

**PROJECT: BALD EAGLE PRODUCTIVITY SURVEY FOR WRANGELL-ST ELIAS
NATIONAL PARK AND PRESERVE 1992**

WRST-RESEARCH AND RESOURCE MANAGEMENT REPORT: No. 92-06

PREPARED BY: Karin Kozie, Resource Management Specialist, WRST

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INTRODUCTION

Bald eagles (Haliaeetus leucocephalus) have been surveyed annually along the Copper River since 1989. This report summarizes data collected in 1992.

STUDY AREA AND METHODS

The 1991 study area extended north from Copper and Tanada Lakes south along the Copper River to the Allen Glacier. In 1992, the study area was extended south from the Allen Glacier to Miles Lake, east along the Bremner River to its confluence with the Little Bremner River and west along the Tasnuna River to the Woodworth Glacier (Fig. 1). The Malaspina Forelands along the coastal section of WRST (near Yakutat) were also surveyed in 1992. Methods are described in Kozie (1991). Surveys along the Copper River were flown in a piper supercub with J Lee piloting and K Kozie observing. The occupancy survey was conducted on May 12-13 and the productivity survey on July 30 and August 1.

The Malaspina Forelands were surveyed on May 16 and July 22. The occupancy survey was flown in a piper supercub and the productivity survey in a Cessna 185. G Rainy from Fishing and Flying piloted and K Kozie acted as the observer on both flights. M DeWinter also assisted in observations on the productivity flight.

RESULTS AND DISCUSSION

Objective 1. To establish baseline data on bald eagle population size and trends.

Ninety-five pairs of nesting bald eagles were located along the Copper River during the occupancy survey. An additional 3 nests with young were found during the productivity survey. This results in a minimum estimate of 98 nesting territories and 196 breeding adults. Thirteen pairs found in 1992 were from areas not surveyed in 1991. The number of breeding pairs along the 1991 survey route was about the same, 84 in 1992 compared to 88 in 1991. With regard to non-breeding eagles, there were 7 adults, not clearly associated with nests ($>\frac{1}{2}$ mile from a known nest), 1 subadult (three year old), and 1 two year old, observed during occupancy surveys, and 29 adults, 3 subadults, 3 two year olds, and 3 one year olds observed during productivity surveys (Table

1). Larger numbers of non-breeding eagles were observed during the productivity surveys, most occurred between Copper Center and Chitina.

Table 1. Non-breeding eagles observed along the Copper River during May occupancy surveys and July/August productivity surveys, 1991-1992.

<u>YEAR</u>	<u>ADULTS</u>		<u>SUB-ADULTS^a</u>		<u>IMMATURES</u>		<u>1 YEAR OLDS</u>	
	May	July	May	July	May	July	May	July
1991	22	10	4	1	3	3	1	1
1992	7	29	1	3	1	3	0	3

a Sub-adults = 3 year olds

Fifteen pairs of nesting bald eagles were located along the Malaspina Forelands (coastal) during the occupancy survey. An additional 3 nests with young were found during the productivity survey. This results in a minimum estimate of 18 nesting territories and 36 breeding adults. Non-breeding eagles observed included 4 adults during the occupancy survey and 6 adults and 1 one year old during the productivity survey.

Objective 2. Monitor reproductive success of bald eagles nesting in WRST.

Productivity improved slightly in 1992 but was still somewhat marginal (Table 2). Eagles nesting along the Copper River had 49% nest success and 0.78 young/occupied nest. Bald eagles must have at least 50% nest success and produce 0.7 young/occupied nest to maintain a stable population (Sprunt et al 1973) but 1.0 young/occupied nest is more indicative of a healthy population (Wiemeyer et al 1984).

Table 2. Productivity of bald eagles nesting along the Copper River, 1989-1992.

<u>YEAR</u>	<u>OCC NESTS</u>	<u>SUCC NESTS</u>	<u>% NEST SUCCESS</u>	<u>NO OF YOUNG</u>	<u>YOUNG/ OCC NEST</u>	<u>YOUNG/ SUCC NEST</u>
1989	29	15	52%	24 ^a	0.83	1.60
1990 ^b	67	30	45%	48	0.72	1.60
1991	83	35	42%	43	0.52	1.23
1992	95	47	<u>49%</u>	74	<u>0.78</u>	<u>1.57</u>
AVERAGE			47%		0.71	1.50

a This represents a minimum number of young in 1989. Adults were still brooding young at two nests during the second survey, making observations difficult. Calculations were based on estimates of 1 young in both of these nests.

b The second survey was flow late (August 18) in 1990. Some young may have already fledged by this date.

