BALD EAGLE NEST SURVEY
1981
AMCHITKA ISLAND, ALASKA

by Barry Reiswig

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ALEUTIAN ISLANDS UNIT
ALASKA MARITIME NATIONAL WILDLIFE REFUGE
U.S. FISH AND WILDLIFE SERVICE
ADAK, ALASKA
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INTRODUCTION

A nesting survey for bald eagles (Haliaeetus leucocephalus) was conducted from May 2-9, 1981, on a portion of Amchitka Island, Aleutian Islands Unit, Alaska Maritime National Wildlife Refuge. The survey was conducted after completing a search of the island for Aleutian Canada Geese (Branta canadensis leucopareia). The survey required approximately 6 biologist-days including time allowed for inclement weather.

Amchitka Island was the site of three underground nuclear tests conducted by the Atomic Energy Commission during the period 1965-1973. Intensive studies of bald eagles were conducted during this period by White, et al. (1977) and Sherrod, et al. (1976). A breeding survey was completed in 1980 by Heglund and Reiswig (1980 Raptor Survey; The Breeding Bald Eagle Population, Amchitka Island, Alaska, 1980, unpublished refuge report, Aleutian Islands Unit, Alaska Maritime National Wildlife Refuge files).

STUDY AREA

Amchitka Island is located 51° 30' N and 179° 04' E in the Aleutian Chain. The island is 29,575 hectares (73,024 acres) in size and has an average shoreline of 169.9 kilometers (106.5 miles). The largest of the Rat Islands, Amchitka measures 64.4 kilometers (40 miles) long and averages 7.2 kilometers (4.5 miles) wide, with the island's axis lying in a northwest-southeast direction. It is divided into two physiographic types, the eastern lowlands and western mountains. The eastern lowlands are relatively flat, with an interspersion of many small lakes and streams. Elevations vary from below 30.5 meters (100 feet) to 152.4 meters (500 feet). The western section of the island is mountainous, with peaks rising to the 365.8 meter (1,200 foot) level. The coastline is irregular and ringed with numerous rocks, reefs, and extensive kelp beds.

EQUIPMENT

The following equipment was used by observers during the survey:

2 pairs of binoculars (10 x 40 Leitz)
2 spotting scopes (25X)
2 tall bamboo poles
2 field record books
2 sets of field maps in plastic bags

WEATHER

Weather conditions were typical for spring in the Aleutians with constant strong winds and several days of storm conditions (See Table 1).

TABLE 1.

Date	(F) App. Temp. Max.	Wind Dir. and Speed (Kts)	Conditions
5-2-81	42	S 30	BKN OVC
5-3-81	40	NW 40 G50	BKN OVC
5-4-81	41	NW 30	BKN OVC
5-5-81	46	SW 20	PT. CLDY
5-6-81	44	S 20	RN, DRIZ, FOG
5-7-81	42	SE 20	PT. CLDY
5-8-81	40	NE 30 G40	OVC, FOG
5-9-81	41	NE 30 G40	OVC, FOG

PROCEDURE

The survey included all portions of the island's shoreline east of a line from Crown Reefer Point to a point immediately west of the outlet of Ultra Cree (Fig. 1). This corresponds to "Section A" of a series of surveys completed by Sherrod et al. (1976). The shoreline was surveyed on the ground by 2 observers working independently of each other. Data were gathered and recorded in a manner similar to that reported by Heglund and Reiswig (1980 Raptor Surve The Breeding Bald Eagle Population, Amchitka Island, Alaska, 1980, unpublished refuge report, Aleutian Islands Unit, Alaska Maritime National Wildlife Refuge files).

