



Aerial Game Survey

Prince Albert National Park

March, 1968

CANADIAN WILDLIFE SERVICE

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EDMONTON, ALBERTA

Progress Report

Project 82-5-2-135

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## Introduction

This aerial survey for ungulates was conducted to provide background information for a current grassland study and a proposed wolf study by I. Carbyn, Canadian Wildlife Service, and to fill a request made by J. Malfair, Superintendent of Prince Albert National Park. The survey was conducted from March 19 to 22, 1968. The last previous survey was done by J. S. Tener, Canadian Wildlife Service, in January, 1954.

## Methods

A Cessna 172 aircraft was chartered from Athabasca Airways at Prince Albert. The aircraft was piloted by Mr. J. Munro of Prince Albert. J. McGillis was the observer in the left rear seat and H. Armbruster the observer in the right rear seat. Wardens D. Allan and C. Millard acted in turn as navigators. Tape markers were placed on the windows and struts at an angle of  $59^{\circ}$  from the vertical. The pilot flew the survey as close to 400 feet above the ground as possible. At that height, the tape markers framed a strip 1/8 mile wide on either side of the aircraft. Transects were flown in an east-west direction at an interval of 1 mile and a speed of approximately 85 miles per hour. Daily survey conditions are given in Table 1.

Total flying time, which includes time from Prince Albert to the park and return, was 28 hours. The cost amounted to \$840.00.

To determine distribution of ungulates throughout the park, all animals seen whether on or off the transects were plotted on 1" to 2.87 miles maps of the park. Snow conditions were not favorable for surveying. Large areas on the west side of the park were almost devoid of snow, which made it very difficult to see the animals, particularly deer and elk.

### Results

Numbers of elk, moose and deer observed per transect are given in Appendix I. Comparison with a previous survey is made in Table 2. Distribution of ungulates observed both on and off the transects is shown on maps 1 and 2.

#### Deer

Of the 35 deer, 28 were identified as white-tailed deer and the remainder could not be identified as to species. Deer are extremely hard to count even with good survey conditions. With the spotty snow cover encountered during this survey our estimates are certainly low.

#### Elk

Very few elk were seen north of Waskeyu Lake. They were most numerous along the southwest side of the park and in an area west of Namekus Lake. Extensive stands of aspen and birch and extensive fescue and sedge meadows in the southern half of the park can be expected to provide much better elk forage than is found in the heavy coniferous

forest north of Waskesiu Lake. However, a factor that must be considered is that animals were more easily seen in the meadows and aspen and birch forests than in the white spruce, black spruce and jack pine areas. The largest herd of elk seen contained 55 animals consisting mainly of cows, calves, and yearling bulls. The majority of animals seen alone or in pairs were adult bulls.

#### Moose

Moose were seen throughout most of the park. A few very recent burned areas in the north central part of the park were apparently devoid of moose. Because the greater abundance of dense stands of spruce north of Waskesiu Lake made animals very difficult to see, the population is probably somewhat higher in that area than our figures indicate.

#### Predators

No wolves were seen during the survey. Three ungulate carcasses were seen, one of which was definitely that of a partly consumed moose. A concentrated wolf control programme being carried out by the Government of Saskatchewan in areas adjacent to the park is undoubtedly keeping the wolf population in the park at a low level.

Park wardens and provincial conservation officers informed us that hunting pressure is very heavy and that animals that leave the park during the hunting season are not likely to return. Added to this pressure is the fact that the Indian population of the area is allowed to hunt throughout the year. Park officials J. Malfair and

L. McGuire expressed the view that the ungulate population is well within the carrying capacity of its range and that wolves are serving to keep the moose, elk and deer in a healthy condition.

#### Summary

An aerial survey of Prince Albert National Park was conducted in March, 1968. This survey sampled 25 per cent of the park. Survey conditions were far from ideal. Nevertheless it is felt that with the exception of the estimate of the deer population, the figures derived represent a good estimate of the ungulate population.

#### Recommendations

Any future surveys should be conducted earlier in the winter when snow conditions are more favorable for spotting ungulates.

