station 2 is now breeding at the middle portion of Franklin Bluffs.

On the Tanana River we observed 27 pairs and 1 lone adult. We observed 74 young (19% more than the 62 young seen in 1993) and banded 64. An average of 3.08 young were seen in 24 successful nests. Compared with 1993, the number of occupied sites increased by 1 pair. Favorable weather during the nesting season and an increase in the number of successful pairs contributed to the large increase in young produced. Observations of 24 color-banded birds show nestling and adult dispersal patterns. Fourteen nestlings returned to their natal river to breed, moving an average distance of 96 km from their birthplace. Five nestlings and 1 subadult banded on the Yukon River have relocated to the Tanana River, moving 190-445 km. Three birds banded as breeding adults in 1990-1992 returned to the same breeding sites in all years since initial banding.

Key words: dispersal, *Falco peregrinus*, monitoring, nesting, peregrine falcon, productivity, Sagavanirktok River, Tanana River.

CONTENTS

BACKGROUND

The peregrine falcon (*Falco peregrinus*) is a well-known and popularized endangered species that has recovered substantially from the drastic declines and extirpation that occurred in Europe and North America during the 1960s as a result of pesticide contamination (Hickey 1969). Populations of 2 of the 3 subtaxa in Alaska (White 1968) were reduced significantly and were listed as endangered in 1973. The American peregrine falcon (*F. p. anatum*) inhabits the boreal forests and is now

classified as endangered by the federal government. The arctic peregrine falcon (*F. p. tundrius*) lives in northern tundra regions. It was reclassified from endangered to threatened status by federal authorities in 1984 and was delisted effective 4 October 1994. Both the American and arctic peregrine falcons were removed from the Alaska State Endangered Species List in 1993. Peale's peregrine falcon (*F. p. pealei*), the third subtaxon in Alaska, lives in coastal regions of the state from the Aleutians south through the Gulf of Alaska and southeastern Alaska. Unlike the first 2 subtaxa that are long-distance migrants wintering as far south as Argentina, Peale's falcons are year-round residents of Alaska or short-distance migrants along the west coast of North America and have never been classified as threatened or endangered.

As part of a national program to restore peregrine falcon populations, the US Fish and Wildlife Service (FWS) established the Alaska Peregrine Falcon Recovery Team to develop a recovery plan for American and arctic peregrine falcons (US Fish and Wildlife Service 1982). The plan recognized the importance of monitoring population trends, identifying nesting habitats and prey species, and protecting nesting areas from incompatible human activities. The recovery plan established 4 representative study areas (2 areas for each subtaxon) to monitor the status and recovery of the peregrine falcon in Alaska. The representative areas for the recently delisted arctic peregrine falcon are the Colville and Sagavanirktok rivers. The representative areas for the endangered American peregrine falcon are the Tanana and upper Yukon rivers. The FWS and the Bureau of Land Management (BLM) assumed responsibility for surveying all areas from 1979 to 1990. With funding provided by FWS, since 1991 the Alaska Department of Fish and Game (ADF&G) has assumed the responsibility to monitor the populations on the Sagavanirktok and Tanana rivers.

Roseneau et al. (1981) summarizes the early history of numbers and occupancy of peregrine falcons on the Sagavanirktok and Tanana rivers. Intermittent surveys from the late 1960s through the 1970s show the number of peregrines declined to 1 pair on the Sagavanirktok River in 1976 and just 2 lone adults and no pairs on the Tanana River in 1976. Annual monitoring of each study area began in 1979, and these surveys show a steady recovery in numbers and productivity for each population.

For the Sagavanirktok River, survey coverage has changed considerably over the years. Prior to 1991, Franklin Bluffs, Sagwon Bluffs, and a few isolated areas (e.g., Ice Cut, Happy Valley) were the only areas regularly surveyed along the river. The other portions of the river were excluded because they were not considered to contain suitable nesting habitat. During the late 1980s repopulation along many rivers of the central North Slope (Robert Ritchie, pers. commun.) suggested that peregrine falcons were probably nesting along the unsurveyed areas of the Sagavanirktok River. Beginning in 1991 a concerted effort was made to survey the entire river below 2000 ft elevation. Survey coverage increased from approximately 40 km to 160 km, yielding a near 2-fold increase in the number of occupied sites. The increase in

occupied sites in 1991 was primarily the result of increased survey coverage/effort, yet during the same time population recovery was also contributing to the increased number of occupied sites.

For the Tanana River survey coverage is much more comparable throughout the years. In 1985 the survey area was expanded 50 km upstream of Tanacross to include a newly found pair at the Tok River. In 1992 the survey area was expanded from Fairbanks to Nenana (100 km) to include 2 historic nest sites that were not part of the survey coverage.

OBJECTIVES

The field study objectives for peregrine falcons in 1994 were the following:

1 Locate nesting territories
2 Determine productivity
3 Band nestlings
4 Collect prey remains
5 Append the atlas of nest cliff photographs

STUDY AREA AND METHODS

The study areas were along the Sagavanirktok River in northern Alaska and the Tanana River in Interior Alaska (Fig. 1). In 1994 we conducted 2 surveys in each study area. On the first survey during the early nesting period we determined the number of birds attempting to breed in the area. On the second survey during the mid to late nesting period, we determined the number of pairs successful in rearing young. We visited nest sites during the second survey to band young and to collect samples (addled eggs, molted feathers, prey remains, etc.).

We check for nesting pairs on steep soil banks, gravel exposures, rock cliffs, and similar habitats during our surveys. Whenever possible we check the area from an island, sandbar, or riverbank by using a frontal view of the habitat. However, in many circumstances we must make our observations while floating past a nesting area.

When on the ground, we look for perched or flying birds or evidence of nest sites by carefully checking the bluff or cliff with binoculars or spotting scopes. We use a Field Model Questar spotting scope (65x magnification) to view nest ledges from a distance without disturbing the birds. It is common to document occupancy by finding incubating birds with the Questar scope. Since peregrines respond vocally to intruders in their nesting areas, listening for defensive calls or courtship calls is an important survey technique in suitable conditions. Wind, rain, river noise, or other loud noises often obscure faint or distant calls of the birds. Climbing the area is sometimes

necessary to help locate birds or their nest sites. If birds are present, our activities are performed quickly to minimize disturbance to nesting pairs. If birds are not located, we remain in the area as long as possible to detect birds as they become conspicuous in their normal activities. The FWS recommends a minimum of 4 hours observation before assuming a site is unoccupied; however, this is sometimes not achieved at potential nest locations because of the large area to be surveyed in a short time. When peregrine falcons are observed, the exact location is plotted on photographs or maps of the area.

During the second survey we climb to nest sites using standard rock climbing techniques. We count and band nestlings, collect prey remains, addled eggs, and other samples from the vicinity of the nest site. Nestlings are banded with FWS lock-on aluminum leg bands on the right leg and an auxiliary marker color band on the left leg. The color band is an anodized aluminum, riveted leg band that has an engraved alphanumeric code. Two colors are used following the protocol developed by the FWS: arctic peregrine falcons are banded with blue bands and American peregrine falcons are banded with black bands. The engraved code on the color band is large enough to be read with a powerful spotting scope. We use the Questar scope to read the color-band codes on previously banded birds.

Each nesting area or area of potential nesting habitat is photographed with a 35 mm camera to prepare an atlas of nesting sites. The photographs are taken to show a distant view of the general landform, as well as a series of overlapping close-up views to show detail of the exact nest location. Most of the photography is completed in June and additional observations of peregrines are recorded on the photographs during the second survey. These photographs are stapled within polyethylene sleeves and observations written on the sleeve with a fine-tipped waterproof marker.

All nesting locations are recorded on 1:63,360- and 1:250,000-scale US Geological Survey maps. Numbers, productivity, nesting status, activities, and nest-site characteristics are recorded on Raptor Observation Record Cards developed for the Alaska Raptor Database used by FWS. The maps, cards, banding data, and samples are filed with FWS Endangered Species Branch, Ecological Services, Fairbanks, Alaska.

Sagavanirktok River

The Sagavanirktok River is a glacial river that flows northward from the Brooks Range to the Arctic Ocean in the central North Slope of Alaska. The study area includes the main river from the foothills near Slope Mountain in the southern portion of the drainage to the north end of Franklin Bluffs near the river delta at Prudhoe Bay. Peregrine falcon nesting habitat along the river ranges from large cliff exposures to less prominent soil and gravel banks.

The Sagavanirktok River was surveyed using 2 methods, by raft and by foot, during 2 periods. We surveyed the area in mid June to detect as many peregrine falcons as possible, and from late July to early August we revisited all confirmed locations to band nestlings, collect samples, and determine nesting success.

The first survey was conducted by 2 observers in an Avon Redshank raft and on foot between 14 June and 20 June. The area surveyed by raft included the southern foothills beginning at the Slope Mountain Department of Transportation Maintenance Station and continued north to the Dalton Highway opposite the midsection of Franklin Bluffs. A foot survey continued 5 km north from this point to the northern terminus of the bluffs. The second survey was conducted by raft from 27 July to 4 August. The area covered included the section of river from the vicinity of Pump Station 3 to Franklin Bluffs. Several nest sites in the southern area and the northern portion of Franklin Bluffs were checked by foot survey. Staff from ADF&G (Bente and volunteers) conducted all surveys during both survey periods.

Tanana River

The Tanana River is a glacial river flowing westward through the Tanana Uplands of Interior Alaska. The study area includes the Tanana River from the Tetlin Bridge, approximately 16 km east of Tok, to Nenana, excluding the section between Salcha River and Fairbanks that lacks suitable nesting habitat.

The first survey on the Tanana River occurred from 24 May to 3 June to determine all locations where peregrine falcons were attempting to breed. A second survey occurred from 29 June to 12 July to determine nesting success and productivity and to band nestlings and collect samples. Both surveys were conducted by ADF&G staff (Bente and volunteers) using a 20-ft outboard jet-powered riverboat that allowed boating along the shallow channels common in this braided, glacial river.

RESULTS AND DISCUSSION

Survey Coverage

In northern Alaska we surveyed 157 km of the Sagavanirktok River. This was the same as the survey coverage in 1993. The marginal habitat in the foothills south (upstream) of Slope Mountain Department of Transportation Maintenance Station was not surveyed. The southern area was last surveyed in 1991. In future years, if pairs are found between Ribdon River and Pump Station 3, it is recommended the entire southern area be surveyed again to detect nesting pairs in this area of marginal habitat.

In Interior Alaska we surveyed 418 km of the Tanana River. This was the same as the survey coverage in 1993. As in 1993, the portion from Luke Slough to the Totatlanika River was not surveyed.

Nesting Territories

In the Sagavanirktok River study area, 21 locations were occupied by peregrine falcons (17 pairs and 4 lone adults, see Table 1). The average straight-line distance between pairs was approximately 9 km. Table 2 lists observations and locations during 1994.

Table 3 summarizes the recent history of occupancy and productivity on the Sagavanirktok River. In 1994 the number of sites with pairs decreased by 6, compared with 1993. This is the first year since 1986 there were fewer pairs attempting to breed than in the previous survey year. Lingering snow drifts at Sagwon Bluffs and along the east side of the valley may have caused the decrease in number of pairs. Many previous nesting sites were covered by snow during the June survey and alternative nesting areas were not available.

In the Franklin and Sagwon Bluffs areas that have been surveyed regularly since 1972, the number of occupied sites (9 pairs and 2 single adults) decreased, compared with the previous 2 years (Fig. 2). Compared with 1993, the numbers decreased by 6 pairs and 1 single adult. The number of locations observed in 1994 was the same as the number reported for 1991. The decline in 1994 was largely the result of fewer pairs at Sagwon Bluffs.

In the Tanana River study area, 28 locations were occupied by peregrine falcons (27 pairs and 1 lone adult, see Table 1). The average straight-line distance between pairs was approximately 16 km. Table 4 lists our observations and locations during 1994.

Table 5 summarizes the recent history of occupancy on the Tanana River. In 1994 the number of sites with pairs increased by 1 pair. The recent pattern of increasing number of pairs is still occurring, although the annual increments have been small (1 pair) in 1993 and 1994.

Productivity, Banding, and Nesting Phenology

Sagavanirktok River: In the Sagavanirktok River study area, the number of successful pairs increased from 11 in 1993 to 14 pairs in 1994. These productive pairs reared the largest number of young among all survey years.

The 14 successful pairs produced a minimum of 38 nestlings. The remaining 3 pairs failed to produce young. Productivity averaged 2.71 young per successful pair and

2.24 young per total pair. Of the 38 nestlings observed, 33 were banded (Table 6). Since 1979, 189 nestlings have been banded in the study area.

Warm, mild, dry weather during the nestling phase probably contributed to the high production of young in 1994. Few unhatched eggs were encountered during nest visits to band nestlings. Instead, relatively large broods of healthy chicks were observed. There were no weak or dead nestlings in nests as were observed in 1993.

Table 7 shows the proportion of banded adults in the study area. Table 8 lists the banding status of each bird at every nesting location. We observed 9 (24% of all individuals) banded adult birds and 21 (55%) unbanded adults during this survey. The remaining 8 birds (21%) were not seen well enough to determine leg banding status. The number of unbanded birds in the population increased by 25% from 1993 to 1994. This large increase is partly the result of better effort yielding fewer unobserved birds in 1994. But it is also likely that unbanded birds born outside of the Sagavanirktok River banding area are moving to the study area to breed. This suggests there is a sizeable breeding population peripheral to the Colville River and Sagavanirktok River banding areas of the North Slope.

The increase in population outside the Sagavanirktok River study area is confirmed by observations of occupied sites in the central North Slope region (Robert Ritchie, unpubl. rep. to ADF&G). Ritchie found 3 locations in 1985, increasing steadily to 29 locations in 1993 along the Anaktuvuk, Itkillik, Toolik, Ivishak, Shaviovik, Kavik, and Echooka rivers.

We were able to read the color-band codes on 3 of 4 color-banded adults. The banding location of previously color-banded birds is summarized in Table 9. A 4-year-old adult male breeding at Franklin Bluffs was raised on the Sagavanirktok River near Pump Station 2 in 1990. This bird moved approximately 55 km from natal to breeding area. Two birds born on the Colville River are now breeding successfully for the first time on the Sagavanirktok River. A 6-year-old male moved 145 km to nest near Pump Station 2, and a 4-year-old male moved 115 km to nest at Franklin Bluffs. We could not read the complete code on the color band of the 4th bird, but it was likely the same bird seen at Sagwon Bluffs in 1993. If this was the same bird (i.e., 3H[HVBLU]L), it was hatched on the Colville River in 1991 and for 2 years it has been unsuccessful at rearing young on the Sagavanirktok River.

Based on the estimated age of young in 14 nests, the age of nestlings at banding shows a 12-day span in hatch dates. The youngest nestlings were approximately 21 days old and the oldest nestlings were approximately 34 days old during the survey at the end of July. By using the observed age of nestlings to calculate the range in nesting phenology, initiation of egg laying occurred during 22 May-8 June, hatching occurred 28 June-15 July, and fledging occurred 7-25 August. Nesting phenology dates are based on 7 days for laying a complete clutch of 4 eggs, 34 days incubation

beginning 4 days after laying the first egg, and 40 days from hatching to fledging. The initiation of nesting was similar to the dates observed in 1991-1993; however, there was less synchrony among successful pairs in 1994 causing a wider range in hatching dates (Bente and Wright 1992, 1993, 1994).

Tanana River: In the Tanana River study area, 24 pairs produced a minimum of 74 nestlings. The remaining 3 pairs failed to produce young to banding age. The number of young is a minimum value because we were unable to get an unobstructed view of 3 nest sites, and there may have been more young present. Productivity averaged 3.08 young per successful nest and 2.74 young per total pairs.

Table 5 summarizes the recent history of productivity on the Tanana River. The number of successful pairs increased from 19 in 1993 to 24 in 1994. The increase in successful pairs and the high productivity of individual pairs caused the highest production of young (n = 74) ever recorded on the Tanana River. The previous record high of 62 young occurred in 1993. Since survey coverage has been relatively consistent among years, the increase in pairs and productivity reflects the trend of an increasing population of peregrine falcons along the Tanana River.

Persistent warm, dry weather during incubation and nestling phases contributed to the increased production of young in 1994. There were few addled eggs and most nests contained 3 or 4 young (1 young, 8% of successful nest sites; 2 young, 21%; 3 young, 33%; 4 young, 38%). As in 1993, several nests contained healthy young with wide variations in age, indicating that late-hatching chicks were not lost through competition for food or due to poor weather. Of the 74 nestlings observed, 64 were banded (Table 6). Since 1979, 234 nestlings have been banded in the study area.

Table 7 summarizes the proportion of banded adults observed in the study area. Table 10 lists the banding status of individual birds at each nesting location. We observed 24 (44% of all individuals) banded adult birds and 27 (49%) unbanded adults during this survey. The remaining 3 birds (5%) were not seen well enough to determine leg banding status. Despite the efforts to band as many nestlings as possible in recent years, the proportion of unbanded adults continues to increase. The slight increase (5%) since 1993 probably reflects the immigration of nestlings born in peripheral areas where no banding occurs.

