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Nowitna NWR Breeding Pair Survey - 1988

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Title: Nowitna NWR Duck Breeding Pair Survey - 1988

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Dates: 31 May - 1 June

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Abstract

The 1988 Nowitna NWR waterfowl breeding pair survey was conducted 31 May - 1 June. A total of 706 ducks, including 264 indicated pairs was observed. Breeding populations of most waterfowl species on the refuge remained unchanged from 1987 levels.

Introduction

The Nowitna National Wildlife Refuge (NWR) is comprised of 2.0 million acres of Federal, selected and conveyed lands, and is located approximately 150 miles west of Fairbanks in the central Yukon River Valley (Figure 1). It is bordered on the north by the Yukon River and on the south by the Kuskokwim Mountains and is bisected by the Nowitna River. The northern part of the refuge encompasses the Nowitna Lowlands, a broad wetland plain of lakes, marshes and meandering streams. Wetlands associated with the Yukon & Nowitna rivers in this area constitute the refuge's most productive waterfowl habitat.

The refuge breeding pair survey was initiated in 1987. Thirty-two wetlands are aerially surveyed to provide an annual index of breeding pairs and to detect trends over time in Nowitna NWR breeding waterfowl populations. These wetlands are located in the floodplains of the Nowitna and Yukon rivers.

Peak arrival of most duck species during spring migration occurs in May. As in 1987, break-up on the refuge occurred in early May, and nesting conditions were excellent for early-arriving species such as mallards and northern pintails.

Methods

Survey aircraft for the breeding pair survey was a float-equipped Cessna 185, flown at above-ground altitudes of 200-300 feet. The survey crew consisted of a pilot and front-seat observer. Since most survey wetlands are oxbow-shaped lakes, flight patterns generally consist of 2 transects covering both shorelines, and on larger wetlands, a third transect over the center of the lake.

The 1988 breeding pair survey was conducted 31 May - 1 June. Weather conditions included partly cloudy skies, light to moderate winds and good visibility. Lone drakes, lone hens,

