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AERIAL SURVEY OF GAME WINTER RANGES, BANFF NATIONAL PARK, 1952.

By A. W. F. Banfield, Ph. D.

Introduction. Authority was granted from the Chief, Canadian Wildlife Service, on February 14th, to undertake an experimental aerial survey of the game winter ranges to determine if it was practical to use aircraft in mountainous country to census game and to determine if there were important unknown game winter ranges.

Itinerary. The aerial survey was completed during three flights. The first flight of four hours duration took place on February 23rd. The second flight of one hour and a half was made on March 1st. The final flight of one hour and a half took place on March 7th. The routes flown during the survey are indicated in figure 1. The total cost of the survey was $105.00 for seven hours flying time. The pilot was Mr. A. Gaetz of Banff.

Observations. It was found that a small light plane was well suited for observing big game mammals in mountainous terrain. Provided with clear windless weather, the plane could easily manoeuver in narrow valleys. Game on mountain slopes could be easily seen by their tracks on the snow and approached for photography. The valley game was more difficult to observe. In the wider valleys low level transects could be run at tree level to count elk and moose. The courses taken, however, would have to be governed by the topography and regular straight transect survey is impractical.

The observations on the various species are outlined below.

Elk (Cervus Canadensis) The distribution of the 342 elk observed during the survey is shown in figure 2. The winter ranges were confined to the valleys of the Bow, Cascade, Dormer, Panther and Red Deer Rivers. It was surprising to note how high some elk were wintering. Small groups of elk, mostly males, were observed on open alpine slopes as high as 8000 feet in the Dormer and Cascade valleys. The bulk of the elk were at lower elevations outside of the Park in the Yaha-Tinda Ranch area.

Mule deer (Odocoileus hemionus). Six deer were observed from the air in the Panther and Bow valleys. The winter distribution of deer is indicated in figure 3. Deer are not easily seen from the air in the spruce-fir forests. It is encouraging to note the winter occurrence of deer in the Panther River and at the Yaha-Tinda ranch.

Moose (Alces americana). Only five moose were observed from the air during the survey, but the abundunt tracks and beds observed indicate a wide distribution in the bottoms of the main and tributary valleys. This distribution is indicated in figure 4. Mr. Frank Bryant on his return from a snowshoe trip to the Clearwater confirmed this observation. Moose are difficult to observe in the spruce-fir forest unless the flight is at tree level. All observations point to the conclusion that there is a large winter population of moose in the eastern portion of the park. No moose signs were observed south of Lake Minnewanka.

Bighorn (Ovis canadensis). The distribution and counts of the various bands of bighorn sheep observed are given in figure 3. In general the aerial survey confirmed our knowledge of the distribution of winter sheep ranges, gathered from wardens' patrol reports over the period of many years. A few small scattered bands were observed for the first time. However, the flights changed but little our general picture of sheep distribution. The discovery of the Lake Minnewanka range and the absence of sheep in the Ghost and Clearwater drainages are interesting notes.

Bighorn sheep occupy rather restricted ranges in the winter and a light aircraft is an ideal tool in the taking of bighorn sheep censuses. One could make a fairly complete census of the bighorn in the National Parks at very little cost in time and transportation.

Mountain Goat (Oreamnos americanus). The distribution of the 28 mountain goats observed during the aerial survey is shown in figure 4. The areas covered during the survey are known to be less favourable for goats than sheep. Mountain goats are difficult to observe against the snow background. The presence of tracks usually led to their discovery.

Wolf (Canis lupus). Three wolves were observed during the survey. All were on alpine slopes above timber line and in the vicinity of elk herds. The localities are indicated in figure 2. On Wigmore Creek summit two wolves were seen within 150 yards of two bull elk. One wolf was bedded-down on a shoulder overlooking the elk. The elk were feeding quietly and the tracks and feeding holes indicated that they had been there for some time. The elk were either unaware of the proximity of the wolves or ignoring their presence.

Conclusion. A light plane is a useful and economical means

of censusing such game as bighorn sheep, mountain goats and elk on restricted, open, mountain slope, winter ranges. It is recommended that an annual survey be made to check the population trends of these species in Banff National Park.