Fifteen pairs of bald eagles nesting along the Malaspina Forelands had 33% nest success and produced 0.6 young per occupied nest (Table 3). Although this figure is low, caution should be used when interpreting productivity figures from small sample sizes. Establishing trends in productivity along the Malaspina Forelands will be important in future years due to the proposed oil drilling in nearby offshore areas in 1994 and 1995. Annual surveys are recommended.

Table 3. Productivity of coastal eagles nesting along the Malaspina Forelands, 1992.

<u>YEAR</u>	<u>OCC NESTS</u>	<u>SUCC NESTS</u>	<u>% NEST SUCCESS</u>	<u>NO OF YOUNG</u>	<u>YOUNG/ OCC NEST</u>	<u>YOUNG/ SUCC NEST</u>
1992	15	5	33%	9 ^a	0.6	1.8

a This represents a minimum number of young. It was difficult to accurately assess the number of young at 2 nests due to dense canopy cover and small size of nestlings. Calculations were based on estimates of 1 young in both of these nests.

Nesting Chronology and Timing of Surveys

The pair of eagles nesting near the Gakona bridge overlook (Nest #15 on Gulkana B-3 quad) was first observed April 15 by A Hughes (Gakona, AK) and began incubating on about April 24 compared to April 18 in 1991. An unusually late spring in interior Alaska may have delayed the onset of incubation. Eagles nesting near the mouth of the Dadina River (Nest #2 on Valdez D-3 quad) were

not incubating April 25 but were incubating May 9.

It was difficult to determine the number of nestlings at several nests along the Malaspina Forelands due to the dense canopy cover and small size of the young. In the future, productivity surveys should be flown very late in July or in early August when young are larger and easier to observe.

Objective 3. Document food habits and foraging areas and measure habitat characteristics.

A trumpeter swan (Cygnus buccinator) was observed being eaten by an adult eagle near the Gakona bridge nest (#15) during the first week of May. Plans to collect food remains and habitat data at nests along the Malaspina Forelands turned out to be too difficult logistically. No collections were made.

J Bernatowicz (US Fish & Wildlife Service, Cordova, AK) counted 1300 bald eagles, and estimated as many as 2000, feeding on hooligan (Thaleichthys pacificus) runs in the sloughs along the Copper River Delta on February 7, 1991. No radioed bald eagles from Prince William Sound were located along the Copper River Delta during the February 7 flight. It is possible these were interior birds. Another hooligan run occurs in March. The hooligan runs along the Copper River Delta may be very important in late winter and early spring to bald eagles breeding along the Copper River and other interior areas (J Bernatowicz, pers commum). Dates that the sloughs are open, making hooligan available, vary in different years and may influence the productivity of bald eagles on the Copper River by affecting the physical condition the eagles are in when they return to their breeding territories.

Objective 4. Identify occupied and potential bald eagle breeding habitat.

No areas except those along the Copper River were surveyed in 1992. Park rangers did find one new nest along the Chitina River north of Bryson Bar (Nest #1 on McCarthy A-4 quad) on 6/03/92. Although not confirmed, it is probable from the description of adult behavior that there were young in this nest.

Objective 5. Monitor contaminant levels in bald eagles to gain secondary information on water quality.

No bald eagle contaminant samples were collected in 1992. Results of the bald eagle egg collected in 1990 are not yet available.

MISCELLANEOUS INFORMATION

Disturbance

The pair of eagles nesting at the confluence of the Uranatina and

Copper Rivers (Nest #10 on Valdez B-2 quad) built a new nest on the east side of the Copper River in 1992. Nest #10, located on the west side of the Copper River, blew down sometime after late August 1991 and was not rebuilt despite numerous suitable nest trees in that area. Movement by this pair across the Copper River may have been related to disturbance caused by road work along the west side of the Copper River in 1991. Bald eagles tend to avoid areas of human activity when building new nests (Fraser et al 1985) and may move nests or use alternate nests in response to repeated disturbance.

RECOMMENDATIONS

Hooligan runs in the sloughs along the Copper River Delta may be very important in late winter and early spring to bald eagles breeding along the Copper River and other interior areas. A cooperative effort between WRST, US Forest Service, and US Fish & Wildlife Service should be made to document winter and spring bald eagle use of the sloughs along the Copper River Delta and the breeding origin of eagles using this area. Management guidelines for the protection of the Copper River Delta as a bald eagle wintering area should be written.

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