Edmonton, Alberta  
April 3, 1968

APPENDIX I

<u>Between transects</u>	<u>Square miles</u>	<u>Elk</u>	<u>Elk per sq. mi.</u>	<u>Moose</u>	<u>Moose per sq. mi.</u>	<u>Deer</u>	<u>Deer per sq. mi.</u>
1 - 2	5.69	7	-	13	2.3	2	.35
2 - 3	5.74	21	3.65	9	1.6	2	.34
3 - 4	5.84	19	3.25	15	2.56	9	1.54
4 - 5	6.13	2	.33	12	1.95		
5 - 6	6.90	34	4.92	21	3.04		
6 - 7	7.03	2	.28	8	1.1		
7 - 8	7.19	12	1.67	8	1.1		
8 - 9	7.41	20	2.7	10	1.3		
9 - 10	7.62	15	1.96	14	1.8	3	.39
10 - 11	7.56	13	1.71	16	2.1		
11 - 12	7.59	20	2.63	21	2.7		
12 - 13	7.75	3	.39	4	.52		
13 - 14	7.81	6	.77	13	1.66	3	.38
14 - 15	8.06	5	.62	7	.87		
15 - 16	8.12	1	.12	9	1.1		
16 - 17	8.03	30	3.73	13	1.6		
17 - 18	8.06	21	2.6	14	1.7	3	.37
18 - 19	7.88		-	7	.88		
19 - 20	7.88	6	.76	12	1.5		
20 - 21	7.88		-	6	.76		
21 - 22	7.88	6	.76	9	1.1		
22 - 23	7.88	4	.51	10	1.3		
23 - 24	7.88		-	15	1.9		
24 - 25	7.88		-	5	.63		
25 - 26	7.88		-	9	1.1		
26 - 27	7.88	2	.25	1	.13		
27 - 28	7.88		-	10	1.3		
28 - 29	7.88		-	8	1.01	1	.13
29 - 30	7.88		-	9	1.14		
30 - 31	7.88	1	.13	3	.38	1	.13
31 - 32	7.88		-	5	.65		
32 - 33	7.88		-	2	.25		
33 - 34	7.88		-	2	.25		
34 - 25	7.88		-	3	.38		
35 - 26	7.88		-	1	.13		
36 - 27	7.88		-	3	.38		
37 - 28	7.88		-	2	.25		
38 - 39	7.88		-			1	.13
39 - 40	7.88		-	5	.65		
40 - 41	7.88		-	5	.65		
41 - 42	7.88		-	10	1.3		
42 - 43	7.88		-				
43 - 44	7.88		-	4	.50		
44 - 45	7.88		-	7	.88		

## APPENDIX I (con't)

<u>Between transects</u>	<u>Square miles</u>	<u>Elk</u>	<u>Elk per sq. mi.</u>	<u>Moose</u>	<u>Moose per sq. mi.</u>	<u>Deer</u>	<u>Deer per sq. mi.</u>
45 - 46	7.88			5	.65		
46 - 47	7.88			5	.65		
47 - 48	7.88			1	.13		
48 - 49	7.88			2	.25	1	.13
49 - 50	7.88			5	.65		
50 - 51	7.88			7	.88		
51 - 52	7.88			2	.25		

Table 1. Daily conditions of survey.

Date	Time on transects	Transects flown	Temperature	Sky
March 19	0920 - 1200	1 - 8	15°F	Clear
	1325 - 1550	9 - 14	25°F	Clear
March 20	0940 - 1210	15 - 20	20°F	Clear
	1350 - 1615	21 - 26	25°F	Clear
March 21	0940 - 1205	52 - 47	20°F	Clear
	1405 - 1630	46 - 41	30°F	Clear
March 27	0925 - 1130	40 - 35	30°F	Clear
	1320 - 1610	34 - 27	35°F	Clear



Table 2. Population estimate comparisons, January 1954 and March 1968.