The banding location of previously color-banded birds is summarized in Table 9. We read 24 color-band codes on the Tanana River and 1 code on the Salcha River. Three were banded as nestlings in 1986, 1 was banded as a nestling in 1988, 7 were banded as nestlings in 1989, 1 was banded as a second-year bird in 1989, 3 were banded as nestlings in 1990, 2 were banded as adults in 1990, 3 were banded as nestlings in 1991, 2 were banded as nestlings in 1992, 1 was banded as a second-year bird in 1992, and 2 were banded as adults in 1993. Most of the older birds have been seen at least once in previous years, but it is not unusual for a few aged birds to

occupy nesting locations for the first time late in their life. This year an 8-year-old male and a 6-year-old female reared young at Big Delta (TANA386.0). Neither bird had been known to nest on the Tanana River in previous years.

Fourteen previously banded birds (25% of the total population) were originally banded as nestlings on the Tanana River. The age structure of the birds returning to the Tanana River to breed is 3 birds 8 years old, 6 birds 5 years old, 3 birds 4 years old, 1 bird 3 years old, and 2 birds 2 years old. There were no 1-year-old birds observed at nesting locations in 1994. The mean distance from natal area to breeding area is 96 km (n = 14, range 30-217 km).

Four birds (7% of the total population) originally banded on the Yukon River were observed on the Tanana River in 1994. Three birds banded as nestlings on the upper Yukon River are now nesting on the Tanana River. Two nestlings, 1 male and 1 female, raised in 1989 moved 190 km and 205 km, respectively. One female raised near the Nation River in 1991 moved 240 km southwest to nest unsuccessfully near Canyon Creek. One bird banded as an unpaired adult (apparently nonbreeding in the year of banding) near Nulato on the lower Yukon River in 1989 returned for the second year to breed successfully near Nenana.

Five birds (9% of total population) first banded as breeding birds on the Tanana River have returned to the same nesting locations in subsequent years. An unsuccessful female banded in 1993 near Billy Creek was also unsuccessful with the same mate in 1994. Three previously successful breeders were again successful in 1994, each producing 4 young at Tok River, George Lake, and Little Gerstle River. The female formerly at the Johnson River, with poor production in 1992 and 1993, acquired a new mate (third male in 3 years) and they moved 5 km to a new nesting location and reared 4 young in 1994. Since the Johnson River nest location remained unoccupied, the movement to a new nesting location appears to be voluntary rather than caused by territorial displacement.

The age of nestlings at banding shows an approximate 14-day span in hatch dates. The youngest nestlings were 12 days old and the oldest 30 days old during the survey in mid July. By using the observed age of nestlings to calculate the range in nesting phenology, initiation of egg laying occurred 4-17 May, hatching occurred 11-24 June, and fledging occurred 22 July-2 August. The phenology is a few days earlier than the dates observed in 1991, 1992, and 1993 (Bente and Wright 1992, 1993, 1994).

Samples Collected

We collected prey remains from nest sites on the Sagavanirktok and Tanana rivers. The samples will be analyzed at a later date.

Addled eggs were collected from nest sites when nestlings were being banded. One egg was collected from 1 nest site on the Sagavanirktok River. Five eggs were collected from 4 nest sites on the Tanana River. Additional egg collections included 3 bald eagle (*Haliaeetus leucocephalus*) eggs from the Tanana River. All eggs were given to FWS for contaminant analysis and results will be reported by FWS.

Other Raptors

Observations of 3 other raptor species and common ravens (*Corvus corax*) from the Sagavanirktok River are listed in Appendix A. Ravens were nesting at 3 locations, 2 pairs were successful at rearing young. Subadult golden eagles (*Aquila chrysaetos*) were observed at 2 locations; no adult birds were observed to be nesting. Gyrfalcons (*Falco rusticolus*) were observed nesting at 5 locations. Three pairs were successful at rearing 8 downy young (1.60 young per total pair); however, the timing of the surveys did not allow observation of fledged young. Nesting success was much better on the Sagavanirktok River compared with the Colville River (T. Swem, pers. commun.) and the Seward Peninsula (C. McIntyre, pers. commun.). Rough-legged hawks were attempting to nest at 15 locations. Only 1 pair was successful, rearing 2 young; and 14 pairs failed (0.13 young per total pairs). Overall, the number of pairs decreased markedly from the 22 pairs observed in 1993 (Bente, unpubl. notes), and productivity was extremely low.

Observations of 9 other raptor species and common ravens from the Tanana River are listed in Appendix B. American kestrels (*Falco sparverius*) were probably nesting at 9 locations because adults were carrying prey or defending against other raptors. No effort was made to locate nests or determine number of young. The nesting status of bald eagles was checked at 48 locations by aerial survey (4 May, Robert Ritchie, pers. commun.) and boat surveys. Ten pairs were successful at rearing 13 young (1.30 young per successful pair), 14 pairs failed to raise young, 9 locations with incubating adults were not revisited to determine nesting success, 3 pairs without an observed nest structure were of unknown nesting status, and 12 empty nests were more than 2 km from failed or successful pairs (possibly indicating separate nest territories). Common ravens were observed at 21 locations. Ten pairs were successful at rearing 23 young to near fledging age (2.30 young per successful pair). Great-horned owls (*Bubo virginianus*) were found at 3 locations along the river. An adult owl and 2 fledged young were present at a nest cliff normally occupied by peregrine falcons. The falcons were not present and may have been displaced by the nesting owls. Golden eagles were not observed during the survey, but 4 areas with nest structures were checked and were unoccupied. Adult northern goshawks (*Accipiter gentilis*) were observed crossing the river at 2 locations, and it is not known if these birds were nesting in the area of observation. Ospreys (*Pandion haliaetus*) were checked at 3 nesting locations. One location was vacant and 2 locations were brooding small young during our survey in mid July. Red-tailed hawks (*Buteo jamaicensis*) were observed at 10 locations. Five pairs were at nests incubating eggs or brooding young. We

visited 1 nest and banded 1 nestling on 1 July. Sharp-shinned hawks (*Accipiter striatus*) were observed crossing the river at 2 locations, but no effort was made to locate their nests.

CONCLUSIONS AND RECOMMENDATIONS

Peregrine falcons are widely distributed and locally common along the Sagavanirktok and Tanana River study areas. On the Sagavanirktok River the number of occupied locations declined for the first time during the recovery of the population. Despite a lower number of pairs, the reproductive output was the highest ever recorded. Even though the general trend of increasing population ended in 1994, the high production of young indicates the population is healthy. The Tanana River continues to show a steady increase in numbers and productivity, reaching the highest number of pairs and young ever recorded. Since the rate of increase is lower than in previous years, the population may be approaching maximum occupancy. For both study areas the long record of consecutive annual surveys provides a good opportunity to document the late stages of peregrine falcon population recovery and stability. It is recommended that monitoring surveys be continued in Interior and northern Alaska.

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The 1994 peregrine falcon survey is dedicated to the memory of Val Chabot. Val volunteered to help band peregrines on the Tanana River. She possessed a heartened enthusiasm for visiting nest sites, banding nestling falcons, and taking field observations to the classroom. She worked tirelessly to accomplish the goals of the project. In a tragic accident, she fell to her death on 12 July while working with me at the last nest cliff of the season near Nenana. Her family, friends, colleagues, and I are deeply appreciative of the support given by ADF&G and FWS to color band

a peregrine falcon in her memory. Color bands engraved with V A L were donated by Don Cowan at Acraft Sign and Nameplate Co. Ltd., Edmonton, Alberta and were placed on 2 wild birds during August 1994. A nestling female arctic peregrine falcon was banded with a blue color band on the Sagavanirktok River by Bente and Bill Tilton. A breeding adult female American peregrine falcon was banded with a black color band and a satellite transmitter on the upper Yukon River by Skip Ambrose and Ted Swem. The satellite package will show the southward migration route, wintering area, and northward migration route of the V A L banded bird. The position of the bird is being downloaded from the satellite platform by FWS and will be accessible by computer Internet services for school systems throughout the United States. We hope this will be a memorable tribute to the teacher, Val Chabot, whose talent and heart was in the classroom helping school-age children learn about our natural world.

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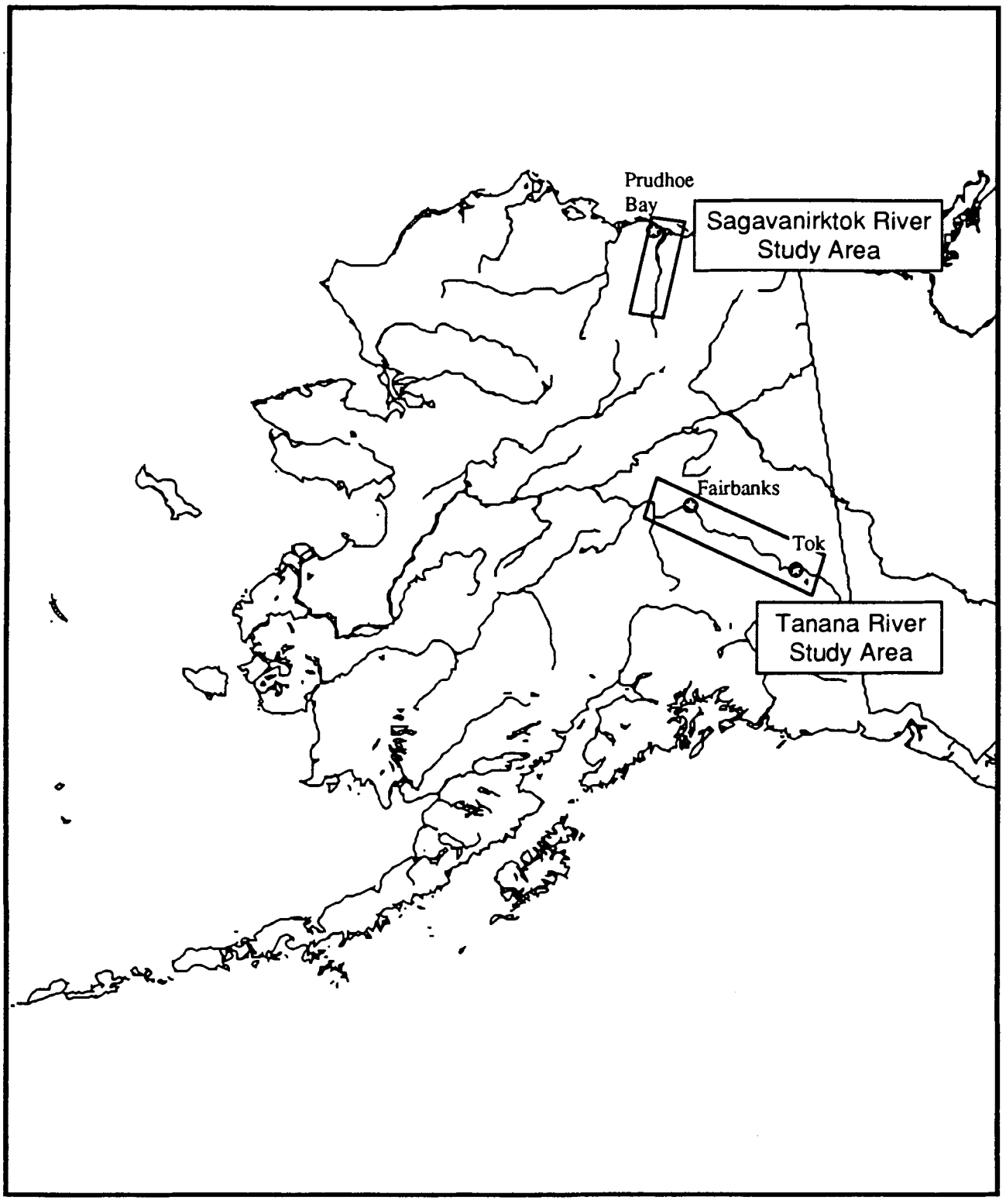


Figure 1. Location of peregrine falcon study areas.

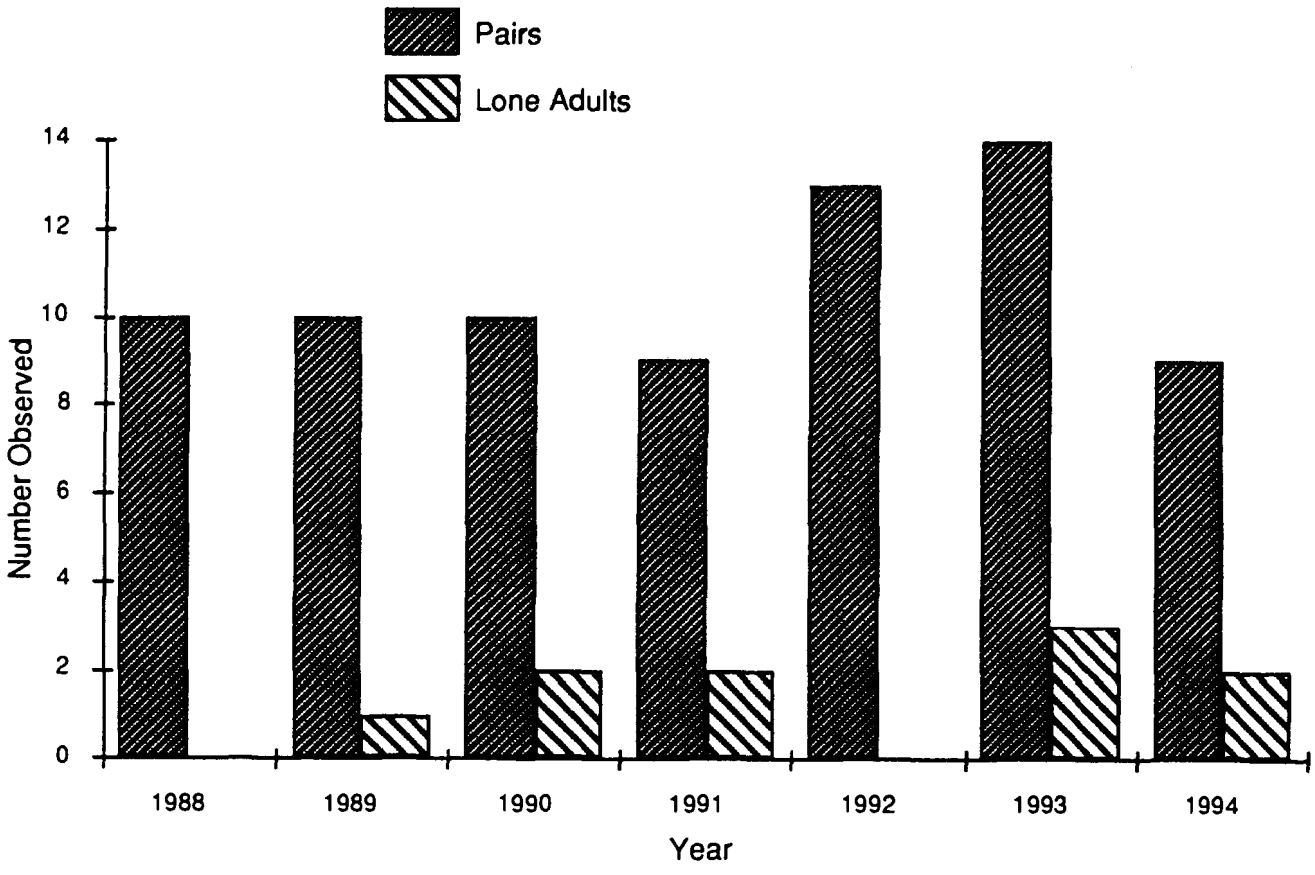


Figure 2. Arctic peregrine falcons observed in the regularly surveyed sections (Sagwon and Franklin bluffs) of the Sagavanirktok River.

Table 1. Survey coverage, numbers, and productivity of peregrine falcons, Sagavanirktok and Tanana rivers, Alaska, 1994.

