

GOLDEN EAGLES IN CENTRAL SASKATCHEWAN

by

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This paper reports the discovery of five (possibly six) active Golden Eagle nests (*Aquila chrysaetos*) in the Churchill River - Foster Lakes area. These nests are in a north-to-south gap of approximately 540 miles in the previously known breeding range of the species in Saskatchewan. Information on nest sites, food, and behaviour is included in this report.

Methods

The Golden Eagle nests were discovered in July 1968 while we were conducting an aerial survey of the Bald Eagle (*Haliaeetus leucocephalus*) population in central Saskatchewan. We searched for Bald Eagle nests by flying along lake shores and rivers in a fixed wing, pontoon-equipped aircraft. Detours were made to check nearby cliffs for eagle nests. George Linkletter, Saskatchewan Department of Natural Resources, Pelican Narrows, told us the location of the first Golden Eagle nest we saw, and we knew of the second from past years; the remainder of the nests were found in the course of the survey.

Food remains were collected at the nests, identified and recorded. In addition, 19 regurgitated pellets were

collected from two nests. The contents were identified and their volume determined.

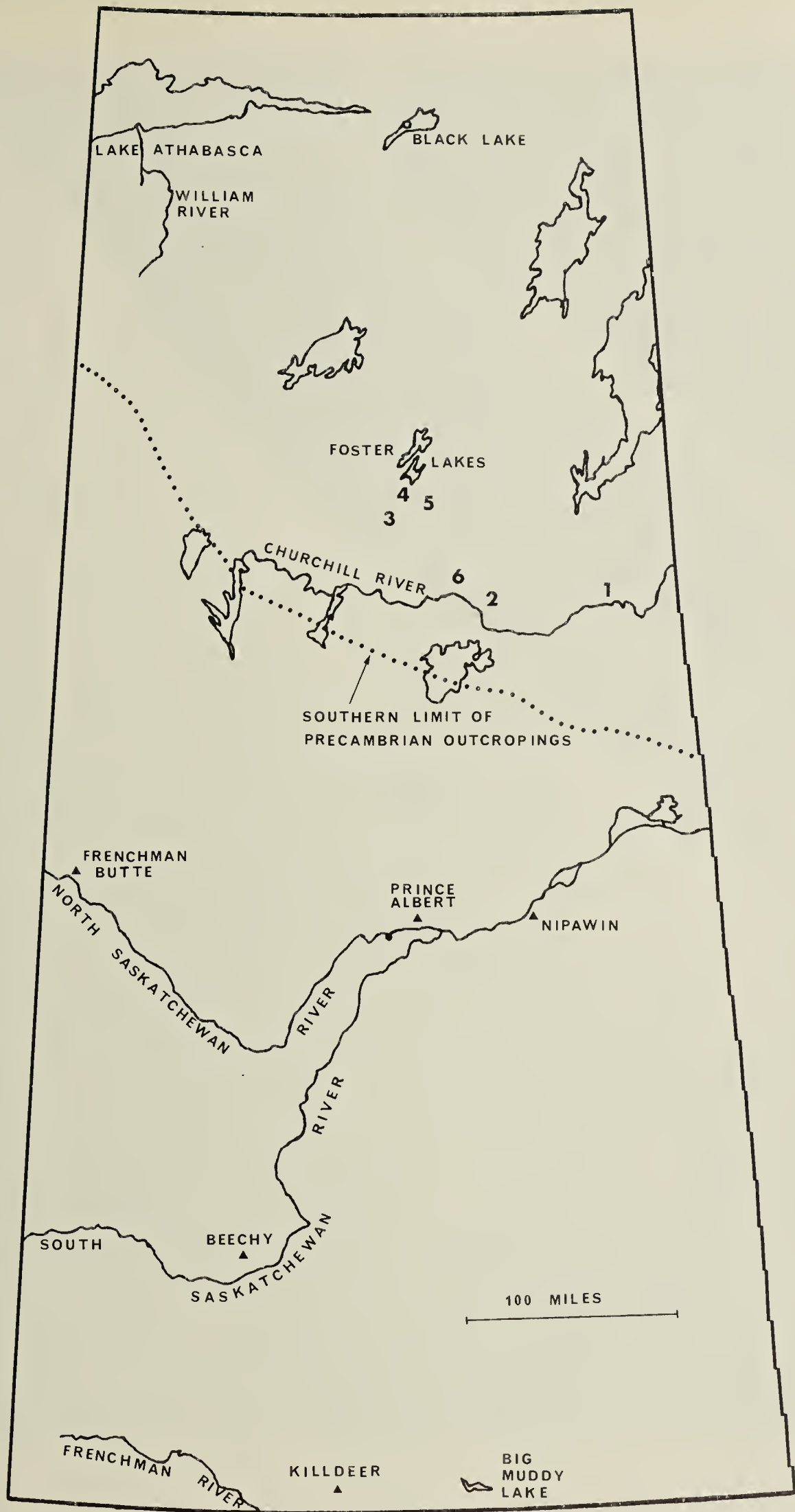
Previous reports of Golden Eagles breeding in Saskatchewan