A. W. F. Banfield

Chief Mammalogist,
29th March, 1952.

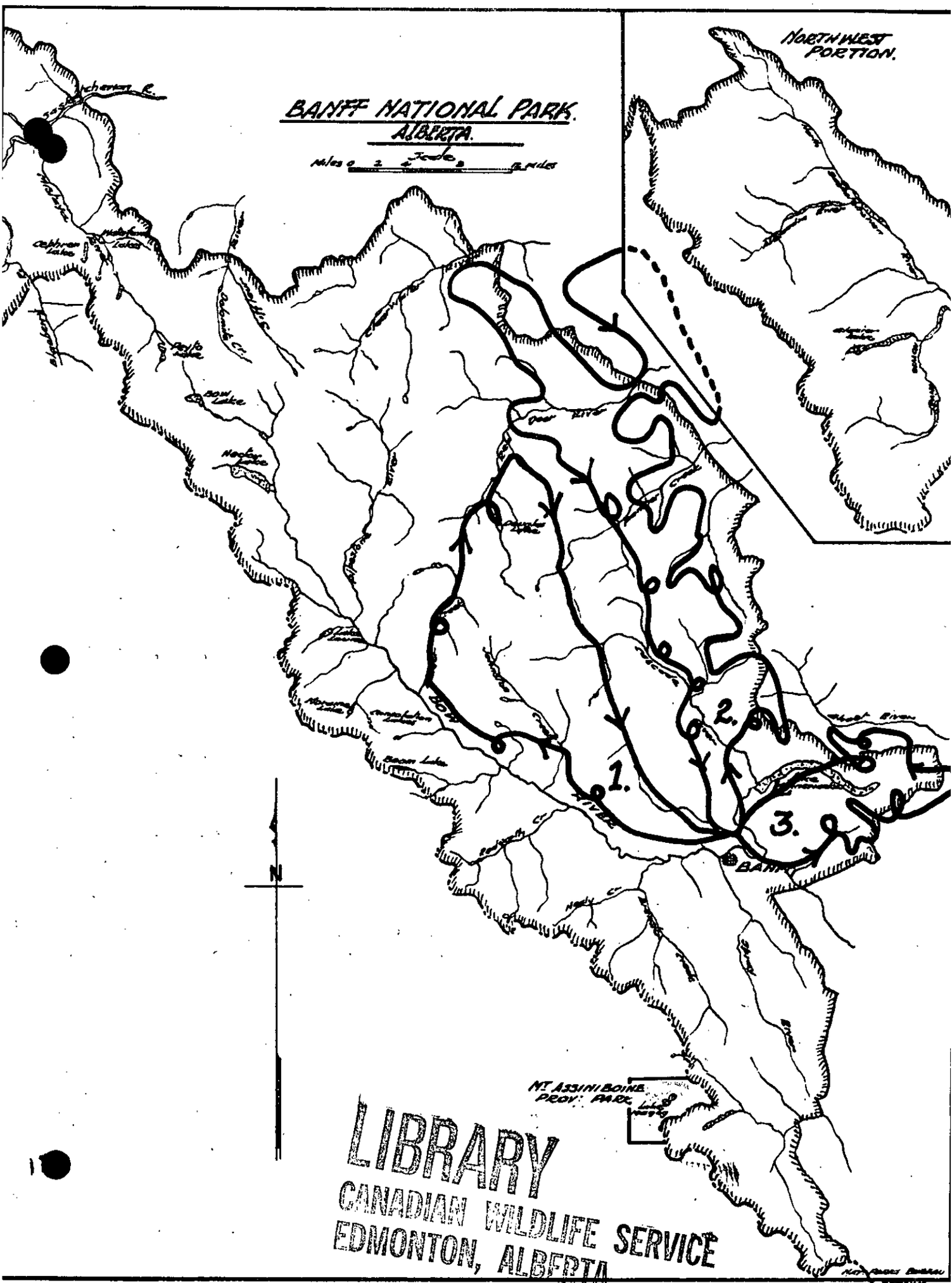

Figure 1. Aerial routes during game winter range survey.