	Sagavanirktok River	Tanana River
Kilometers surveyed	157	418
Number of surveys	2	2
Lone adults	4	1
Pairs - failed	3	3
Pairs - successful	14	24
Pairs - total	17	27
Young - total	38	74
Young per total pair	2.24	2.74
Young per successful pair	2.71	3.08
Young banded	33	64
Percent young banded	87	86

Table 2. Observations of peregrine falcons on the Sagavanirktok River, 1994.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
1752	SAGA81.4	2	-	-	4	June 14 - Pair, Ad incubating in new ledge near 1993 nest site, mate on perch.
1752	SAGA81.4	0	0	-	5	July 28 - Failed pair, no birds present.
1757	SAGA89.1	0	-	-	1	June 14 - Unoccupied.
1757	SAGA89.1	0	-	-	1	July 29 - Unoccupied.
1759	SAGA91.0	0	-	-	1	June 14 - Unoccupied.
1759	SAGA91.0	0	-	-	1	July 29 - Unoccupied.
1760	SAGA95.2	0	-	-	1	June 15 - Unoccupied.
1760	SAGA95.2	0	-	-	1	July 29 - Unoccupied.
204	SAGA99.0	2	-	-	4	June 15 - Pair, Ad M unbanded, Ad F unbanded, incubating in RLHA stick nest, no defense.
204	SAGA99.0	2	-	-	6	July 29 - Pair, Ads not present, 2 yng 28d banded: K7,K8(VVBLU)L, nest is well built RLHA stick nest on rock wall, requires rope belay for access.
204	SAGA99.0	2	2	2	6	August 3 - Pair, young exercising wings on nest rim, nearly fledged.
1768	SAGA101.8	2	-	-	4	June 15 - Pair, Ad incubating in old RLHA stick nest low on cliff, mate not seen.
1768	SAGA101.8	2	2	-	6	July 28 - Pair, Ad M unbanded, Ad F FWS on R, 2 yng 26d banded: 42,43(HHBLU)L, nest site is a slumped RLHA nest near base of talus.
	SAGA104.8	0	-	-	1	June 15 - Unoccupied.
	SAGA104.8	0	-	-	1	July 29 - Unoccupied.
1769	SAGA110.8	1	-	-	7	June 15 - Probable pair, Ad M display flight in front of cliff, mate not seen.
1769	SAGA110.8	1	-	-	7	July 28 - Probable pair, Ad diving on RLHA near tail end of cliff, mate not seen, ledge/nest not found.
1769	SAGA110.8	2	0	-	5	July 29 - Failed pair, Ad M present, non-defensive, fresh shell fragments in RLHA stick nest, nest on talus at tail end of bluff.
1772	SAGA116.0	2	-	-	4	June 15 - Pair, Ad M unbanded, Ad F unbanded, defensive, Ad M dives on passing goose.
1772	SAGA116.0	2	4	-	6	July 28 - Pair, Ads not present, 4 yng 22d banded: 44,51(HHBLU)L, K5,K6(VVBLU)L, same ledge as 1992.
1775	SAGA123.5	2	-	-	4	June 15 - Pair, Ad flush from stick nest low on gravel slope, at least 1 egg.
1775	SAGA123.5	2	2	-	6	July 28 - Pair, Ad M unbanded, Ad F not present, 2 yng 27d banded: 52, 53(HHBLU)L, ledge on loose gravel near base of bluff.
1777	SAGA126.5	0	-	-	1	June 15 - Unoccupied.

Table 2. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
1777	SAGA126.5	0	-	-	1	July 30 - Unoccupied, last used in 1991.
	SAGA135.0	1	-	-	7	June 16 - Single, Ad M FWS on R, display flight at cliff, feet down, perch on gravel and preen, mate not seen.
	SAGA135.0	0	-	-	7	July 30 - Unoccupied.
1780	SAGA136.9	0	-	-	1	June 16 - Unoccupied, used in 1993.
1780	SAGA136.9	0	-	-	1	July 30 - Unoccupied, used in 1993.
1785	SAGA144.2	2	-	-	4	June 16 - Pair, Ad F incubating in 1993 ledge, mate not seen.
1785	SAGA144.2	2	3	-	6	July 30 - Pair, Ad M not present, Ad F unbanded, 3 yng 28d banded: K8(VVBLU)L, VAL(VVVBLU)L, upside-down VAL(VVVBLU)L, same ledge used in 1993.
207	SAGA146.0	0	-	-	1	June 16 - Unoccupied.
207	SAGA146.0	1	-	-	7	July 30 - Single, Ad M roosting for night, flush 3 times, return to same area, no defense, mate not seen, no evidence of ledge.
1789	SAGA147.0	0	-	-	1	June 16 - No birds present.
1789	SAGA147.0	1	-	-	7	July 31 - Single, Ad F ?H(?VBLU)L, defends against passing GYRF, mate not seen, previous ledges empty.
208	SAGA150.2	0	-	-	1	June 17 - Unoccupied, pair moved 0.8 km north to a new nest site.
208	SAGA150.2	0	-	-	1	July 31 - Unoccupied.
208	SAGA150.6	2	-	-	4	June 17 - Pair, Ad incubating in new ledge, mate not seen.
208	SAGA150.6	2	2	-	6	July 31 - Pair, Ad M not present, Ad F unbanded, 2 yng 34d near fledged not banded (too old), ledge is on loose sandstone.
	SAGA156.0	U	-	-	U	June 17 - Not checked.
	SAGA156.0	2	2	-	6	August 3 - Pair, Ad M unbanded, Ad F unbanded, 2 yng 22d banded: Y7,A8(HVBLU)L, same nesting area reported by hunters in 1993.
209	SAGA157.9	2	-	-	4	June 17 - Pair, Ad M 18(VVBLU)L, Ad F incubating in 1993 ledge, defensive.
209	SAGA157.9	2	2	-	6	July 31 - Pair, Ad M BLU on L, Ad F unbanded, 2 yng 28d banded: L0,L1(VVBLU)L, same ledge as failed clutch in 1993.
1795	SAGA158.5	0	-	-	1	June 17 - Unoccupied.
1795	SAGA158.5	0	-	-	1	July 31 - Unoccupied.
210	SAGA159.5	2	-	-	4	June 17 - Pair, Ad F incubating in grass ledge used in 1993, Ad M dives on fledged CORA.

Table 2. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
210	SAGA159.5	2	4	-	6	July 31 - Pair, Ad M unbanded, Ad F FWS on R 987-7????, 4 yng 27d banded: L3,L4,L6(VVBLU)L, 54(HHBLU)L, same ledge used in 1993, requires rope belay for access.
	SAGA182.5	0	-	-	1	June 18 - Unoccupied.
	SAGA182.5	0	-	-	1	July 31 - Unoccupied.
	SAGA184.8	0	-	-	1	June 18 - Unoccupied.
	SAGA184.8	0	-	-	1	July 31 - Unoccupied.
	SAGA187.5	0	-	-	1	June 18 - Unoccupied.
	SAGA187.5	0	-	-	1	July 31 - Unoccupied.
	SAGA191.9	0	-	-	1	June 18 - Unoccupied.
	SAGA191.9	0	-	-	1	July 31 - Unoccupied.
	SAGA192.5	0	-	-	1	June 18 - Unoccupied.
	SAGA192.5	0	-	-	1	August 1 - Unoccupied, pair nesting on gravel bar in 1993 at this location.
1798	SAGA196.8	1	-	-	7	June 19 - Single, Ad fly along length of bluff, no defense.
1798	SAGA196.8	0	-	-	7	August 1 - Unoccupied.
211	SAGA198.2	2	-	-	4	June 19 - Failed pair, non-defensive.
211	SAGA198.2	2	0	-	5	August 1 - Failed pair, Ad M unknown banding, Ad F unknown banding, walk rim to look for ledge/scrape (none found).
1803	SAGA199.7	1	-	-	7	June 19 - Probable pair, Ad perched, non-defensive, mate not seen.
1803	SAGA199.7	2	2	-	6	August 1 - Pair, Ad M unbanded, Ad F FWS on L, 2 yng 26d banded: 61,62(HHBLU)L, same rimline ledge used in 1993.
213	SAGA203.0	2	-	-	4	June 19 - Pair, Ad M unbanded, Ad F unbanded, same ledge used in 1993.
213	SAGA203.0	2	3	-	6	August 1 - Pair, Ad M FWS on R, Ad F unbanded, 3 yng 21d banded: L7(VVBLU)L, 63,64(HHBLU)L, same rimline ledge used in 1993.
	SAGA204.3	2	-	-	4	June 19 - Pair, Ad M C4(VVBLU)L, ASY F unbanded, incubating in RLHA nest on spire, defensive.
	SAGA204.3	2	3	-	6	August 2 - Pair, Ad M C4(VVBLU)L, Ad F unbanded, 3 yng 21d unbanded, small stick nest on crumbly clay/silt deposit, climbing may damage spire.
	SAGA204.5	0	-	-	1	June 19 - Unoccupied, pair moved S to RLHA nest on Red Spire.
	SAGA204.5	0	-	-	1	August 2 - Unoccupied, pair moved S to RLHA nest on Red Spire.
	SAGA205.7	0	-	-	1	June 19 - Unoccupied, nest used by RLHA.

Table 2. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
	SAGA205.7	0	-	-	1	August 2 - Unoccupied, nest empty.
214	SAGA208.3	2	-	-	4	June 20 - Pair, Ad M A8(VHBLU)L, Ad F incubating in 1993 ledge, defensive.
214	SAGA208.3	2	4	-	6	August 2 - Pair, Ad M A8(VHBLU)L, Ad F not present, 4 yng 26d banded: 71,72(HHBLU)L, L8,L9(VVBLU)L, same ledge used in 1993.
1813	SAGA217.5	2	-	-	4	June 20 - Pair, Ad M unbanded, Ad F unbanded, incubating, flushed, defensive.
1813	SAGA217.5	2	3	-	6	August 2 - Pair, Ad M unbanded, Ad F unbanded, 3 yng 26d banded: 73(HHBLU)L, W7,X7(HVBLU)L, same location used by failed pair in 1993.
216	SAGA222.2	0	-	-	1	June 20 - Unoccupied.
216	SAGA222.2	0	-	-	1	August 2 - Not checked.

[a] Terr = Nest Territory Number assigned by US Fish and Wildlife Service (FWS).
[b] Location = River code (four letters) followed by river milepost (in kilometers).
[c] Ad(s) = Adult(s).
[d] Yng = Young.
[e] Flg = Fledglings.
[f] Status = Nesting territory status code standardized by FWS. 1 - unoccupied, 2 - occupancy unknown, 3 - occupied nonbreeding, 4 - occupied breeding, 5 - occupied unsuccessful breeding, 6 - occupied successful breeding, 7 - occupied breeding status unknown, 8 - occupied breeding status unknown but no young produced.
[g] Abbreviations in text: Ad(s) = adult(s), ASY = after 2nd-year age class, BLU = blue color band, CORA = common raven, d = days, F = female, FWS = Fish and Wildl Serv leg band, GYRF = gyrfalcon, HH = color band code horizontal horizontal, HV = color-band code horizontal vertical, km = kilometers, L = left leg, M = male, R = right leg, RLHA = rough-legged hawk, VH = color-band code vertical horizontal, VV = color-band code vertical vertical, VVV = color-band code vertical vertical vertical, yng = young

Table 3. Historical occupancy and productivity of peregrine falcons, Sagavanirktok River, Alaska, 1958-1994[a].

	Occupancy			Productivity		
Year	Lone adults	Total pairs	Successful pairs[b]	Number of young[b]	Young per total pair	Young per successful pair
1958	0	5	U	U	--	--
1963	0	4	U	U	--	--
1964	0	1	U	U	--	--
1970	0	3	2	5	1.67	2.50
1972	1	4	2	5	1.25	2.50
1973	0	2	U	U	--	--
1974	1	4	2	3	0.75	1.50
1975	0	3	1	1	0.33	1.00
1976	0	1	1	1	1.00	1.00
1977	0	3	1	2	0.67	2.00
1978	0	1	U	U	--	--
1979	0	4	3	6	1.50	2.00
1980	1	3	1	2	0.67	2.00
1981	0	4	3	8	2.00	2.67
1982	0	4	2	4	0.67	2.00
1983	0	5	5	13	2.60	2.60
1984	1	6	6	15	2.50	2.50
1985	0	8	6	20	2.50	3.33
1986	0	7	6	16	2.29	2.67
1987	2	7	6	24	3.43	4.00
1988	0	10	6	14	1.40	2.33
1989	1	10	10	29	2.90	2.90
1990	2	10	7	19	1.90	2.71
1991	6	14	11	22	1.57	2.00
1992	2	23	15	37	1.60	2.47
1993	4	23	11	28	1.22	2.55
1994	4	17	14	38	2.24	2.71

[a] Data for 1958-1978 from a review by Roseneau et al. 1981. Data for 1979-1990 from US Fish and Wildlife Service, Endangered Species, Fairbanks unpublished summaries. Data for 1991 from Bente and Wright 1992. Data for 1992 from Bente and Wright 1993. Data for 1993 from Bente and Wright 1994.

[b] U = Unknown

Table 4. Observations of peregrine falcons on the Tanana River, 1994.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
	TANA93.5	1	-	-	4	May 24 - Probable pair, Ad perched and preen, mate not seen, nest not found, observed at distance with Questar.
	TANA93.5	2	4	-	6	June 29 - Pair, Ad M GY(VVBLK)L, Ad F unbanded, 4 yng [3 yng 10-12d, 1 weak yng 6d (unbanded)] banded: AG,AH,AK (VHBLK)L.
227	TANA103.2	2	-	-	4	May 24 - Pair, Ad M 47(VVBLK)L, Ad F unbanded incubating in previous ledge.
227	TANA103.2	2	4	-	6	June 30 - Pair, Ad M 47(VVBLK)L, Ad F unbanded, 4 yng 8-12d banded: AW,BG,BH,BK(VHBLK)L. Harnessed pigeon lures Ad F, not caught, rain.
1205	TANA181.7	2	-	-	4	May 25 - Pair, Ad M BLK on L, Ad F unbanded, nest at chimney/crack close to water line, 2 eggs seen w/Questar.
1205	TANA181.7	2	2	-	6	July 1 - Pair, Ad M BT(VVBLK)L, Ad F unbanded, 2 yng 15d banded: 7-N(V-VBLK)L BW(VHBLK)L, Val climbs to nest from boat.
1206	TANA183.0	0	-	-	1	May 25 - Unoccupied, pair moved to TANA181.7.
1206	TANA183.0	0	-	-	1	July 2 - Unoccupied, pair moved to TANA181.7.
230	TANA205.0	0	-	-	2	May 25 - No birds present.
230	TANA205.0	2	-	-	4	May 30 - Pair, Ad incubating in new ledge, mate not seen, Questar view from highway.
230	TANA205.0	2	3	-	6	July 2 - Pair, Ad M unbanded, Ad F unbanded, 3 yng 21d banded: 7-P,7-R(V-VBLK)L CH(VHBLK)L, trap Ad F (looks TY) and band: CG(VHBLK)L.
	TANA211.0	1	-	-	4	May 25 - Probable pair, Ad perched, mate not seen.
	TANA211.0	2	4	-	6	July 2 - Pair, Ad M unbanded, Ad F unbanded, 4 yng 9-13d banded: CW,DG,DH,DK(VHBLK)L, trap SY F and band: CK(VHBLK)L.
231	TANA221.5	1	-	-	4	May 26 - Probable pair, Ad fly and occasionally defensive, previous ledges empty, mate not seen.
231	TANA221.5	2	4	-	6	July 3 - Pair, Ad M unbanded, Ad F 3C4(VVVBLK)L, 4 yng 21d banded: DW(VHBLK)L, 7-S,7-T,7-U(V-VBLK)L.
	TANA232.5	U	-	-	2	May 26 - Not checked, low water.
	TANA232.5	2	1	-	6	July 3 - Pair, Ad M unbanded, Ad F unbanded, 2 addled eggs (collected), 1 yng 22d banded: EG(VHBLK)L.
521	TANA236.0	0	-	-	1	July 3 - Unoccupied.
1271	TANA243.0	2	-	-	4	May 26 - Pair, Ads perched, courtship calls, no ledge seen.
1271	TANA243.0	2	0	-	5	July 4 - Failed pair, Ad M RZ(VVBLK)L, Ad F Z-4(V-VBLK)L, courtship displays and F in empty ledge.
1270	TANA244.5	0	-	-	1	May 26 - Unoccupied.