There are two records of Golden Eagles nesting in the far northern part of the province. In 1892 Tyrrell saw an active nest east of Black Lake (Tyrrell and Dowling, 1896), and in 1962 Frank Heidelbauer found a nest near the William River about 40 miles south of Lake Athabasca (Nero, 1963). Nero reported that adults were seen at the north shore of Lake Athabasca in July 1961.

Adults were seen in the badlands south of Wood Mountain in June, 1909 (Macoun and Macoun, 1909), but the first published report of Golden Eagle nesting in the southern third of Saskatchewan was by Santy in 1958. In a second note (1959) Mr. Santy revealed that he had observed active aeries on the Saskatchewan River near Beechy nearly every year for many years. His first report prompted a search in other areas by staff members of the Saskatchewan Museum of Natural History, and they found nests in the Big Muddy Valley and the

TABLE 1. Data on nests of the present study

Nest number	Date found	Number of young	Number of adults seen	Direction cliff exposed
1	July 9	2	0	NE
2	July 9	2	1	E
3	July 14	1	1	E
4	July 14	2	1	SSE
5	July 15	2	0	WSW
6	July 15	1 or 2	0	W



Map of Saskatchewan showing Golden Eagle nest locations. The large numerals correspond to the nest numbers in Table 1.

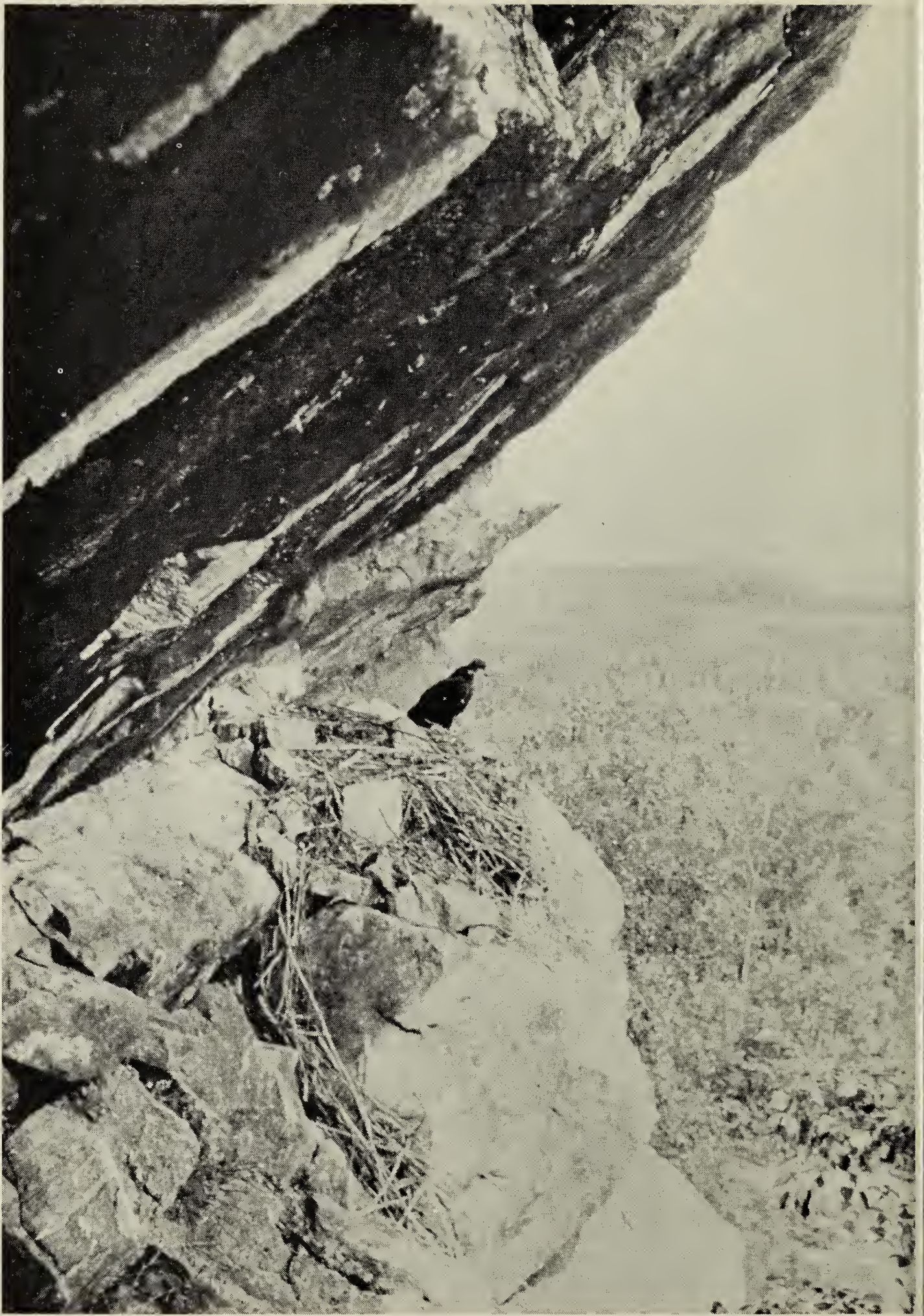


Photo by D. W. A. Whitfield
Single ten-week-old Golden Eagle at nest number three above Foster River