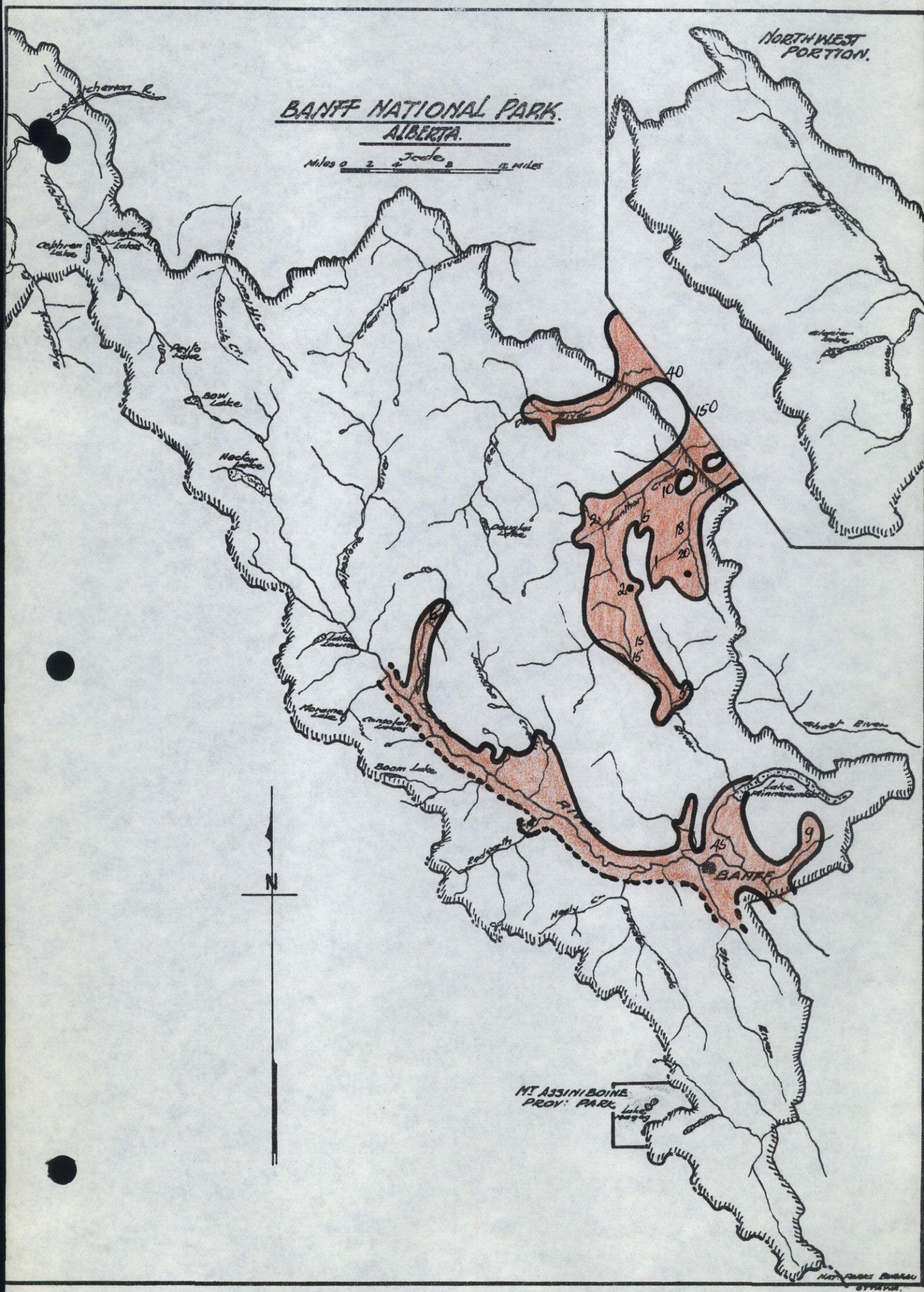

Figure 2. Observed winter range of elk.