Table 4. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
1270	TANA244.5				1	July 4 - Unoccupied.
	TANA247.5	0	-	-	2	May 26 - No birds present, ledges empty.
	TANA247.5	2	1	-	6	July 4 - Pair, Ad M KN(VVBLK)L, Ad F B4(VVBLK)L, 1 yng 23d banded: 7-V(V-VBLK)L.
174	TANA258.5	2	-	-	4	May 26 - Pair fly at cliff, ledge not found.
174	TANA258.5	2	3	-	6	July 4 - Pair, Ad M unbanded, Ad F unbanded, 3 yng 24d banded: 7-W(V-VBLK)L, EH,EK(VHBLK)L, broken egg below ledge (collected).
	TANA269.5	2	-	-	4	May 27 - Pair calling, food transfer, can't see any bird in 1993 ledge.
	TANA269.5	2	4	-	6	July 5 - Pair, Ad M DR(VHBLK)L, Ad F X5(VVBLK)L, 4 yng 12-14d banded: 7-X(V-VBLK)L, EW,GG,GH(VHBLK)L. Ad F has a new mate and has moved from TANA273.0 in 1993.
175	TANA273.0	0	-	-	1	May 27 - Unoccupied.
175	TANA273.0	0	-	-	1	July 5 - Unoccupied, Ad F at this site in 1993 has moved to TANA269.5.
176	TANA280.5	2	-	-	4	May 27 - Pair, Ad M unbanded, new ledge, rainy.
176	TANA280.5	2	4	-	6	July 5 - Pair, Ad M unbanded, Ad F M2(VVBLK)L, 4 yng 16d banded: GK,GW,HG,HH(VHBLK)L, new ledge near rim of rock.
177	TANA288.5	1	-	-	4	May 27 - Probable pair, Ad M M4(VVBLK)L perched, mate not seen, 1993 ledge empty.
177	TANA288.5	2	4	-	6	July 6 - Pair, Ad M unbanded, Ad F M4(VVBLK)L, 4 yng [3 yng 24d, 1 yng 12d (much younger)] banded: 7-Y,7-Z(V-VBLK)L, HK,HW(VHBLK)L, new ledge.
	TANA298.0	0	-	-	2	May 27 - No birds present.
	TANA298.0	1	-	-	2	July 6 - Single, Ad M perched throughout rain shower, did not defend, this may be a separate bird from pair at TANA299.0.
178	TANA299.0	2	-	-	4	May 27 - Pair, Ad M unbanded, Ads fly over pigeon lure, 1993 ledge empty.
178	TANA299.0	2	4	-	6	July 6 - Pair, Ad M unbanded, Ad F unbanded, 4 yng 26d banded: KG,KH,KK,KW(VHBLK)L, new ledge near rim of cliff, Ad F very defensive, strikes climbing helmet.
58	TANA336.5	2	-	-	4	May 28 - Pair, Ad M 3C5(VVVBLK)L, Ad F unbanded, new ledge higher on cliff.
58	TANA336.5	2	3	-	6	July 7 - Pair, Ad M 3C5(VVVBLK)L, Ad F unbanded, 1 egg (collected), 3 yng 27d banded: LG,LH,LK(VHBLK)L, new ledge at rim of cliff, yng moved 10m from ledge.
59	TANA376.0	2	-	-	4	May 28 - Pair, Ad incubating in 1992 ledge.

Table 4. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
59	TANA376.0	2	4	-	6	July 7 - Pair, Ad M CT(VVBLK)L, Ad F unbanded, 4 yng 26d banded: LW,MG,MH,MK(VHBLK)L, same ledge used in 1992.
1366	TANA380.0	2	-	-	4	May 29 - Pair, Ad M unbanded, Ad F X3(VVBLK)L incubating in 1993 ledge.
1366	TANA380.0	2	3	-	6	July 8 - Pair, Ad M unbanded, Ad F X3(VVBLK)L, 3 yng 16d banded: MW,PG,PH(VHBLK)L, same ledge used by failed pair in 1993.
1357	TANA386.0	2	-	-	4	May 29 - Pair fly above cliff, no defense toward 2 people on rim above nest area, pair fly high and disappear.
1357	TANA386.0	2	3	-	6	July 8 - Pair, Ad M 2C8(VVVBLK)L, Ad F 4B2(VVVBLK)L, 3 yng 21d not banded, ledge in deep chimney facing downstream.
520	TANA407.8	2	2	-	6	July 8 - Pair, Ad M unbanded, Ad F Z7(VVBLK)L, 1 egg (collected), 2 yng 16d banded: PK,RG(VHBLK)L, new ledge low over water at head of cliff, heavy vegetation.
520	TANA408.0	0	-	-	2	June 7 - No birds present, pair found in July at head of cliff.
61	TANA414.5	2	-	-	4	June 7 - Pair, Ad incubating in 1992 ledge, mate perched.
61	TANA414.5	2	-	-	4	June 7 - Pair, Ad M unbanded, Ad F unbanded, trap incubating Ad F and band: M-7(V-VBLK)L, released quickly (no measurements).
61	TANA414.5	2	3	-	6	July 9 - Pair, Ad M unbanded, Ad F M-7(V-VBLK)L, 3 yng 16d banded: RH,RK,WL(VHBLK)L, same ledge used in 1992.
	TANA427.0	2	-	-	4	June 7 - Pair, Ad M no band L, Ad F WB(VVBLK)L incubating.
	TANA427.0	1	0	-	5	July 9 - Failed pair, Ad F WB(VVBLK)L, mate not seen, no evidence of successful hatching.
	TANA431.0	1	-	-	4	June 7 - Probable pair, Ad perched at cliff, mate not seen, 1993 ledge empty.
	TANA431.0	1	-	-	4	June 8 - Probable pair, Ad wailing in morning, mate not seen.
	TANA431.0	2	3	-	6	July 7 - Pair, Ad M unbanded, Ad F unbanded, 3 yng 16d banded by Ritchie: N-7,P-7,R-7(V-VBLK)L, new ledge, experimental over-flights by US Air Force.
	TANA431.0	2	-	-	6	July 9 - Pair, 3 yng 5m out of ledge, nesting appears normal, nest not visited due to previous over-flight disturbance.
62	TANA436.5	1	-	-	4	June 7 - Probable pair, Ad M unbanded fly and perch at cliff.
62	TANA436.5	1	-	-	4	June 8 - Pair, Ad F with BLK on L, mate seen previous day, ledge not found.
62	TANA436.5	2	2	-	6	July 9 - Pair, Ad M unbanded, Ad F LU(VVBLK)L, 2 yng 28d banded: WM,WP(VHBLK)L, new ledge at base of smooth 50m rock wall.
1411	TANA438.5	0	-	-	2	June 6 - Unoccupied.

Table 4. Continued.

Terr[a]	Location[b]	Ad[c]	Yng[d]	Flg[e]	Status[f]	Observations[g]
1411	TANA438.5	1	-	-	2	July 10 - Single, Ad M perched at rim of cliff, 2 hunting forays and return to cliff, no defense, mate not seen.
63	TANA443.0	1	-	-	4	June 6 - Probable pair, Ad perched at cliff, mate not seen, previous ledges empty.
63	TANA443.0	2	-	-	4	June 8 - Pair, Ad M M3(VVBLK)L, Ad F wailing from ledge, two children walk below cliff and pair is defensive.
63	TANA443.0	2	2	-	6	July 10 - Pair, Ad M M3(VVBLK)L, Ad F L9(VVBLK)L, 2 yng 26d fallen from ledge not banded, new ledge is very small.
2244	TANA459.5	2	-	-	4	June 6 - Pair, Ad M HZ(VVBL)L trapped on pigeon, Ad F incubating in 1993 ledge.
2244	TANA459.5	2	-	-	4	June 8 - Pair, Ad F with BLK on L, Ad M incubating.
2244	TANA459.5	0	0	-	5	July 10 - Failed pair, no birds present, no evidence of hatching, scrape is barren.
1516	TANA550.0	2	-	-	4	May 20 - Pair, Ads not checked for leg bands.
1516	TANA550.0	2	2	-	6	July 15 - Pair, 2 yng 30d not banded (too old).
103	TANA610.0	2	U	-	4	June 27 - Pair, Ad M 00(VVBLK)R, Ad F unbanded, disturbed by landing helicopter, food transfer, Ad F feeds young.
103	TANA610.0	2	3	-	6	July 12 - Pair, Ad M 00(VVBLK)L, Ad F unbanded, 3 yng 28d unbanded, same ledge as 1993, fatal accident at this nest location.

[a] Terr = Nest Territory Number assigned by US Fish and Wildlife Service (FWS).
[b] Location = River code (4 letters) followed by river milepost (in kilometers).
[c] Ad = Adults.
[d] Yng = Young.
[e] Flg = Fledglings.
[f] Status = Nesting territory status code standardized by FWS. 1 - unoccupied, 2 - occupancy unknown, 3 - occupied nonbreeding, 4 - occupied breeding, 5 - occupied unsuccessful breeding, 6 - occupied successful breeding, 7 - occupied breeding status unknown, 8 - occupied breeding status unknown but no young produced.
[g] Abbreviations in text: Ad = adult, Ads = adults, BLK = black color band, d = days, F = female, HH = color-band code horizontal horizontal, L = left leg, M = male, R = right leg, SY = 2nd-year age class, VH = color-band code vertical horizontal, VV = color-band code vertical vertical, VVV = color-band code vertical vertical vertical, V-V = color-band code vertical line vertical, yng = young

Table 5. Historical occupancy and productivity of peregrine falcons, Tanana River, Alaska, 1968-1994[a].

	Occupancy			Productivity		
Year	Lone Adults	Total Pairs	Successful Pairs	Number of Young	Young Per Total Pair	Young Per Successful Pair
1968	0	12	11	23	1.92	2.09
1970	0	6	6	16	2.67	2.67
1971	0	4	3	9	2.25	3.00
1972	0	4	3	7	1.75	2.33
1973	0	4	4	8	2.00	2.00
1974	0	2	1	1	0.50	1.00
1975	1	2	0	0	0	--
1976	2	0	0	--	--	--
1977	0	3	1	1	0.33	1.00
1978	0	4	3	6	1.50	2.00
1979	3	3	2	4	1.33	2.00
1980	0	4	2	5	1.25	2.50
1981	0	5	5	12	2.40	2.40
1982	0	5	3	8	1.60	2.67
1983	0	5	4	11	2.20	2.75
1984	1	4	2	4	1.00	2.00
1985	0	4	3	5	1.25	1.67
1986	2	5	4	12	2.40	3.00
1987	0	8	5	10	1.25	2.00
1988	1	12	9	16	1.33	1.78
1989	0	15	11	29	1.93	2.64
1990	3	15	9	29	1.93	3.22
1991	0	20	16	38	1.90	2.38
1992	3	25	16	38	1.56	2.44
1993	1	26	19	62	2.38	3.26
1994	1	27	24	74	2.74	3.08

[a] Data for 1968-1978 from a review by Roseneau et al. 1981. Data for 1979-1990 from US Fish and Wildlife Service, Endangered Species, Fairbanks, Alaska unpublished summaries. Data for 1991 from Bente and Wright 1992. Data for 1992 from Bente and Wright 1993. Data for 1993 from Bente and Wright 1994.

Table 6. Peregrine falcons and other raptors banded by Alaska Department of Fish and Game, 1994[a].

Band Number[b]	Auxiliary Marker Code[c]	AOU #[d]	Age[e]	Sex[f]	Region[g]	Lat-Long[h]	Location[i]	Date	Bander
0629-35651	BA(VVGRN)L	352.0	L	U	AK-503	632-1425	TANA116.8 N Tok	06-30-94	P. J. Bente
0629-35652	BB(VVGRN)L	352.0	L	U	AK-503	632-1432	TANA162.0 W Tanacross	06-30-94	P. J. Bente
0629-35653	BC(VVGRN)L	352.0	L	U	AK-503	632-1432	TANA162.0 W Tanacross	06-30-94	P. J. Bente
0629-35654	BD(VVGRN)L	352.0	L	U	AK-503	641-1464	TANA446.0 Below VABM Hill	07-10-94	P. J. Bente
0629-35655	BE(VVGRN)L	352.0	L	U	AK-503	641-1464	TANA446.0 Below VABM Hill	07-10-94	P. J. Bente
0816-98738	7-N(V-VBLK)L	356.0	L	U	AK-503	632-1433	TANA181.7 W Yerrich Crk	07-01-94	P. J. Bente
0816-98739	7-P(V-VBLK)L	356.0	L	U	AK-503	632-1434	TANA205.0 Robertson	07-02-94	P. J. Bente
0816-98740	7-R(V-VBLK)L	356.0	L	U	AK-503	632-1434	TANA205.0 Robertson	07-02-94	P. J. Bente
0816-98741	7-S(V-VBLK)L	356.0	L	U	AK-503	633-1435	TANA221.5 Round Lake	07-03-94	P. J. Bente
0816-98742	7-T(V-VBLK)L	356.0	L	U	AK-503	633-1435	TANA221.5 Round Lake	07-03-94	P. J. Bente
0816-98743	7-U(V-VBLK)L	356.0	L	U	AK-503	633-1435	TANA221.5 Round Lake	07-03-94	P. J. Bente
0816-98744	7-V(V-VBLK)L	356.0	L	U	AK-503	634-1441	TANA247.5 Billy Crk 3	07-04-94	P. J. Bente
0816-98745	7-W(V-VBLK)L	356.0	L	U	AK-503	634-1442	TANA258.5 Head Johnson	07-04-94	P. J. Bente
0816-98746	7-X(V-VBLK)L	356.0	L	U	AK-503	634-1443	TANA269.5 Tail Johnson	07-05-94	P. J. Bente
0816-98747	7-Y(V-VBLK)L	356.0	L	U	AK-503	634-1444	TANA288.5 L Gerstle	07-06-94	P. J. Bente
0816-98748	7-Z(V-VBLK)L	356.0	L	U	AK-503	634-1444	TANA288.5 L Gerstle	07-06-94	P. J. Bente
0816-98749	KG(VHBLK)L	356.0	L	U	AK-503	635-1444	TANA299.0 Sawmill	07-06-94	P. J. Bente
0816-98750	KH(VHBLK)L	356.0	L	U	AK-503	635-1444	TANA299.0 Sawmill	07-06-94	P. J. Bente
0816-98751	KK(VHBLK)L	356.0	L	U	AK-503	635-1444	TANA299.0 Sawmill	07-06-94	P. J. Bente
0816-98752	KW(VHBLK)L	356.0	L	U	AK-503	635-1444	TANA299.0 Sawmill	07-06-94	P. J. Bente
0816-98753	LH(VHBLK)L	356.0	L	U	AK-503	640-1450	TANA336.5 Volkmar	07-07-94	P. J. Bente
0816-98754	LK(VHBLK)L	356.0	L	U	AK-503	640-1450	TANA336.5 Volkmar	07-07-94	P. J. Bente
0816-98755	MH(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA376.0 Indian	07-07-94	P. J. Bente
0816-98756	MK(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA376.0 Indian	07-07-94	P. J. Bente
0816-98757	PH(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA380.0 Above Delta Br	07-08-94	P. J. Bente
0816-98758	RG(VHBLK)L	356.0	L	U	AK-503	641-1461	TANA407.8 Tenderfoot	07-08-94	P. J. Bente

Table 6. Continued.

Band Number[b]	Auxiliary Marker Code[c]	AOU #[d]	Age[e]	Sex[f]	Region[g]	Lat-Long[h]	Location[i]	Date	Bander
0816-98759	RK(VHBLK)L	356.0	L	U	AK-503	641-1461	TANA414.5 Delta Creek	07-09-94	P. J. Bente
0816-98760	WL(VHBLK)L	356.0	L	U	AK-503	641-1461	TANA414.5 Delta Creek	07-09-94	P. J. Bente
0816-98761	WM(VHBLK)L	356.0	L	U	AK-503	641-1464	TANA436.5 Birch Lake	07-09-94	P. J. Bente
0816-98762	K5(VVBLU)L	356.0	L	U	AK-503	690-1484	SAGA116.0 S Happy Valley	07-28-94	P. J. Bente
0816-98763	K6(VVBLU)L	356.0	L	U	AK-503	690-1484	SAGA116.0 S Happy Valley	07-28-94	P. J. Bente
0816-98764	K7(VVBLU)L	356.0	L	U	AK-503	690-1484	SAGA99.0 Icecut	07-29-94	P. J. Bente
0816-98765	K8(VVBLU)L	356.0	L	U	AK-503	690-1484	SAGA99.0 Icecut	07-29-94	P. J. Bente
0816-98766	VAL(VVVBLU)L[j]	356.0	L	U	AK-503	692-1484	SAGA144.2 S Sagwon	07-30-94	P. J. Bente
0816-98767	K9(VVBLU)L	356.0	L	U	AK-503	692-1484	SAGA144.2 S Sagwon	07-30-94	P. J. Bente
0816-98768	L0(VVBLU)L	356.0	L	U	AK-503	692-1483	SAGA157.9 S Pump 2	07-31-94	P. J. Bente
0816-98769	L2(VVBLU)L	356.0	L	U	AK-503	692-1483	SAGA157.9 S Pump 2	07-31-94	P. J. Bente
0816-98770	L3(VVBLU)L	356.0	L	U	AK-503	692-1483	SAGA159.0 N Pump 2	07-31-94	P. J. Bente
0877-85145		337.0	L	U	AK-503	632-1432	TANA166.8 E Moon Lake	07-01-94	P. J. Bente
0987-70796	N-7(V-VBLK)L	356.0	L	U	AK-503	641-1463	TANA431.0 Canyon Crk 2	07-07-94	R. J. Ritchie
0987-70797	P-7(V-VBLK)L	356.0	L	U	AK-503	641-1463	TANA431.0 Canyon Crk 2	07-07-94	R. J. Ritchie
0987-70798	R-7(V-VBLK)L	356.0	L	U	AK-503	641-1463	TANA431.0 Canyon Crk 2	07-07-94	R. J. Ritchie
0987-84341	AK(VHBLK)L	356.0	L	U	AK-503	632-1423	TANA93.5 Porcupine	06-29-94	P. J. Bente
0987-84342	AW(VHBLK)L	356.0	L	U	AK-503	632-1424	TANA103.2 Tok River	06-30-94	P. J. Bente
0987-84343	BG(VHBLK)L	356.0	L	U	AK-503	632-1424	TANA103.2 Tok River	06-30-94	P. J. Bente
0987-84344	BH(VHBLK)L	356.0	L	U	AK-503	632-1424	TANA103.2 Tok River	06-30-94	P. J. Bente
0987-84345	BK(VHBLK)L	356.0	L	U	AK-503	632-1424	TANA103.2 Tok River	06-30-94	P. J. Bente
0987-84346	BW(VHBLK)L	356.0	L	U	AK-503	632-1433	TANA181.7 W Yerrich Crk	07-01-94	P. J. Bente
0987-84347	CG(VHBLK)L	356.0	TY	F	AK-503	632-1434	TANA205.0 Robertson	07-02-94	P. J. Bente

Table 6. Continued.

