

AERIAL SURVEY OF BIG GAME  
RIDING MOUNTAIN NATIONAL PARK  
MARCH 1955

An aerial survey of big game in Riding Mountain National Park was carried out on March 30 and 31, 1955. A Cessna 140 aircraft was chartered from Brandon for this purpose and eight hours of flying time was required to complete the survey.

The sky was overcast with winds up to 25 m.p.h. during the survey on March 30, however, the lighting conditions were perfect for observing. On the 31st the sky was clear with light winds. The park was still covered with a few inches of snow during the survey, but it was rapidly disappearing. The western part of the park was surveyed on the 30th and by the next day, a lot of the open areas were becoming bare.

Because of a lack of funds, only half the number of transects that were flown in past years were covered. The even numbered transects were flown and the width of the strip observed was 1/8 mile on each side. The total area covered by the 16 transects was 71.2 square miles or 6.2% of the park area.

In past years the transects were flown at an altitude of 100 feet and 1/5 mile strip was observed on each side of the aircraft. This was not done this year because the angle of vision of 84° was considered too large for observations. It was decided that a strip of 1/8 mile on each side would be covered from an altitude of 200 feet. The appropriate angle of vision of 73° was marked on the wing strut and window on each side of the plane. Although an attempt was made to maintain a constant elevation, this probably varied from 100 to 300 feet and consequently, the width of strip varied from 1/16 to 1/5 mile. However, I think that it is safe to say that the average height was 200 feet and width was 1/8 of a mile. No animals which were observed outside of the area covered by the angle of vision of 73°, were included in the counts.

Observations

A total of 71 elk were observed during the survey.

This figure is equivalent of 1 elk per square mile of transect area. The total population in the park area is estimated at approximately 1100 elk in 1955.

This is a considerable reduction in numbers since the last aerial survey was made in 1953. At that time the population of elk was estimated at 2500 animals. The winter of 1953-54 was cold with heavy snow cover. The spring thaw did not occur until late April and snow was still present in the park in May. The wardens reported seeing fewer calves during the summer of 1954 than in past years. The winter of 1954-55 on the other hand was very mild and the snow cover never reached a depth of more than 12 inches. It could be then, that this marked reduction in the number of elk took place during the winter of 1953-54.

The only other animals observed during the survey were 4 deer. Although the park is reported to have a large coyote and wolf population none of these animals were seen. The size of the survey sample was probably too small to indicate species other than elk.

Table I shows the number of elk observed on the even numbered transects for the five years of survey. 1955 is based on a strip 1/4 mile wide whereas in the previous years the strip was 2/5 mile wide.

TABLE I

Transect Number	Lineal Miles	1950 # elk observed	1951 # elk observed	1952 # elk observed	1953 # elk observed	1955 # elk observed	
2	9	2	2	1	6	5	2
4	9	37	16	33	11	2	4
6	9	19	7	22	5	3	0
8	9	18	67	5	9	1	9
10	17	42	23	22	9	6	17
12	17	23	28	9	9	15	16
14	19	19	38	49	13	0	11
16	22	26	81	51	28	20	68
18	20	83	36	26	23	4	16
20	19	45	18	24	12	0	20
22	21	8	16	38	15	1	28

TABLE I (cont'd)

Transect Number	Lineal Miles	1950 # elk observed	1951 # elk observed	1952 # elk observed	1953 # elk observed	1955 # elk observed
24	25	43	33	46	16	0 28
26	23	61	60	29	41	3 37
28	21	16	27	36	9	5 28
30	22.5	31	37	76	2	2 25
32	22.5	-	-	-	3	4 18
Totals	285	473	489	467	208	71 322

Table II shows the comparison of elk population estimates for the five years of survey. Again it should be noted that the 1955 estimates are based on 71.2 square miles or a 6.2% sample, whereas the previous years' estimates were based on 224.6 square miles or a 19.2% sample.

TABLE II

	1950	1951	1952	1953	1955	\$
Elk/ sq. mile	4.10	4.10	3.97	2.12	1.00	452
Estimated Population	4700	4700	4500	2500	1100	522

50 Moose Total seen 56 = 0.79 moose/sq mile  
index = 900.

Deer " seen 20 index 300 deer ~~sq mile~~

Coyote only 1 seen

wolves total seen 10 - 8 in one pack.

CWS

55-26 Perret, N.

c.2 Aerial survey of big  
game Riding Mountain  
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