Timber wolf observations. •

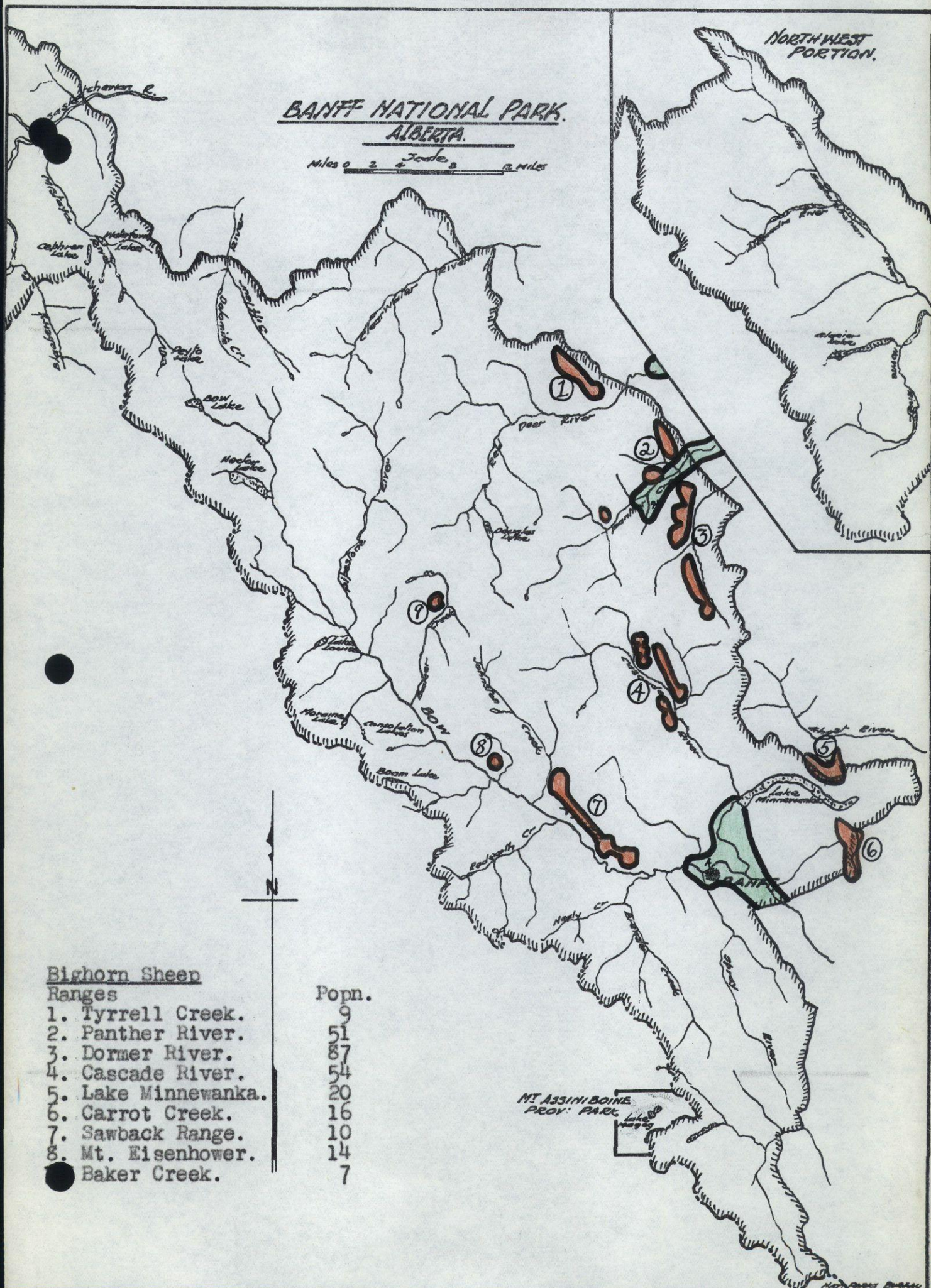

Figure 3. Observed winter range of mule deer.

Observed winter range of bighorn.

Figure 4. Observed winter range of moose.

Observed winter range of mountain goat.

Date Due

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