Band Number[b]	Auxiliary Marker Code[c]	AOU #[d]	Age[e]	Sex[f]	Region[g]	Lat-Long[h]	Location[i]	Date	Bander
0987-84348	CH(VHBLK)L	356.0	L	U	AK-503	632-1434	TANA205.0 Robertson	07-02-94	P. J. Bente
0987-84349	CK(VHBLK)L	356.0	SY	F	AK-503	633-1434	TANA211.0 Below Robertson	07-02-94	P. J. Bente
0987-84350	CW(VHBLK)L	356.0	L	U	AK-503	633-1434	TANA211.0 Below Robertson	07-02-94	P. J. Bente
0987-84351	DG(VHBLK)L	356.0	L	U	AK-503	633-1434	TANA211.0 Below Robertson	07-02-94	P. J. Bente
0987-84352	DH(VHBLK)L	356.0	L	U	AK-503	633-1434	TANA211.0 Below Robertson	07-02-94	P. J. Bente
0987-84353	DK(VHBLK)L	356.0	L	U	AK-503	633-1434	TANA211.0 Below Robertson	07-02-94	P. J. Bente
0987-84354	DW(VHBLK)L	356.0	L	U	AK-503	633-1435	TANA221.5 Round Lake	07-03-94	P. J. Bente
0987-84355	EG(VHBLK)L	356.0	L	U	AK-503	634-1435	TANA232.5 N of Chief Crk	07-03-94	P. J. Bente
0987-84356	EH(VHBLK)L	356.0	L	U	AK-503	634-1442	TANA258.5 Head Johnson Sl	07-04-94	P. J. Bente
0987-84357	EK(VHBLK)L	356.0	L	U	AK-503	634-1442	TANA258.5 Head Johnson Sl	07-04-94	P. J. Bente
0987-84358	EW(VHBLK)L	356.0	L	U	AK-503	634-1443	TANA269.5 Tail Johnson Sl	07-05-94	P. J. Bente
0987-84359	GG(VHBLK)L	356.0	L	U	AK-503	634-1443	TANA269.5 Tail Johnson Sl	07-05-94	P. J. Bente
0987-84360	GH(VHBLK)L	356.0	L	U	AK-503	634-1443	TANA269.5 Tail Johnson Sl	07-05-94	P. J. Bente
0987-84361	GK(VHBLK)L	356.0	L	U	AK-503	634-1444	TANA280.5 George Lake	07-05-94	P. J. Bente
0987-84362	GW(VHBLK)L	356.0	L	U	AK-503	634-1444	TANA280.5 George Lake	07-05-94	P. J. Bente
0987-84363	HG(VHBLK)L	356.0	L	U	AK-503	634-1444	TANA280.5 George Lake	07-05-94	P. J. Bente
0987-84364	HH(VHBLK)L	356.0	L	U	AK-503	634-1444	TANA280.5 George Lake	07-05-94	P. J. Bente
0987-84365	HK(VHBLK)L	356.0	L	U	AK-503	634-1444	TANA288.5 L Gerstle	07-06-94	P. J. Bente
0987-84366	HW(VHBLK)L	356.0	L	U	AK-503	635-1444	TANA299.0 Sawmill	07-06-94	P. J. Bente
0987-84367	LG(VHBLK)L	356.0	L	U	AK-503	640-1450	TANA336.5 Volkmar	07-07-94	P. J. Bente
0987-84368	LW(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA376.0 Indian	07-07-94	P. J. Bente
0987-84369	MG(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA376.0 Indian	07-07-94	P. J. Bente
0987-84370	MW(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA380.0 Above Delta Br	07-08-94	P. J. Bente
0987-83471	PG(VHBLK)L	356.0	L	U	AK-503	641-1454	TANA380.0 Above Delta Br	07-08-94	P. J. Bente
0987-84372	PK(VHBLK)L	356.0	L	U	AK-503	641-1461	TANA407.8 Tenderfoot	07-08-94	P. J. Bente
0987-84373	RH(VHBLK)L	356.0	L	U	AK-503	641-1461	TANA414.5 Delta Crk	07-09-94	P. J. Bente

Table 6. Continued.

Band Number[b]	Auxiliary Marker Code[c]	AOU #[d]	Age[e]	Sex[f]	Region[g]	Lat-Long[h]	Location[i]	Date	Bander
0987-84374	WP(VHBLK)L	356.0	L	U	AK-503	641-1464	TANA436.5 Birch Lake	07-09-94	P. J. Bente
0987-84375	42(HHBLU)L	356.0	L	U	AK-503	690-1484	SAGA101.8 Icecut North	07-28-94	P. J. Bente
0987-84376	43(HHBLU)L	356.0	L	U	AK-503	690-1484	SAGA101.8 Icecut North	07-28-94	P. J. Bente
0987-84377	44(HHBLU)L	356.0	L	U	AK-503	690-1484	SAGA116.0 S Happy Valley	07-28-94	P. J. Bente
0987-84378	51(HHBLU)L	356.0	L	U	AK-503	690-1484	SAGA116.0 S Happy Valley	07-28-94	P. J. Bente
0987-84379	52(HHBLU)L	356.0	L	U	AK-503	691-1484	SAGA123.5 N Happy Valley	07-28-94	P. J. Bente
0987-84380	53(HHBLU)L	356.0	L	U	AK-503	691-1484	SAGA123.5 N Happy Valley	07-28-94	P. J. Bente
0987-84381	VAL(VVVBLU)L	356.0	L	U	AK-503	692-1484	SAGA144.2 S Sagwon	07-30-94	P. J. Bente
0987-84382	54(HHBLU)L	356.0	L	U	AK-503	692-1483	SAGA159.0 N Pump 2	07-30-94	P. J. Bente
0987-84383	61(HHBLU)L	356.0	L	U	AK-503	694-1483	SAGA199.7 N Bruce Crk	08-01-94	P. J. Bente
0987-84384	62(HHBLU)L	356.0	L	U	AK-503	694-1483	SAGA199.7 N Bruce Crk	08-01-94	P. J. Bente
0987-84385	63(HHBLU)L	356.0	L	U	AK-503	694-1484	SAGA203.0 Mid Franklin	08-01-94	P. J. Bente
0987-84386	64(HHBLU)L	356.0	L	U	AK-503	694-1484	SAGA203.0 Mid Franklin	08-01-94	P. J. Bente
0987-84387	71(HHBLU)L	356.0	L	U	AK-503	695-1484	SAGA208.3 Greta Crk	08-02-94	P. J. Bente
0987-84388	72(HHBLU)L	356.0	L	U	AK-503	695-1484	SAGA208.3 Greta Crk	08-02-94	P. J. Bente
0987-84389	73(HHBLU)L	356.0	L	U	AK-503	695-1484	SAGA217.5 N Franklin	08-02-94	P. J. Bente
1807-30188	M-7(V-VBLK)L	356.0	ASY	F	AK-503	641-1461	TANA414.5 Delta Crk	06-07-94	P. J. Bente
1807-30189	AG(VHBLK)L	356.0	L	U	AK-503	632-1423	TANA93.5 Porcupine Crk	06-29-94	P. J. Bente
1807-30190	AH(VHBLK)L	356.0	L	U	AK-503	632-1423	TANA93.5 Porcupine Crk	06-29-94	P. J. Bente
2206-14450	L4(VVBLU)L	356.0	L	U	AK-503	692-1483	SAGA159.0 N Pump 2	07-31-94	P. J. Bente
2206-14451	L6(VVBLU)L	356.0	L	U	AK-503	692-1483	SAGA159.0 N Pump 2	07-31-94	P. J. Bente
2206-14452	L7(VVBLU)L	356.0	L	U	AK-503	694-1484	SAGA203.0 Mid Franklin	08-01-94	P. J. Bente
2206-14453	L8(VVBLU)L	356.0	L	U	AK-503	695-1484	SAGA208.3 Greta Crk	08-02-94	P. J. Bente
2206-14454	L9(VVBLU)L	356.0	L	U	AK-503	695-1484	SAGA208.3 Greta Crk	08-02-94	P. J. Bente

Table 6. Continued.

Band Number[b]	Auxiliary Marker Code[c]	AOU #[d]	Age[e]	Sex[f]	Region[g]	Lat-Long[h]	Location[i]	Date	Bander
2206-14455	W7(HVBLU)L	356.0	L	U	AK-503	695-1484	SAGA217.5 N Franklin	08-02-94	P. J. Bente
2206-14456	X7(HVBLU)L	356.0	L	U	AK-503	695-1484	SAGA217.5 N Franklin	08-02-94	P. J. Bente
2206-14457	Y7(HVBLU)L	356.0	L	U	AK-503	692-1483	SAGA156.0 N Sagwon	08-03-94	P. J. Bente
2206-14458	A8(HVBLU)L	356.0	L	U	AK-503	692-1483	SAGA156.0 N Sagwon	08-03-94	P. J. Bente

[a] Information provided to US Fish and Wildlife Service for submission to Bird Banding Laboratory.
[b] Lock-on aluminum leg band.
[c] Auxiliary marker color leg band with engraved code [Format: code(orientation-color)leg].
[d] American Ornithologists Union number: 337.0 = Red-tailed Hawk, 352.0 = Bald Eagle, 356.0 = Peregrine Falcon.
[e] Age codes: ASY = after 2nd year, L = local (nestling), SY = 2nd year, TY = 3rd year.
[f] Sex codes: F = female, M = male, U = unknown.
[g] Banding region using code designated by Bird Banding Laboratory.
[h] 10-minute band block code showing latitude and longitude.
[i] River code (4 letters) followed by river milepost (in kilometers) and brief description [SAGA = Sagavanirktok River, TANA = Tanana River].
[j] This band attached upside-down, sibling bird 0987-84381 has VAL(VVVBLU)L attached normally. These 2 bands in memory of Val Chabot who died during survey work on the Tanana River.

Table 7. Number and percentage of resightings of previously banded peregrine falcons, Sagavanirktok and Tanana rivers, Alaska, 1994.

Banding status	Sagavanirktok River	Tanana River
Unknown banding	8 (21%)	3 (5%)
Unbanded	21 (55%)	27 (49%)
FWS[a]-R, No AUXMKR[b]	3 (8%)	0 (0%)
FWS-L, No AUXMKR	2 (5%)	0 (0%)
Unk FWS, No AUXMKR	0 (0%)	0 (0%)
AUXMKR-R, unknown code	0 (0%)	0 (0%)
AUXMKR-L, unknown code	1 (3%)	1 (2%)
AUXMKR-known code	3 (8%)	24 (44%)
Total AUXMKR	4 (11%)	25 (45%)
Total Banded	9 (24%)	25 (45%)
Total Individuals	38	55

[a] FWS = US Fish and Wildlife Service leg band on either right (R), left (L), or no (No) leg.
[b] AUXMKR = Auxiliary marker color leg band on either right (R), left (L), or no (No) leg.

Table 8. Nest site summary of previously banded peregrine falcons, Sagavanirktok River, Alaska, 1994.

Location[a]	UNK[b]	UNBAND	FWS[c]-R	FWS-L	FWS-U	AUXMKR[d]-R	AUXMKR-L	AUXMKR CODE[e]
SAGA81.4	F[f]	M[g]						
SAGA99.0		M F						
SAGA101.8		M	F					
SAGA110.8	M F							
SAGA116.0		M F						
SAGA123.5		M F						
SAGA135.0			M					
SAGA144.2	M	F						
SAGA146.0		M						
SAGA147.0								F - ?H(?VBLU)L
SAGA150.6	M	F						
SAGA156.0		M F						
SAGA157.9		F						M - 18(VVBLU)L
SAGA159.5		M		F				
SAGA196.8	U[h]							
SAGA198.2	M F							
SAGA199.7		M		F				
SAGA203.0		F	M					
SAGA204.3		F						M - C4(VVBLU)L
SAGA208.3		F						M - A8(VHBLU)L
SAGA217.5		M F						
TOTAL	M=4 F=3 U=1	M=10 F=11	M=2 F=1	M=0 F=2	M=0 F=0	M=0 F=0	M=0 F=0	M=3 F=1

[a] Location = River code (4 letters) followed by river milepost (in kilometers).
[b] UNK = Unknown banding status (neither leg was observed).
[c] FWS = US Fish and Wildlife Service leg band on either right (R) or left (L) leg. Unknown (U) banding occurs when one leg has no band and the other leg was not seen. In this case the bird does not have an AUXMKR but it may or may not have a FWS band on the unseen leg.
[d] AUXMKR = Auxiliary marker color leg band used on either right (R) or left (L) leg.
[e] AUXMKR CODE = Auxiliary marker color leg band with engraved code [Format: CODE(Orientation-Color)Leg].
[f] F = Female.
[g] M = Male.
[h] U = Unknown sex.

Table 9. Location and movements of previously banded peregrine falcons observed on the Sagavanirktok and Tanana rivers, Alaska, 1994.

				Banding Information					Recovery/Resighting Information					
Band No.[a]	Auxmkr[b]	Dist km[c]	Dir[d]	Date	Location[e]	Lat-Long[f]	Age[g]	Sex[h]	Date	Location	Lat-Long	Age Yrs	Sex	No. Yng[i]
Sagavanirktok River														
?	?H(?VBLU)L[j]	-	-	-	-	-	-	-	07/31/94	SAGA147.0	692-1484	?	F	0
1807-00645	18(VVBLU)L	145	E	07/28/88	COLV387.3	685-1535	L	U	07/31/94	SAGA157.9	692-1483	6	M	2
2206-14222	C4(VVBLU)L	115	E	07/30/90	COLV594.4	695-1513	L	M	08/02/94	SAGA204.7	694-1484	4	M	3
0987-32996	A8(VHBLU)L	55	N	07/24/90	SAGA157/159	692-1483	L	U	08/02/94	SAGA208.3	695-1484	4	M	4
Tanana River														
1807-02310	GY(VVBLK)L	58	ESE	07/03/89	TANA205.0	632-1434	L	U	06/27/94	TANA93.5	632-1423	5	M	4
2206-14416	47(VVBLK)	0	-	05/26/93	TANA103.2	632-1424	ASY	M	05/24/94	TANA103.2	632-1424	>3	M	4
1807-02301	BT(VVBLK)L	90	SE	07/05/89	TANA273.0	634-1443	L	U	07/01/94	TANA181.7	632-1433	5	M	2
987-71368	3C4(VVVBLK)L	217	SE	07/10/86	TANA436.5	641-1464	L	U	07/03/04	TANA221.5	633-1435	8	F	4
1807-30371	Z-4(V-VBLK)L	0	-	05/29/93	TANA243.0	634-1440	ASY	F	07/03/94	TANA243.0	634-1440	>3	F	0[k]
1807-02355	RZ(VVBLK)L	190	SW	07/11/89	YUKO155.5	652-1424	L	U	07/03/94	TANA243.0	634-1440	5	M	0[k]
1807-02313	KN(VVBLK)L	30	SE	07/01/89	TANA299.0	635-1444	L	U	07/04/94	TANA247.5	634-1441	5	M	1
1807-30012	B4(VVBLK)L	138	SE	06/28/90	TANA436.5	641-1464	L	U	07/04/94	TANA247.5	634-1441	4	F	1
1807-30429	DR(VHBLK)L	85	SE	07/12/91	TANA376.0	641-1454	L	U	07/05/94	TANA269.5	634-1443	3	M	4[k]
1807-30365	X5(VVBLK)L[l]	3	NE	07/18/92	TANA273.0	634-1443	SY	F	07/05/94	TANA269.5	634-1443	3	F	4[k]
1807-30071	M2(VVBLK)L	0	--	09/09/90	TANA280.5	634-1444	ASY	F	07/05/94	TANA280.5	634-1444	>5	F	4
1807-30072	M4(VVBLK)L	0	--	09/09/90	TANA288.5	634-1444	ASY	F	07/06/94	TANA288.5	634-1444	>5	F	4
987-71369	3C5(VVVBLK)L	100	ESE	07/10/86	TANA436.5	641-1464	L	U	07/07/94	TANA336.5	640-1450	8	M	3

Table 9. Continued.