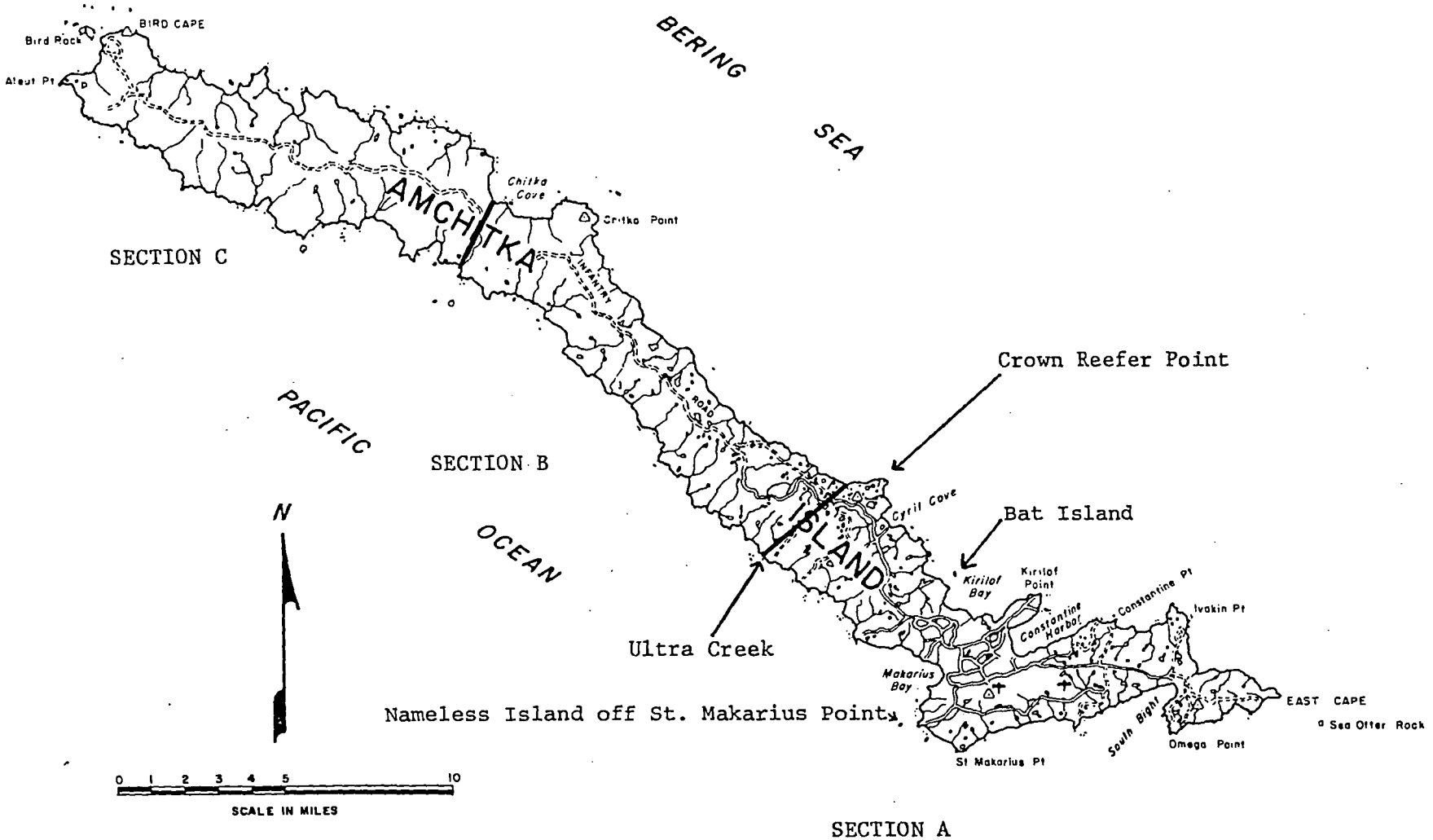
RESULTS AND DISCUSSION

Nests

Nests were considered active if they contained fresh material even though they may never have contained eggs, according to a definition of active nests offered by Sprunt et al. (1973). Thirty-one active nests were located in Section A (Fig. 2) as compared to 27 in 1969, 34 in 1980 and 37 in 1972 (Sherrod et al 1976). However, Bat Island and an unnamed island off St. Makarius Point, which were surveyed and contained active nests in 1969 and 1972, were not surveyed in either 1980 or 1981. Thus, 25 nests for 1969 and 35 nests for 1972 are more accurately comparable figures for the purposes of this survey.

FIGURE 1.