Species	1954 population estimate	1968 population estimate	% Change	1954 density*	1968 density*
Elk	943	996	+ 5.6	.63	.67
Moose	1073	1548	+ 42.5	.72	1.03
Deer	160	108	- 32.5	.11	.07

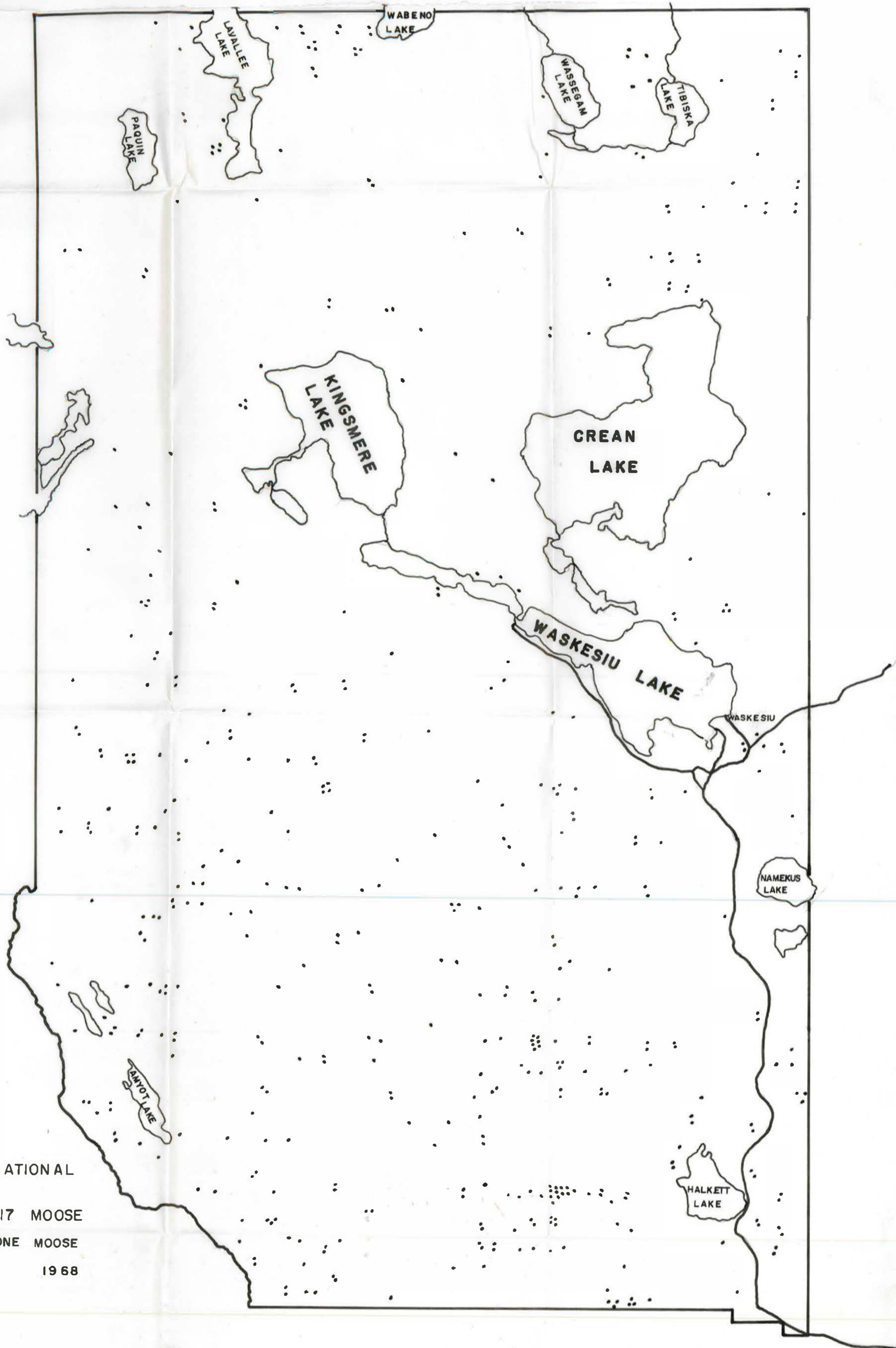
\*Animals per square mile.