				Banding Information					Recovery/Resighting Information					
Band No.[a]	Auxmkr[b]	Dist km[c]	Dir[d]	Date	Location[e]	Lat-Long[f]	Age[g]	Sex[h]	Date	Location	Lat-Long	Age Yrs	Sex	No. Yng[i]
1807-02303	CT(VVBLK)L	65	NW	07/05/89	TANA273.0	634-1443	L	U	07/07/94	TANA376.0	641-1454	5	F	4
1807-30362	X3(VVBLK)L[m]	95	SE	07/12/92	TANA244.0	634-1440	L	U	07/08/94	TANA380.0	641-1454	2	F	3
987-71362	2C8(VVVBLK)L	128	NW	07/09/86	TANA205.0	632-1434	L	U	07/08/94	TANA386.0	640-1455	8	M	3
987-70942	4B2(VVVBLK)L	260	SE	07/05/88	YUKO684.0	655-1494	L	U	07/08/94	TANA386.0	640-1455	6	F	3
1807-70942	Z7(VVBLK)L	35	NW	07/19/92	TANA376.0	641-1454	L	U	07/08/94	TANA407.8	641-1461	2	F	2
1807-30509	WB(VVBLK)L	240	SW	07/07/91	YUKO95.0	651-1414	L	U	07/09/94	TANA427.0	641-1463	3	F	0
1807-02332	LU(VVBLK)L	205	SW	07/10/89	YUKO235.0	653-1440	L	U	07/09/94	TANA436.5	641-1464	5	F	2
2206-14301	M3(VVBLK)L	130	NW	09/09/90	TANA299.0	635-1444	HY	M	07/10/94	TANA443.0	641-1464	4	M	2[k]
1807-30070	L9(VVBLK)L	130	NW	09/09/90	TANA280.5	634-1444	HY	F	07/10/94	TANA443.0	641-1464	4	F	2[k]
1807-02317	HZ(VVBLK)L	45	NW	07/05/89	TANA414.5	641-1461	L	U	06/06/94	TANA459.5	642-1465	5	M	0
816-72841	00(VVBLK)R	445	E	06/13/89	YUKO1231.0	644-1575	SY	M	06/28/94	TANA610.0	644-1485	5	M	3
1807-30059	K8(VVBLK)L	275	WSW	07/07/90	YUKO56.0	645-1412	L	U	07/11/94	SALCHA	643-1464	4	F	0

[a] US Fish and Wildlife Service lock-on aluminum leg band.
[b] Auxiliary marker color leg band with engraved code [Format: CODE(Orientation-Color)Leg].
[c] Distance moved, kilometers.
[d] Direction moved in compass directions.
[e] River code (4 letters) followed by river milepost location (in kilometers) [COLV-Colville River, SAGA-Sagavanirktok River, SALC-Salcha River, TANA-Tanana River, YUKO-Yukon River].
[f] 10-minute band block code showing latitude and longitude [634-1442 = 63° 40' N, 144° 20' W].
[g] Age codes: ASY = after 2nd year, HY = hatch year, L = local (nestling), SY = 2nd year.
[h] Sex codes: F = female, M = male, U = unknown
[i] Number of young produced by breeding pairs, U = unknown breeding status.

Table 9. Continued.

[j] 3H(HVBLU)L was observed at SAGA146.8 in 1993. ?H(?VBLU)L is probably the same bird which was banded as a female nestling at COLV597.0 (Lat-Long: 700-1513) in 1991.

[k] One member of a pair where both birds are color banded.

[l] Breeding female that acquired a new mate and moved to a new nesting location in 1994. Previous mate was D8(VVBLK)L at TANA273.0 in 1993.

[m] This bird may have been incorrectly reported in 1993 as 23(VVBLK)L, a nonbreeding male banded near Khotol and Yukon rivers at YUKO1432.0 in 1990.

Table 10. Nest site summary of previously banded peregrine falcons, Tanana River, Alaska, 1994.

Location[a]	UNK[b]	UNBAND	FWS[c]-R	FWS-L	FWS-U	AUXMKR[d]-R	AUXMKR-L	AUXMKR CODE[e]
TANA93.5		F[f]						M[g] - GY(VVBLK)L
TANA103.2		F						M - 47(VVBLK)L
TANA181.7		F						M - BT(VVBLK)L
TANA205.0		M F						
TANA211.0		M F						
TANA221.5		M						F - 3C4(VVVBLK)L
TANA232.5		M F						
TANA243.0								M - RZ(VVBLK)L F - Z4(V-VBLK)L
TANA247.5								M - KN(VVBLK)L F - B4(VVBLK)L
TANA258.5		M F						
TANA269.5								M - DR(VHBLK)L F - X5(VVBLK)L
TANA280.5		M						F - M2(VVBLK)L
TANA288.5		M						F - M4(VVBLK)L
TANA299.0		M F						
TANA336.5		F						M - 3C5(VVVBLK)L
TANA376.0		F						M - CT(VVBLK)L
TANA380.0		M						F - X3(VVBLK)L
TANA386.0								M - 2C8(VVVBLK)L F - 4B2(VVVBLK)L
TANA407.8		M						F - Z7(VVBLK)L
TANA414.5		M F						
TANA427.0		M						F - WB(VVBLK)L
TANA431.0		M F						
TANA436.5		M						F - LU(VVBLK)L
TANA438.5	M							
TANA443.0								M - M3(VVBLK)L F - L9(VVBLK)L
TANA459.5							F	M - HZ(VVBLK)L
TANA550.0	M F							
TANA610.0		F						M - 00(VVBLK)R
SALCHA								F - K8(VVBLK)L
TOTAL	M=2 F=1	M=14 F=13	M=0 F=0	M=0 F=0	M=0 F=0	M=0 F=0	M=0 F=1	M=12 F=13

[a] Location = River code (4 letters) followed by river milepost (in kilometers).
[b] UNK = Unknown banding status (neither leg was observed).
[c] FWS = US Fish and Wildlife Service leg band on either right (R) or left (L) leg. Unknown (U) banding occurs when one leg has no band and the other leg was not seen. In this case the bird does not have an AUXMKR but it may or may not have a FWS band on the unseen leg.
[d] AUXMKR = Auxiliary marker color leg band used on either right (R) or left (L) leg.
[e] AUXMKR CODE = Auxiliary marker color leg band with engraved code [Format: CODE(Orientation-Color)Leg].
[f] F = Female.
[g] M = Male.

APPENDIX A. Observations of other raptors on the Sagavanirktok River, 1994.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
	SAGA111.5	CORA	2	U	-	4	June 15 - Pair, Ad perched at TAPS Remote Valve, can't see 1993 nest.
	SAGA111.5	CORA	U	-	-	7	July 29 - No birds present.
	SAGA150.5	CORA	2	U	3	6	June 17 - Pair, young nearly fledged, nest is high on GARD.
	SAGA150.5	CORA	2	-	-	6	July 31 - Pair, young fledged, no birds present.
1797	SAGA159.8	CORA	2	U	3	6	June 17 - Pair at cliff with recently fledged young.
1797	SAGA159.8	CORA	0	-	-	6	July 31 - No birds present.
1803	SAGA199.5	CORA	0	-	-	1	June 19 - Unoccupied.
1803	SAGA199.5	CORA	0	-	-	1	August 1 - Unoccupied.
	SAGA140.0	GOEA	1	-	-	U	June 16 - Subadult flush from rock, no evidence of nest.
	SAGA207.0	GOEA	1	0	-	U	August 2 - Subad fly back and forth along ridge.
1765	SAGA99.0	GYRF	2	2	-	4	June 15 - Pair, 2 large downies, same nest site used in 1993.
1765	SAGA99.0	GYRF	0	-	-	7	July 29 - Ledge very white-washed, probably fledged young, no birds present.
1769	SAGA110.0	GYRF	2	3	-	4	June 15 - Pair, Ad brooding 3 small nestlings in stick nest, same nest used in 1993.
1769	SAGA110.0	GYRF	0	-	-	7	July 29 - Pair, probable fledging, nest with feathers and white-wash, no birds present.
	SAGA153.0	GYRF	1	U	-	7	June 17 - Probable pair, Ad perched at ledge/pothole used in 1993, mate not seen.
	SAGA153.0	GYRF	0	-	-	7	July 31 - Pair, probable fledging, ledge with good white-wash, no birds present.
1795	SAGA159.0	GYRF	2	3	-	4	June 17 - Pair, young in stick nest built and used by CORA in 1993.
1795	SAGA159.0	GYRF	0	-	-	7	July 31 - Pair, probable fledging, nest with white-wash, no birds present.
211	SAGA198.5	GYRF	U	-	-	U	June 19 - Not located during June survey.
211	SAGA198.5	GYRF	2	U	U	7	August 1 - Pair, probable fledging, stick nest with good white-wash, no fledglings present.
1754	SAGA82.0	RLHA	2	-	-	4	June 14 - Pair, fly above rebuilt nest, no eggs.
1754	SAGA82.0	RLHA	0	0	-	5	July 28 - Failed pair, no birds present.
1760	SAGA95.3	RLHA	2	0	-	4	June 15 - Pair, new nest.
1760	SAGA95.3	RLHA	0	0	-	5	July 29 - Failed pair, no birds present.
1761	SAGA95.8	RLHA	0	-	-	1	June 15 - Unoccupied, rebuilt, no birds.
1761	SAGA95.8	RLHA	0	-	-	1	July 29 - Unoccupied.

APPENDIX A. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1762	SAGA97.8	RLHA	U	-	-	U	June 15 - Not checked, no birds in area.
204	SAGA99.0	RLHA	0	-	-	1	June 15 - Unoccupied.
204	SAGA99.0	RLHA	0	-	-	1	July 29 - Unoccupied.
1767	SAGA100.0	RLHA	0	-	-	1	June 15 - Unoccupied.
1767	SAGA100.0	RLHA	0	-	-	1	July 29 - Unoccupied.
1768	SAGA101.8	RLHA	0	-	-	1	June 15 - Unoccupied.
1768	SAGA101.8	RLHA	0	-	-	1	July 29 - Unoccupied.
	SAGA104.8	RLHA	2	-	-	4	June 15 - Pair, Ad flush from low on slope/rock, new stick nest (empty), pair fly above bluff.
	SAGA104.8	RLHA	0	0	-	5	July 29 - Failed pair, no birds present.
1770	SAGA110.4	RLHA	2	-	-	4	June 15 - Pair, flying high, nest is empty.
1770	SAGA110.4	RLHA	0	0	-	5	July 29 - Failed pair, no birds present.
1771	SAGA110.8	RLHA	2	-	-	4	June 15 - Pair, Ad in nest low on rock, mate flying high.
1771	SAGA110.8	RLHA	0	0	-	5	July 29 - Failed pair, no birds present.
1776	SAGA126.0	RLHA	1	-	-	7	June 15 - Probable pair, Ad perched, nest looks empty, did not walk to site.
1777	SAGA126.5	RLHA	0	0	-	5	July 30 - Failed pair, no birds present.
	SAGA134.0	RLHA	-	-	-	-	June 16 - Cement blocks have been restacked, nest is gone, no birds present.
1784	SAGA144.3	RLHA	2	-	-	4	June 16 - Pair, defending new nest.
1784	SAGA144.3	RLHA	0	0	-	5	July 30 - Failed pair, no birds present.
207	SAGA146.0	RLHA	2	-	-	4	June 16 - Pair, weakly defensive, nest not occupied, fly above bluff and disappear, failed pair (?).
207	SAGA146.0	RLHA	0	0	-	5	July 30 - Failed pair, no birds present.
	SAGA148.0	RLHA	2	-	-	4	June 17 - Pair, Ad incubating, rebuilt nest, pair fly together, defensive.
	SAGA148.0	RLHA	0	0	-	5	July 31 - Failed pair, no birds present.
	SAGA151.5	RLHA	2	-	-	4	June 17 - Pair, Ad incubating, mate not seen.
	SAGA151.5	RLHA	0	0	-	5	July 31 - Failed pair, no birds present.
1794	SAGA158.0	RLHA	0	-	-	1	June 17 - Unoccupied, nest in good shape.
1794	SAGA158.0	RLHA	0	-	-	1	July 31 - Unoccupied.
	SAGA158.5	RLHA	2	-	-	4	June 17 - Pair, Ad incubating, new nest at rusty pebble-stone rock.
	SAGA158.5	RLHA	2	2	-	6	July 31 - Pair with 2 yng near fledged. The only successful pair along Sag River in 1994.

APPENDIX A. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1797	SAGA159.0	RLHA	2	-	-	4	June 17 - Pair, Ad incubating, nest on spire, mate not seen.
1797	SAGA159.0	RLHA	0	0	-	5	July 31 - Failed pair, no birds present.
	SAGA195.0	RLHA	0	-	-	1	June 18 - Unoccupied.
	SAGA195.0	RLHA	0	-	-	1	July 31 - Unoccupied.
	SAGA197.0	RLHA	0	-	-	1	June 19 - Unoccupied.
	SAGA197.0	RLHA	0	-	-	1	August 1 - Unoccupied.
1803	SAGA199.0	RLHA	0	-	-	1	June 19 - Unoccupied.
1803	SAGA199.0	RLHA	0	-	-	1	August 1 - Unoccupied.
	SAGA199.3	RLHA	2	-	-	4	June 19 - Pair, Ad incubating, new nest.
	SAGA199.3	RLHA	0	0	-	5	August 1 - Failed pair, no birds present.
212	SAGA200.0	RLHA	0	-	-	1	June 19 - Unoccupied.
212	SAGA200.0	RLHA	0	-	-	1	August 1 - Unoccupied.
	SAGA201.0	RLHA	2	-	-	4	June 19 - Pair, Ad incubating, flushed, defensive.
	SAGA201.0	RLHA	0	0	-	5	August 1 - Failed pair, no birds present.
1805	SAGA202.5	RLHA	0	-	-	1	June 19 - Unoccupied.
1805	SAGA202.5	RLHA	0	-	-	1	August 1 - Unoccupied.
213	SAGA203.5	RLHA	0	-	-	1	June 19 - Unoccupied.
213	SAGA203.5	RLHA	0	-	-	1	August 1 - Unoccupied.
	SAGA205.7	RLHA	2	-	-	4	June 20 - Pair, Ad incubating.
	SAGA205.7	RLHA	0	0	-	5	August 1 - Failed pair, no birds present.
1814	SAGA218.5	RLHA	0	-	-	1	June 20 - Unoccupied.
1814	SAGA218.5	RLHA	0	-	-	1	August 2 - Unoccupied.
1815	SAGA219.0	RLHA	0	-	-	1	June 20 - Unoccupied.
1815	SAGA219.0	RLHA	0	-	-	1	August 2 - Unoccupied.
	SAGA220.0	RLHA	0	-	-	1	June 20 - Unoccupied.
	SAGA220.0	RLHA	0	-	-	1	August 2 - Unoccupied.

[a] Terr = Nest Territory Number assigned by US Fish and Wildlife Service (FWS).
[b] Location = River code (4 letters) followed by river milepost (in kilometers).
[c] Species = Four letter code standardized by FWS. CORA - common raven, GOEA - golden eagle, GYRF - gyrfalcon, RLHA - rough-legged hawk.

APPENDIX A. Continued.