From Sherrod et al. (1976)



AMCHITKA ISLAND

ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE
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Although the number of nests in Section A is 19.4% higher than 1969, the number of nests has decreased 8.8% from 1980 and 11.4% from 1972.

Sherrod et al. (1976) felt the reason for the increase in nests from 1969 to 1972 may have been caused by the presence of a large active garbage dump on the island from 1965 to 1973. The dump may have provided an important food source for immature, and to a much lesser extent, for mature eagles on Amchitka. It was speculated that because of the dump, more immature birds were surviving to breeding age, thus increasing the number of pairs entering the island's breeding population. It was also speculated that without a dump there would be from 45 to 55 breeding pairs on the island. Since an average of about 50% of the pairs on the island nest in Section A, (Sherrod et al. 1976) this would correspond to from 23 to 28 nesting pairs in Section A.

Eggs

Only those nests containing eggs or young hatched within the previous approximate 48 hours prior to visiting the nest were counted as eggs. The assumption was made the number of young would correspond to the number of eggs during this period and eggs not hatched within this time period would still have been visible in the nest. Six nests were included in the sample. The average clutch size for nests containing eggs was 1.83 eggs per nest (Table 2). This compares closely with the 1980 survey which recorded 1.78 eggs per nest (n=18) but is lower than figures recorded by Sherrod et al. (1976) of 1.91 eggs per nest (n=46). Comparisons to other Alaskan populations are made in Table 2. Because of the small sample size the figures must be considered with caution.

TABLE 2.

Comparison of Eggs/Nest, Amchitka and Other Alaskan Populations

Year	Eggs/Nest	n	Location	Observers
1981	1.83	6	Amchitka	Reiswig
1980	1.78	18	Amchitka	Heglund and Reiswig
1969	1.91	46	Amchitka	Sherrod et al (1976)
-	1.92	12	Alaska Peninsula	Hehnke (1973)
1966	1.97	72	Southeastern AK	Robards and King (1973)
1963	1.70	80	Kodiak Island	Hensel and Troyer (1965)

Young

Again, only a small sample was available(n=7); however, figures are comparable with those recorded by Sherrod et al. (1976) in Table 3.

TABLE 3.

	# Young Per Nest Containing Young						
Year	1969	1970	1971	1972	1974	1980	198
Number of young known in nest containing young	1.54	1.78	1.73	1.53	1.72	1.58	1.7

Sherrod et al. (1976) felt for various reasons the 1970 and 1971 data represented the most accurate values.

Other

Three adults were observed defending nest E57-80. All three displaced territorial behavior and stooped at observers when the nest was approached. This nest was observed to have three defending individuals in 1980 as well. One eagle in sub-adult plumage was observed defending nest 63-80.

SUMMARY

Thirty-one active nests were located on the eastern one-third of Amchitka Island during a ground survey conducted from May 2-9, 1981. An average of 1.83 eggs per nest containing eggs and 1.71 young per nest containing young were noted. Although the number of active nests on Amchitka appears to be undergoing a gradual decline from a peak in 1972, egg production and young per nest numbers appear stable.

RECOMMENDATIONS

Study of the Amchitka Island eagle population to determine the impacts of the Atomic Energy Commission garbage dump on the breeding population should be continued for several reasons. Results of the study will provide valuable information on the effects of dumps on immature eagle survival and consequent breeding population. This information will also aid in predicting garbage dump impacts in other areas of the Aleutian Islands and Alaska, and will provide information necessary to aid planning in garbage disposal and its impact on eagles.