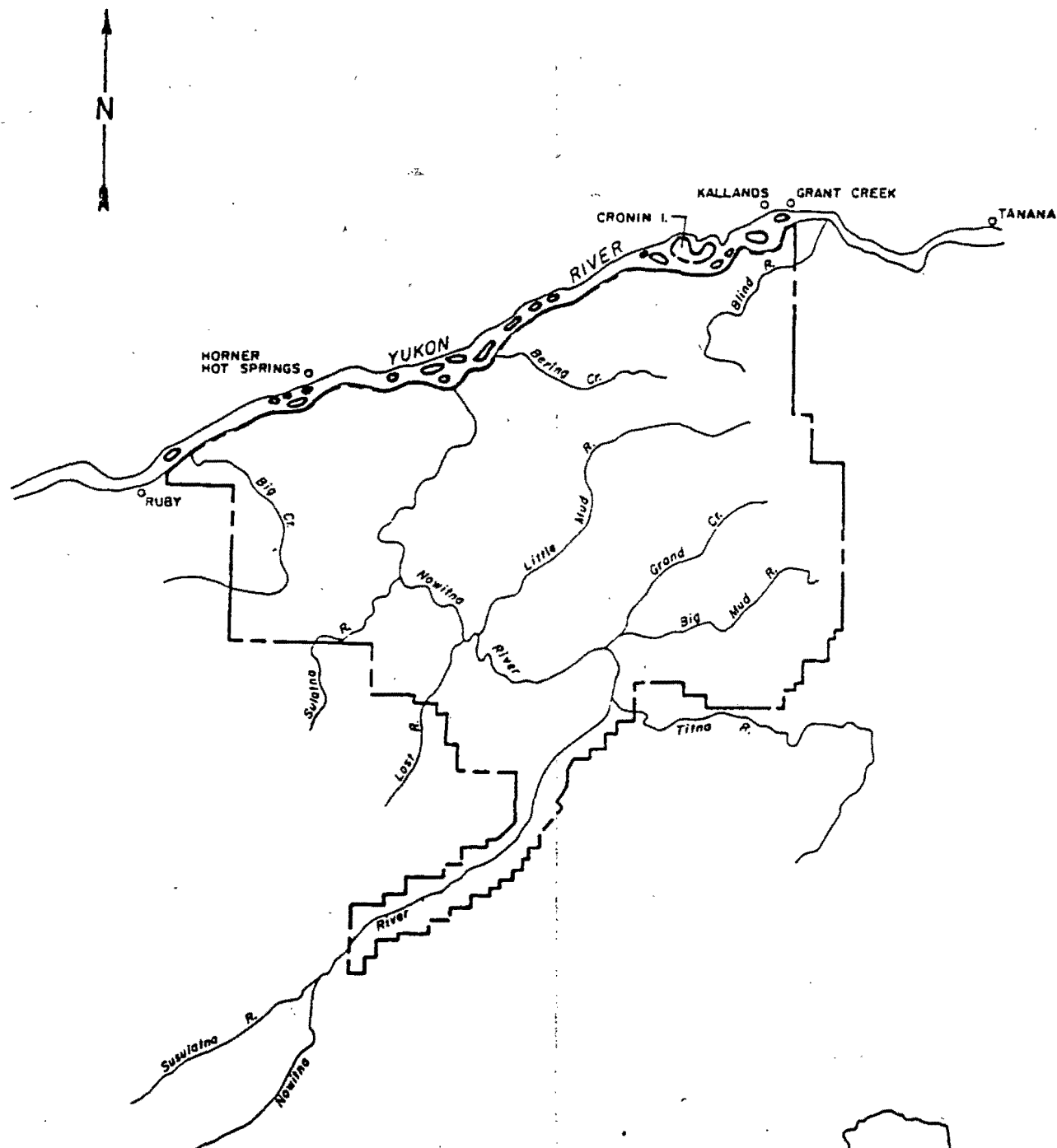


Figure 1. Nowitna National Wildlife Refuge.

Total acreage within refuge: 2,060,000 ± Ac.

0 20 40 Miles

NOWITNA
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pairs and grouped birds (flocked birds were sexed when possible) were recorded on standardized data forms. Raw data are stored in the Nowitna NWR computerized database (DBase III+).

Results and Discussion

A total of 706 ducks of 12 species was observed during the survey, of which 479 (67%) were dabblers and 197 (28%) were divers (Table 1). American wigeon and mallards were the primary dabbling species observed, and scaup the primary diving duck species. Inconspicuous species such as green-winged teal are most likely under-represented in the observed sample.

The total number of indicated pairs (lone drakes + pairs) on survey wetlands remained unchanged from 1987 levels (Table 2). Indicated pairs increased slightly for dabblers and divers, and decreased for miscellaneous species (primarily for the three scoter species). Indicated pairs remained almost unchanged between years for American wigeon, green-winged teal, northern shoveler, goldeneye and bufflehead. Mallards and scaup indicated pairs increased, while northern pintail indicated pairs decreased from 1987.

Breeding waterfowl populations on the Nowitna NWR apparently remained relatively stable from 1987 to 1988. Environmental and nesting conditions were also very similar during both years. The decrease in scoter indicated pairs and increase in mallard indicated pairs are the most likely of all between-year changes to be representative of actual population trends on the refuge during the two years.

Management Recommendations

The refuge's annual waterfowl breeding pair survey should be conducted during the period of late May to early June. The survey wetlands, although a small sample, appear representative of floodplain habitats and should provide an annual index of breeding waterfowl populations on the refuge.

As breeding pair data accumulates over time, running averages should be used to make comparisons. Trends indicated by these comparisons will more likely be representative of actual population changes. Analyses to compare breeding pair and duck production data should be conducted. These analyses should include comparisons on individual wetland and regional bases.

Table 1. Results of the 1988 duck breeding pair survey,
Nowitna NWR, Alaska.

Species	Lone Males	Lone Females	Pairs	Grouped Birds			Total Ducks
				M	F	Unk	
<u>Dabblers</u>							
Mallard	26	0	25	58	1	0	135
A. wigeon	15	0	48	78	3	0	192
G-W teal	6	0	11	4	1	0	33
N. shoveler	17	0	20	15	0	0	72
N. pintail	9	0	15	7	1	0	47
Totals	73	0	119	162	6	0	479
<u>Divers</u>							
Canvasback	3	0	0	10	5	0	18
Scaup spp.	16	0	33	47	8	0	137
Goldeneye spp.	2	0	7	2	1	0	19
Bufflehead	3	0	10	0	0	0	23
Totals	24	0	50	59	14	0	197
<u>Miscellaneous</u>							
W-W scoter	0	0	5	4	0	0	14
Surf scoter	0	0	6	0	0	0	12
Oldsquaw	0	0	2	0	0	0	4
Totals	0	0	13	4	0	0	30
TOTALS	99	0	182	225	20	0	706

Table 2. Comparative results of 1987 and 1988 duck breeding pair surveys, Nowitna NWR, Alaska.

	Lone Males		Pairs		Indicated Pairs		% Change
Species	1987	1988	1987	1988	1987	1988	
<u>Dabblers</u>							
Mallard	18	26	16	25	34	51	+33
A. wigeon	32	15	32	48	64	63	- 1
G-W teal	3	6	12	11	15	17	+12
N. shoveler	20	17	16	20	36	37	+ 3
N. pintail	13	9	17	15	30	24	-20
Totals	86	73	93	119	179	192	+ 7
<u>Divers</u>							
Canvasback	0	3	0	0	0	3	+300
Scaup spp.	7	3	21	33	28	36	+ 22
Goldeneye spp.	3	2	3	7	6	9	+ 33
Bufflehead	8	3	6	10	14	13	- 7
Totals	18	11	30	50	48	61	+ 21
<u>Miscellaneous</u>							
W-W scoter	0	0	15	5	15	5	- 67
Surf scoter	0	0	16	6	16	6	- 63
Black scoter	2	0	5	0	7	0	-700
Oldsquaw	0	0	2	0	2	0	-200
Totals	2	0	38	11	40	11	- 73
TOTAL	106	84	161	180	267	264	- 1

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