[d] Ad(s) = Adult(s).
[e] Yng = Young.
[f] Flg = Fledglings.
[g] Status = Nesting territory status code standardized by FWS. 1 - unoccupied, 2 - occupancy unknown, 3 - occupied nonbreeding, 4 - occupied breeding, 5 - occupied unsuccessful breeding, 6 - occupied successful breeding, 7 - occupied breeding status unknown, 8 - occupied breeding status unknown but no young produced.
[h] Abbreviations in text: Ad(s) = adult(s), GARD = named bench mark on map, Sag = Sagavanirktok River, TAPS = TransAlaska Oil Pipeline System, yng = young

APPENDIX B. Observations of other raptors on the Tanana River, 1994.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]	
	TANA89.7	AMKE	1	U	U	2	May 23 -	Probable pair, Ad male calling, mate not seen, nest not found.
1215	TANA119.5	AMKE	1	-	-	2	May 24 -	Probable pair, Ad female perched in top of dead SP, mate not seen, nest not found.
228	TANA134.5	AMKE	1	U	U	2	May 24 -	Probable pair, Ad male plucking prey (small bird) on cliff, flies to S bank, mate not seen, nest not found.
1206	TANA183.5	AMKE	1	-	-	2	May 25 -	Probable pair, Ad M perched, mate not seen, nest not found.
1206	TANA183.5	AMKE	0	-	-	2	July 1 -	No birds present.
1231	TANA211.0	AMKE	1	-	-	2	July 2 -	Ad M fly along slough near PEFA site, mate not seen, nest not found.
1277	TANA248.0	AMKE	1	-	-	2	May 26 -	Ad fly and scold passing RTHA, mate not seen, nest not found.
1259	TANA254.0	AMKE	1	-	-	2	July 4 -	Ad M fly and scold while inspecting BAEA nest tree, mate not seen, nest not found.
62	TANA436.5	AMKE	1	-	-	2	June 8 -	Ad M harass perched PEFA, mate not seen, nest not found.
2244	TANA459.5	AMKE	1	-	-	2	June 8 -	Ad F harass and dive on perched PEFA, mate not seen, nest not found.
	TANA94.0	BAEA	1	U	U	2	June 29 -	Bird calling, not seen, nest not found.
	TANA100.0	BAEA	1	-	-	2	May 24 -	Subadult BAEA fly across river.
1212	TANA116.8	BAEA	2	-	-	4	May 24 -	Pair, Ad M not present, Ad F unbanded, collect 1 fresh egg, leave one egg in SP nest, Ad F very defensive, difficult to flush from nest.
1212	TANA116.8	BAEA	2	1	U	6	July 1 -	Pair, Ad M unbanded, Ad F unbanded, 1 yng 4 wks banded: BA(VVGRN)L.
1207	TANA138.0	BAEA	0	-	-	1	May 25 -	Unoccupied, CW nest, 2nd nest not found.
1207	TANA138.0	BAEA	2	0	-	5	June 30 -	Failed pair, one Ad unbanded, 2 Ads fly to nest area from downstream, perch nearby.
1196	TANA162.0	BAEA	1	-	-	7	May 25 -	Pair, Ad incubating, CW nest, rainy.
1196	TANA162.0	BAEA	2	2	U	6	July 1 -	Pair, Ad M unbanded, Ad F unbanded, 2 yng <3 wks banded: BB,BC(VVGRN)L, avian prey in nest (no evidence of fish).
1228	TANA209.3	BAEA	U	-	-	U	May 4 -	Nest not found, aerial survey by ABR, Fairbanks; Survey Map 7.8; nest last seen in 1988 by Bente.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1231	TANA211.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 7.5.
1231	TANA211.0	BAEA	1	-	-	7	May 25 - Probable pair, Ad perched on island in mid channel, nest not seen, mate not seen.
1239	TANA219.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 7.4.
1239	TANA219.0	BAEA	1	-	-	7	May 25 - Probable pair, Ad fly to nest, mate not seen, rainy.
1239	TANA219.0	BAEA	2	0	-	5	July 3 - Failed pair, Ad with FWS band on R, mate unbanded.
1241	TANA220.0	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 7.3.
1241	TANA220.0	BAEA	0	-	-	1	May 25 - Unoccupied.
1250	TANA226.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 7.1; empty in 1993 (Swem).
	TANA231.4	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 8.2.
	TANA231.4	BAEA	0	-	-	1	May 26 - Unoccupied.
	TANA236.0	BAEA	1	-	-	7	July 3 - Subadult fly along bluff.
	TANA238.0	BAEA	U	-	-	U	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 8.4; nest located at TANA238.5.
	TANA238.5	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 8.1; corrected location downstream 0.5 km from Swem 1993.
1274	TANA238.5	BAEA	0	-	-	1	May 26 - No birds present.
1274	TANA238.5	BAEA	0	0	-	5	July 3 - Failed pair, no birds present.
	TANA241.8	BAEA	1	-	-	7	July 3 - Probable pair, Ad flush from gravel bar and fly to nest area TANA238.5.
	TANA244.3	BAEA	1	-	-	7	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 9.3; single Ad at this location in 1992.
1273	TANA250.8	BAEA	2	-	-	4	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 9.2.
1273	TANA250.8	BAEA	2	-	-	4	May 26 - Pair, Ad incubating, CW nest.
1273	TANA250.8	BAEA	2	2	-	6	July 4 - Pair, Ad at nest with 2 yng 3-4wks.
1260	TANA254.0	BAEA	1	-	-	7	May 4 - Single Ad, nest not found, aerial survey by ABR, Fairbanks; Survey Map 9.1, failed pair in 1993.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]	
1260	TANA254.0	BAEA	2	1	-	4	May 26 -	Pair in 1993 SP nest, collect one egg, one recent hatchling, Ad return to nest in 12 minutes.
1260	TANA254.0	BAEA	0	0	-	5	July 4 -	Failed pair, climb SP nest tree, no evidence of young being reared.
1280	TANA264.3	BAEA	0	-	-	1	May 4 -	Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 10.2; single Ad at this location in 1989.
1290	TANA285.5	BAEA	1	-	-	7	May 4 -	Single Ad, aerial survey by ABR, Fairbanks; Survey Map 11.1; last known CW nest fell in 1987.
1296	TANA296.0	BAEA	1	-	-	7	May 27 -	Possible pair, Ad perched near new nest, mate not seen, nest empty.
1296	TANA296.0	BAEA	0	-	-	5	July 6 -	Unoccupied, new nest in CW, this area used for nesting in 1979 (Northwest Gasline survey).
1301	TANA311.0	BAEA	0	-	-	1	May 4 -	Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 12.1.
1301	TANA311.0	BAEA	2	-	-	4	May 27 -	Pair, Ad incubating, CW nest.
1301	TANA311.0	BAEA	1	-	-	5	July 6 -	Pair, Ad perched near nest tree, nest not checked, channel clogged.
1313	TANA319.8	BAEA	U	-	-	U	May 4 -	Nest not found, aerial survey by ABR, Fairbanks; Survey Map 13.3; alternate nest for TANA320.0, last used in 1989.
1313	TANA319.8	BAEA	0	-	-	1	May 27 -	Unoccupied, alternate nest for TANA320.5.
1313	TANA319.8	BAEA	0	-	-	1	July 7 -	Unoccupied, CW nest.
1315	TANA320.5	BAEA	2	-	-	4	May 4 -	Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 13.2.
1315	TANA320.5	BAEA	2	-	-	4	May 27 -	Pair, Ad incubating, CW nest.
1315	TANA320.5	BAEA	1	0	-	5	July 7 -	Failed pair, unbanded Ad perched near CW nest tree, nest looks empty, mate not seen.
1319	TANA324.8	BAEA	2	-	-	4	May 4 -	Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 13.1.
1319	TANA324.8	BAEA	0	-	-	7	May 27 -	No birds present, CW nest on S bank.
1319	TANA324.8	BAEA	2	1	-	6	July 7 -	Pair, Unbanded Ad perched, Ad at nest feeding 1 yng 7wks.
1321	TANA327.4	BAEA	1	-	-	7	May 27 -	Possible pair, Ad perched in tree near nest, mate not seen.
1321	TANA327.4	BAEA	0	-	-	5	July 7 -	Unoccupied, CW nest.
1323	TANA328.4	BAEA	0	-	-	1	May 4 -	Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 14.5, previously reported as TANA327.0.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
	TANA330.2	BAEA	1	-	-	7	July 7 - Probable pair, Ad flying low over river toward nesting area at TANA332.0.
	TANA330.5	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 14.4; should be mapped at TANA332.0.
1330	TANA332.0	BAEA	U	-	-	U	May 4 - Nest mapped at TANA330.5, aerial survey by ABR, Fairbanks; Survey Map 14.3; previously reported as TANA333.0.
1330	TANA332.0	BAEA	2	1	-	7	May 27 - Pair in SP nest, collect 1 pipping egg, 1 yng 5-7d.
1330	TANA332.0	BAEA	0	0	-	5	July 7 - Failed pair, no evidence of young at SP nest, did not climb.
1331	TANA335.8	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 14.2.
1331	TANA335.8	BAEA	2	-	-	4	May 28 - Pair, Ad brooding, CW nest, alternate SP nest has been rebuilt.
1331	TANA335.8	BAEA	0	-	-	1	May 28 - Unoccupied, slumped SP nest, alternate to nearby CW nest.
1331	TANA335.8	BAEA	2	1	-	6	July 7 - Pair, Ad perched near CW nest tree, 1 yng 7+wks.
1331	TANA335.8	BAEA	0	-	-	1	July 7 - Unoccupied, nest slightly rebuilt, alternate to CW nest with successful pair.
1325	TANA339.0	BAEA	0	-	-	1	May 28 - Poor nesting habitat, this previous nesting area is probably mis-mapped.
1325	TANA339.5	BAEA	0	-	-	1	May 28 - Poor nesting habitat, this previous nesting area is probably mis-mapped.
1332	TANA343.5	BAEA	2	-	-	4	May 4 - Pair not incubating, aerial survey by ABR, Fairbanks; Survey Map 14.1.
1332	TANA343.5	BAEA	1	-	-	7	May 28 - Probable pair, Ad perched near CW nest, mate not seen.
1332	TANA343.5	BAEA	0	0	-	5	July 7 - Failed pair, no birds present.
1337	TANA345.2	BAEA	0	-	-	1	May 28 - Inaccurate location, nest is at TANA347.0
1338	TANA347.0	BAEA	1	-	-	7	May 28 - Possible pair, Ad fly past nest from downstream, mate not seen, nest empty.
1338	TANA347.0	BAEA	1	-	-	7	July 7 - Possible pair, Ad perched near empty CW nest, mate not seen.
1338	TANA347.1	BAEA	0	-	-	1	May 28 - Unoccupied, alternate nest to TANA347.0.
	TANA348.8	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 15.4.
1341	TANA352.5	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 15.3.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1343	TANA353.3	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 15.2; nest at this location last seen in 1988.
1347	TANA358.0	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 15.1.
1347	TANA358.0	BAEA	1	-	-	7	May 28 - Possible pair, Ad fly above nest, mate not seen, nest empty, CW nest is set back from bank.
1347	TANA358.0	BAEA	1	-	-	7	July 7 - Possible pair, Ad perched on gravel bar near empty CW nest, mate not seen.
	TANA359.0	BAEA	2	1	-	6	July 7 - Pair, new SP nest, leaning over S bank channel, Ad perched near nest, Ad brooding 1 yng 4wks.
1349	TANA361.8	BAEA	2	1	-	6	July 7 - Pair, new CW nest, dense trees on N bank, Ad flush from gravel bar, Ad brooding 1 yng 7 wks.
1349	TANA362.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 16.4; last seen in 1989.
1352	TANA364.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 16.3; last seen in 1990.
1352	TANA365.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 16.2.
1352	TANA365.0	BAEA	2	U	-	4	May 28 - Pair, Ad brooding, CW nest, mate not seen.
1352	TANA365.0	BAEA	2	1	-	6	July 7 - Pair, Ad calling near CW nest tree, 1 yng 7 wks.
1356	TANA369.5	BAEA	2	-	-	4	May 28 - Pair, Ad incubating, CW nest, nest set back from head of island.
1356	TANA369.5	BAEA	0	0	-	5	July 7 - Failed pair, no birds present, some white-wash on ground.
1358	TANA370.0	BAEA	1	-	-	2	May 28 - Nearby pair, Ad perched in SP near nest in aspen, mate not seen, probably alternate to TANA369.5.
1358	TANA370.0	BAEA	0	-	-	1	July 7 - Unoccupied, aspen nest.
	TANA376.5	BAEA	2	-	-	4	May 4 - Pair, nest not found, aerial survey by ABR, Fairbanks; Survey Map 16.6, new location in 1994.
	TANA376.5	BAEA	U	-	-	U	May 28 - Nest not found.
	TANA376.5	BAEA	U	-	-	2	July 7 - Failed pair(?), nest not found.
1360	TANA388.3	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 17.1; nest last seen in 1989.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1361	TANA389.1	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 17.2.
	TANA391.0	BAEA	0	0	-	1	July 8 - Failed pair, CW nest with downy plumes, no young, no adults, nest not seen during May survey.
1368	TANA392.2	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 17.3, nest built in 1993, alternate to TANA392.0.
	TANA396.0	BAEA	2	-	-	7	June 7 - Pair, Ad fly from CW nest and perch, did not see Ad return to nest tree, mate not seen.
	TANA396.0	BAEA	0	0	-	5	July 8 - Failed pair, no birds present.
1375	TANA400.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 18.1.
1375	TANA400.0	BAEA	2	-	-	4	June 7 - Pair, Ad incubating, CW nest, mate not seen, viewed from mid channel.
1375	TANA400.0	BAEA	0	0	-	5	July 8 - Failed pair, CW nest.
	TANA402.5	BAEA	1	-	-	7	June 7 - Possible pair, Ad perched on gravel bar, flies upstream out of sight, no nest found.
	TANA402.5	BAEA	1	-	-	7	July 8 - Possible pair, Ad perched on gravel bar, flies upstream out of sight.
1381	TANA403.2	BAEA	0	-	-	1	June 7 - Unoccupied, CW nest.
1381	TANA403.2	BAEA	0	-	-	1	July 8 - Unoccupied, CW nest.
1381	TANA403.3	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 18.2; previously reported as TANA403.0.
1376	TANA408.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 18.3.
1376	TANA408.0	BAEA	2	-	-	4	June 7 - Pair, Ad incubating, CW nest, mate perched nearby.
1376	TANA408.0	BAEA	0	0	-	5	July 8 - Failed pair, CW nest.
1376	TANA408.2	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 18.4; alternate nest for TANA408.0 on north bank, last seen in 1993.
1376	TANA408.2	BAEA	0	-	-	1	June 7 - Unoccupied, alternate to S bank CW at TANA408.0.
1376	TANA408.2	BAEA	1	-	-	2	July 8 - Nearby pair, unbanded Ad perched near slumped CW nest, probably from failed pair at TANA408.0, nest has been rebuilt since May survey.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1380	TANA409.0	BAEA	1	-	-	7	July 8 - Nearby pair, Ad perched on gravel bar, probably from failed pair at TANA408.0.
	TANA412.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 19.1, reported by King in 1992.
1390	TANA414.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 19.2; slumped nest last seen in 1993.
1399	TANA416.5	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 19.3, reported as TANA416.5 in 1993.
1399	TANA416.5	BAEA	0	0	-	1	June 7 - Failed pair, not birds present.
1399	TANA416.5	BAEA	U	-	-	U	July 8 - Not checked, low water in south channel.
	TANA431.5	BAEA	0	-	-	1	June 7 - Unoccupied, CW nest.
	TANA431.5	BAEA	0	-	-	1	June 8 - Unoccupied, CW nest, one of three CW nests in this area.
	TANA431.5	BAEA	0	-	-	1	July 9 - Unoccupied CW nest.
1396	TANA432.5	BAEA	0	-	-	1	June 7 - Unoccupied, CW nest.
1396	TANA432.5	BAEA	0	-	-	1	July 9 - Unoccupied, CW nest, best view from S channel.
1428	TANA433.0	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 20.1.
1428	TANA433.0	BAEA	0	-	-	1	June 7 - Unoccupied, CW nest.
1428	TANA433.0	BAEA	0	-	-	1	July 9 - Unoccupied, CW nest, N channel at head of Birch Lake cliff.
1401	TANA435.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 20.2; active, previously reported as TANA439.0.
1401	TANA435.0	BAEA	2	U	-	4	June 7 - Pair, Ad brooding in rainy weather, mate not seen.
1401	TANA435.0	BAEA	2	1	-	6	July 9 - Pair, Ad brooding 1 yng 6 wks at CW nest, mate not seen.
1417	TANA439.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 20.3, cut by logging?, old remnant CW last seen in 1990.
1421	TANA444.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 21.4, previously reported as TANA445.0.
	TANA446.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 21.2.
	TANA446.0	BAEA	2	U	-	4	June 6 - Ad standing/brooding in nest, mate not seen.
	TANA446.0	BAEA	2	U	-	4	June 8 - Two Ads (one unbanded) standing at SP nest, at least one small chick.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
	TANA446.0	BAEA	2	2	-	6	July 10 - Both Ads unbanded, 2 yng 5 wks banded: BD,BE(VVGRN)L, difficult dusty climb, Ads defensive.
	TANA450.0	BAEA	1	-	-	U	June 6 - Ad perched on island, active nest upstream at TANA446.0.
	TANA455.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 22.1; slumped CW nest seen in 1991.
	TANA461.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 22.2; apparently there has never been a nest in this area.
1438	TANA462.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 22.3, CW nest last seen in 1992.
1438	TANA462.0	BAEA	0	-	-	1	June 6 - Unoccupied, CW nest.
1438	TANA462.0	BAEA	0	-	-	1	July 10 - Unoccupied, CW nest.
1454	TANA471.2	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 22.4.
	TANA479.5	BAEA	1	-	-	7	May 4 - Single Ad, aerial survey by ABR, Fairbanks; Survey Map 23.2, no nest known for this area.
	TANA487.0	BAEA	1	-	-	7	May 4 - Single Ad, aerial survey by ABR, Fairbanks; Survey Map 23.3, no nest know for this area.
1478	TANA490.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 24.1, empty CW last seen in 1992.
1479	TANA491.0	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 24.8, previously reported as TANA492.0.
1487	TANA492.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 24.2, empty CW nest last seen in 1990.
1488	TANA495.5	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 24.3, not seen since 1988, previously reported as TANA496.0.
	TANA497.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 24.7, new location on slough.
	TANA498.0	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 24.5, last seen in 1989.
1497	TANA500.3	BAEA	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 24.6, last seen in 1993, reported as TANA500.0.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1504	TANA507.5	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 25.1, previously reported as TANA506.5.
	TANA508.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 25.2.
1506	TANA509.3	BAEA	U	-	-	U	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 25.3.
	TANA522.0	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 26.2, approximate location.
1521	TANA524.5	BAEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 26.1, artificial nest.
1521	TANA524.5	BAEA	0	-	-	1	May 20 - Unoccupied, artificial nest in SP, S bank.
	TANA533.0	BAEA	0	-	-	1	May 20 - Previous nesting area, SP nest gone in 1991, no new nests found.
	TANA537.3	BAEA	2	-	-	4	May 20 - Pair, Ad perched, Ad incubating in CW nest, new nest near active channel on S side of river.
	TANA538.0	BAEA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 27.2, new nest location.
1505	TANA560.0	BAEA	U	-	-	U	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 28.1.
1471	TANA612.0	BAEA	0	-	-	1	June 27 - Unoccupied, local resident from Nenana has seen BAEA at this lake, did not know if nest was occupied.
1471	TANA612.0	BAEA	0	-	-	1	June 27 - Unoccupied CW nest, Ad reported in this area by Nenana resident.
1473	TANA612.8	BAEA	0	-	-	1	June 27 - CW nest near Tanana River is gone.
1473	TANA612.8	BAEA	0	-	-	1	June 27 - Nest along creek outlet of Darby Lake is gone.
	TANA93.5	CORA	2	2	U	4	May 24 - Pair, young half grown, nest on lower rocks.
	TANA93.5	CORA	2	-	3	6	June 29 - Pair, brood of 3 young flying among trees W of cliff.
1189	TANA102.0	CORA	0	-	-	1	May 24 - Scars from two previous nests on cliff, low near water, nest not found.
	TANA104.7	CORA	2	U	2	6	June 30 - Pair, 2 fledglings on cliff, new nest.
	TANA119.4	CORA	1	-	-	2	May 24 - Possible pair, Ad CORA at partial nest in SP, fresh sticks added, no young seen.
	TANA129.5	CORA	2	2	U	4	May 24 - Pair, 2 young, nest on steep tan rock.
	TANA129.5	CORA	0	-	-	6	June 30 - Pair, young fledged, nest in good shape.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
228	TANA134.5	CORA	0	-	-	1	May 24 - Pair nearby, two stick nests in chimney, ...cing downstream, active nest not seen.
228	TANA134.5	CORA	2	-	5	6	June 30 - Pair nearby, 5 fledged young out on rocks on slope, not strong fliers, exact location of active nest unknown.
1205	TANA182.5	CORA	0	-	-	1	May 25 - Nest looks empty, no adults seen.
1205	TANA182.5	CORA	0	U	U	1	July 1 - Probable pair, nest with white-wash, battered down, appears to have fledged young, no Ads seen, no fledged young seen.
1243	TANA221.8	CORA	2	3	-	4	May 25 - Pair, Ads feed young at new nest above waterline SP/birch.
1243	TANA221.8	CORA	2	U	3	6	July 3 - Pair, Ad and fledglings flying at rocks upstream along slough.
1246	TANA225.0	CORA	2	-	-	4	May 4 - Pair, aerial survey by ABR, Fairbanks; Survey Map 7.2; nest in CW.
	TANA244.5	CORA	2	U	3	6	July 4 - Pair, Ad fly with fledglings near nest cliff.
	TANA249.0	CORA	2	2	-	4	May 26 - Probable pair, nest on cliff.
	TANA249.0	CORA	-	-	Y	6	July 4 - Probable pair, nest battered and bright white-wash, young fledged.
174	TANA258.8	CORA	2	U	-	4	May 26 - Probable pair, Ad call from cliff, nest not seen.
	TANA269.5	CORA	2	-	-	4	May 26 - Probable pair, Ads fly and perch on cliff, nest not found.
	TANA280.5	CORA	2	2	-	4	May 27 - Pair, large young low at upstream end of cliff.
	TANA297.0	CORA	2	1	-	4	May 27 - Pair, Ad feeding 1+ young, nest on cliff, upstream end beyond SP flat.
178	TANA299.0	CORA	2	3	-	4	May 27 - Pair nesting on cliff near PEFA.
1326	TANA336.0	CORA	2	3	-	4	May 28 - Pair with nest on cliff.
1335	TANA345.5	CORA	2	-	-	4	May 4 - Pair, aerial survey by ABR, Fairbanks; Survey Map 15.5, previously reported as TANA345.0.
	TANA362.0	CORA	U	-	-	U	May 4 - Aerial survey by ABR, Fairbanks; Survey Map 16.7, illegible.
1366	TANA381.0	CORA	-	-	4	6	July 8 - Pair, brood of fledglings at base of cliff, weak flying, nest not found.
1391	TANA413.0	CORA	2	1	-	4	June 7 - Pair, nest on steep cliff low over water.
1406	TANA436.5	CORA	2	4	-	4	June 6 - Pair nesting in PEFA overhang ledge.
1406	TANA436.5	CORA	2	3	1	6	June 8 - Pair, 1 young fledged below nest on cliff.
1420	TANA443.0	CORA	2	U	1	6	June 6 - Pair, 1 young near fledged at upstream rocks.
1463	TANA462.0	CORA	1	U	-	2	June 6 - Pair, Ad calling and possibly feeding young, nest not found.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1469	TANA478.0	CORA	2	-	-	4	May 4 - Pair, aerial survey by ABR, Fairbanks; Survey Map 23.1, this area frequently used by CORA for nesting.
	TANA533.0	CORA	2	-	-	4	May 4 - Pair, aerial survey by ABR, Fairbanks; Survey Map 27.1.
	TANA93.5	GHOW	2	U	U	4	May 24 - Pair, Ads hooting in creek valley during midday, nest not found.
228	TANA135.0	GHOW	1	-	-	4	May 25 - Pair, flush Ad from cliff overhang on a rainy day, nest not found.
228	TANA135.0	GHOW	1	U	2	6	June 30 - Pair, flush Ad and 2 recent fledglings in SP at base of cliff.
1520	TANA517.0	GHOW	2	-	-	4	May 4 - Pair, aerial survey by ABR, Fairbanks; Survey Map 25.4.
	TANA188.0	GOEA	0	-	-	1	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 5.1.
	TANA188.0	GOEA	0	-	-	1	May 25 - Unoccupied, very old looking nest, much growth of roses or raspberries in nest, no birds seen.
	TANA188.0	GOEA	0	-	-	1	July 1 - Unoccupied, no birds present.
1223	TANA204.3	GOEA	0	-	-	1	May 25 - Unoccupied, white-wash from perching on rock face, no birds present.
1223	TANA204.3	GOEA	0	-	-	1	July 1 - Unoccupied, no birds present.
1225	TANA204.9	GOEA	0	-	-	1	May 4 - No data, aerial survey by ABR, Fairbanks; Survey Map 6.1.
1225	TANA204.9	GOEA	0	-	-	1	May 25 - Unoccupied, no birds present.
1225	TANA204.9	GOEA	0	-	-	1	July 1 - Unoccupied, no birds present.
	TANA215.5	GOEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 7.7.
1236	TANA216.5	GOEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 7.6.
1265	TANA235.0	GOEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 8.6.
521	TANA236.0	GOEA	0	-	-	1	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 8.5.
521	TANA236.0	GOEA	0	-	-	1	July 3 - Unoccupied, four large stick nests along bluff, one has fresh greenery at nest, no birds present.
	TANA122.0	NOGO	1	-	-	2	June 30 - Single, Ad fly across river, mate not seen, nest not found.
	TANA214.0	NOGO	1	-	-	2	July 2 - Single, Ad fly across river, mate not seen, nest not found.
1250	TANA225.5	OSPR	0	-	-	1	May 26 - Unoccupied.
1249	TANA228.0	OSPR	U	-	-	U	May 4 - Nest not found, aerial survey by ABR, Fairbanks; Survey Map 8.7, empty 1989-1992, not found in 1993, OSPR during NW Gas survey 1979?.
1268	TANA264.8	OSPR	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 10.1.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
1268	TANA264.8	OSPR	2	-	-	4	May 26 - Pair, Ad incubating, mate perched nearby, defensive.
1268	TANA264.8	OSPR	2	-	-	4	July 5 - Pair, Ad incubating, mate returns with fish, pair defensive.
1286	TANA278.3	OSPR	0	-	-	1	May 27 - No birds present.
1286	TANA278.3	OSPR	2	U	-	4	July 5 - Pair, Ad brooding small young, mate perched nearby.
	TANA85.0	RTHA	1	-	-	2	May 23 - Single, Ad soar over river at bridge area.
	TANA101.6	RTHA	1	U	U	2	May 24 - Single, Ad soaring above river and over N bank, mate not seen, nest not found.
	TANA166.8	RTHA	0	-	-	2	May 25 - Pair in July, nest appears empty, no birds seen.
	TANA166.8	RTHA	2	1	U	6	July 1 - Pair, Ad brooding 1 young 2 wks banded: FWS 877-85145 on R, Ad is dark bodied Harlan's type, mate not seen.
	TANA168.4	RTHA	1	-	-	2	May 25 - Pair nearby in July, flush Ad from large witches broom, no nest seen, probably from pair found in July at TANA166.8.
	TANA229.5	RTHA	1	-	-	2	May 26 - Pair nearby, Ad perched, no nest seen, mate not seen.
1252	TANA232.5	RTHA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 8.3, new location.
	TANA242.5	RTHA	0	-	-	1	July 3 - Unoccupied SP nest, top of witches broom.
	TANA248.0	RTHA	1	-	-	2	May 26 - Pair nearby, Ad fly, harassed by AMKE, mate not seen, nest not found.
	TANA249.8	RTHA	2	U	-	7	July 4 - Pair, Ad fly along hillside, soar, defensive, locate new nest in SP near top of slope, possibly yng in nest.
1281	TANA262.0	RTHA	1	-	-	2	May 26 - Single, Ad perched, mate not seen, nest not found.
	TANA266.0	RTHA	1	-	-	2	May 26 - Possible pair - previous nesting area, Ad perched on island, flushed toward S, mate not seen, nest not found.
	TANA345.0	RTHA	1	-	-	2	July 7 - Possible pair, Ad fly across river, perch in large CW, possible nesting area, mate not seen, nest not found.
	TANA421.0	RTHA	1	-	-	2	June 7 - Possible pair, Ad flying high over river, nest not found.
1419	TANA445.0	RTHA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 21.1, RTHA also nesting in 1991.
	TANA452.5	RTHA	2	-	-	4	May 4 - Pair, Ad incubating, aerial survey by ABR, Fairbanks; Survey Map 21.3.