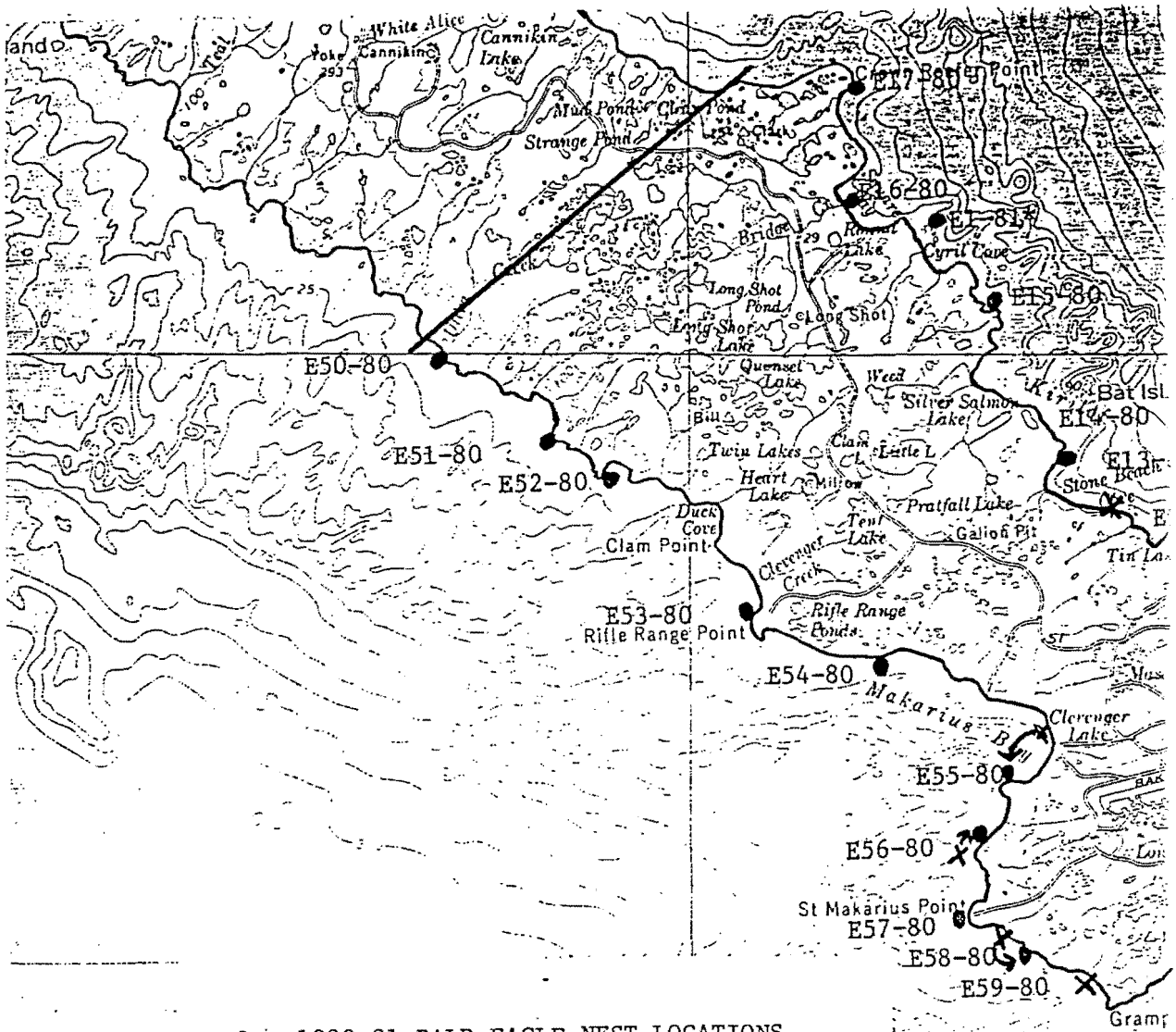


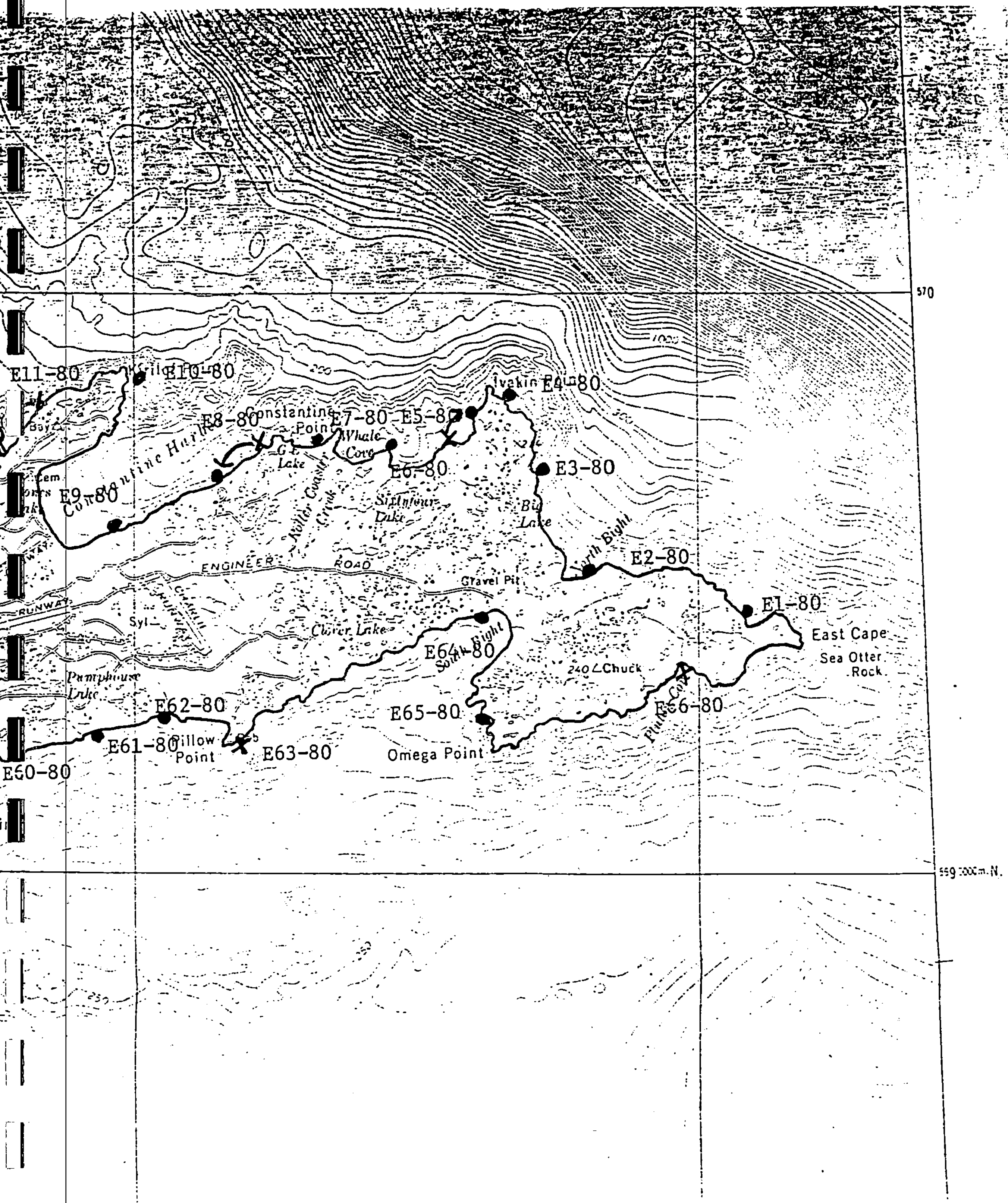
FIGURE 2. 1980-81 BALD EAGLE NEST LOCATIONS, SECTION A., AMCHITKA ISLAND, ALASKA

● Active in 1980 and 1981

X Active in 1980 only

X→● Change of nest site from 1980 to 1981

*E1-81 was active in 1981 only and was not a change of site from 1980



E11-80
E10-80
Bay
E8-80
Constantine Point
E7-80
E5-80
Ivakin
E4-80
Whale Cove
Constantine Harbor
G.L. Lake
E6-80
E3-80
E9-80
Cem
Kaiser Coast Creek
Sitintour Lake
Big Lake
North Bight
E2-80
ENGINEER ROAD
Gravel Pit
RUNWAY
E1-80
Syl
Clover Lake
East Cape
South Bight
E64-80
Sea Otter Rock
240
Chuck
Pumphouse Lake
E62-80
E65-80
E66-80
Pillow Point
E61-80
E63-80
Omega Point
E60-80
Plato Cove
570
1000
559 000m. N.

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