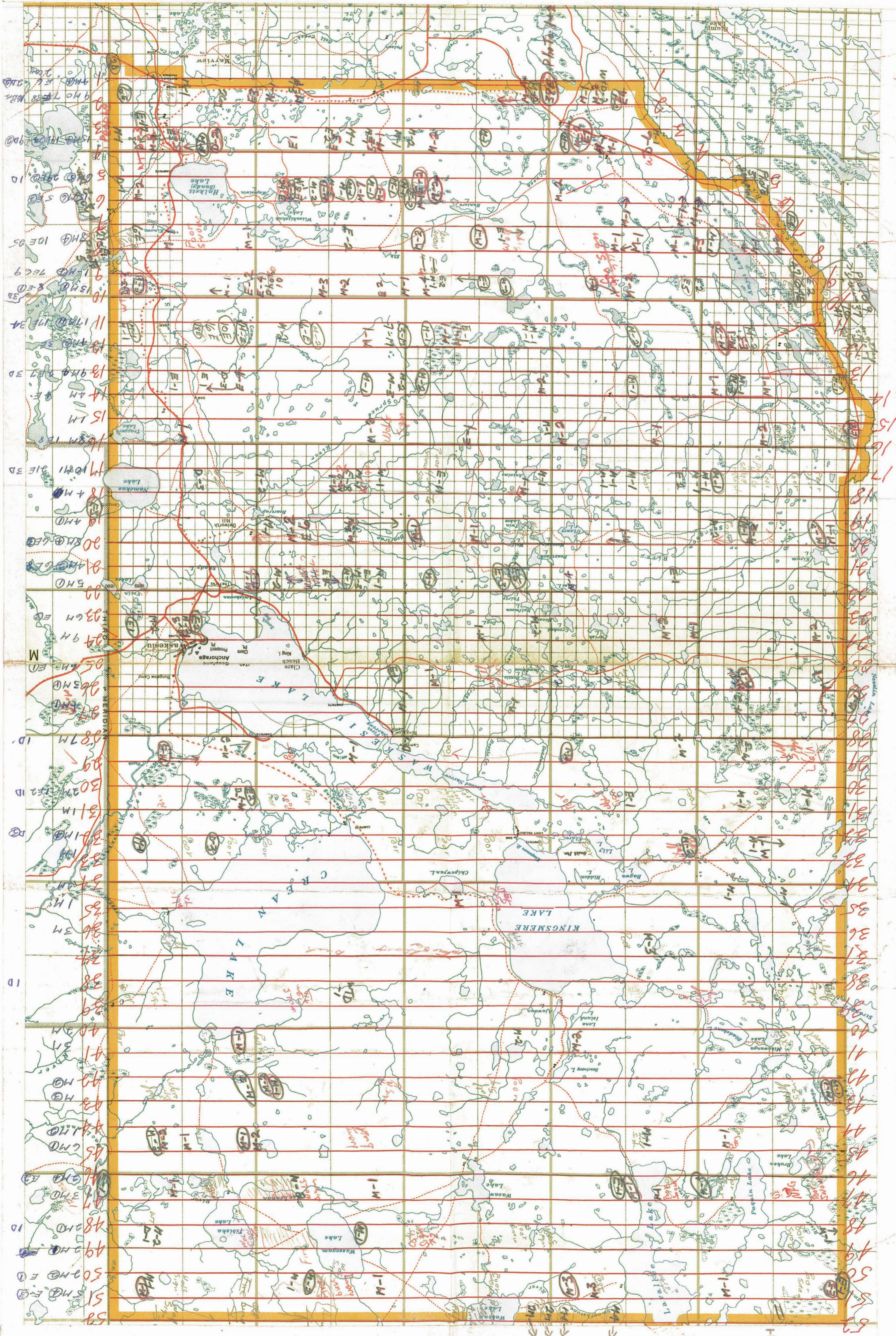
**PRINCE ALBERT NATIONAL  
PARK**

**DISTRIBUTION OF 572 ELK  
AND 35 DEER**

**EACH DOT REPRESENTS ONE ELK  
EACH CROSS ONE DEER  
MARCH 19-22 1968**



PRINCE ALBERT NATIONAL  
PARK  
DISTRIBUTION OF 517 MOOSE  
EACH DOT REPRESENTS ONE MOOSE  
MARCH 19-22 1968



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28MO 24E 9M  
29MO 25E 6M  
30MO 26E 3M  
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