APPENDIX B. Continued.

Terr[a]	Location[b]	Species[c]	Ad[d]	Yng[e]	Flg[f]	Status[g]	Observations[h]
	TANA98.1	SSHA	1	-	-	2	June 29 - Single, Ad fly across river, mate not seen, nest not found.
	TANA106.5	SSHA	1	-	-	2	June 30 - Single, Ad fly across river.
	TANA92.5	TOSO	2	-	-	2	May 23 - Townsends Solitaire, pair foraging together on steep slope.
	TANA89.8	stk	0	-	-	U	May 23 - Unoccupied, empty stick nest in open top spruce, no birds seen.
	TANA152.0	stk	0	-	-	U	May 25 - Unoccupied, open top SP with witches broom, sticks on top, no birds seen.
1280	TANA264.0	unk	-	-	-	U	July 5 - Unoccupied, remnant stick nest in top of dead CW, possibly OSPR nest.
	TANA552.5	unk	-	-	-	U	May 4 - Unoccupied, aerial survey by ABR, Fairbanks; Survey Map 28.2.

[a] Terr = Nest Territory Number assigned by US Fish and Wildlife Service (FWS).

[b] Location = River code (4 letters) followed by river milepost (in kilometers).

[c] Species = Four letter code standardized by FWS. AMKE - American kestrel, BAEA - bald eagle, CORA - common raven, GHOW - great-horned owl, GOEA - golden eagle, NOGO - northern goshawk, OSPR - osprey, RTHA - red-tailed hawk, SSHA - sharp-shinned hawk, stk - sticknest unknown species, TOSO - Townsend's solitaire (passerine bird).

[d] Ads = Adults.

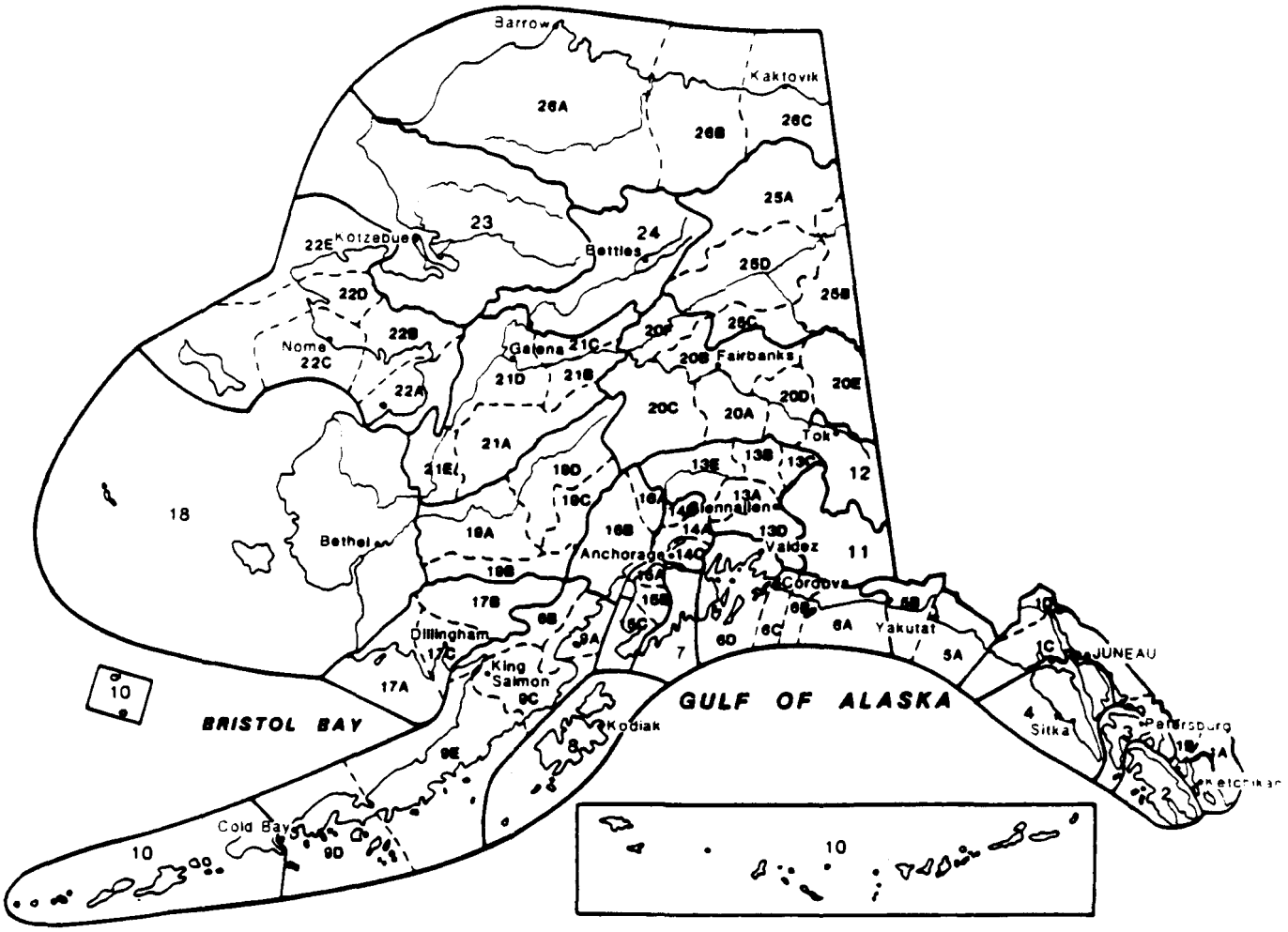
[e] Yng = Young.

[f] Flg = Fledglings.

[g] Status = Nesting territory status code standardized by FWS. 1 - unoccupied, 2 - occupancy unknown, 3 - occupied nonbreeding, 4 - occupied breeding, 5 - occupied unsuccessful breeding, 6 - occupied successful breeding, 7 - occupied breeding status unknown, 8 - occupied breeding status unknown but no young produced.

[h] Abbreviations in text: ABR = Alaska Biological Research, Fairbanks; Ad(s) = adult(s); CW = balsam poplar tree; d = days; F = female; FWS = Fish and Wildl Serv leg band; GRN = green color band; km = kilometers; L = left leg; M = male; N = north; NW = northwest; PEFA = peregrine falcon; R = right leg; S = south; SP = spruce tree; VV = color-band code vertical vertical; W = west; wks = weeks; yng = young.

Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.

ADF&G photo