eer Badlands (Fyfe, 1959). Nests have since been found in the valley of the Frenchman River (pers. comm. R. W. Fyfe). One pair of Golden Eagles nested along the North Saskatchewan River near Frenchman Butte about 35 years ago (pers. comm. R. D. Symons) but it is not known if there is still an active nest there.

In the wide gap between these northern and southern breeding ranges adults have been seen during the breeding season but no nests were found previous to the present study. D. C. Furniss identified an adult near Prince Albert in June of 1943, and M. G. Street saw an adult on May 5, 1937 (Houston and Street, 1959). Adults have been seen occasionally in the Foster Lakes area (pers. comm. C. L. Ferguson and C. Mahoney).

The Aeries

All of the nests were on rock cliff edges. The nest number, date of finding, number of nestlings and adults seen, and cliff exposure are shown in Table 1. The locations of the aeries are indicated on the map; they are near the centre of the Boreal Forest, on Precambrian outcroppings, and in regions of low to moderate topographic relief.

We visited nests 1, 2, 3 and 5 and banded seven young birds. Access to nest number 2 was by vertical descent on a rope. A rope was also needed for safety in climbing to nest 5, but nests 1 and 3 were easily walked to.

In all cases the eaglets were well feathered (at an estimated age of seven to 10 weeks) and quite difficult to identify to species from the aircraft. An adult Golden Eagle was seen flying from nest 4. No adults

were at nest number 6, and we were unable to make a positive identification of the species because we could not land the aircraft near the nest. From the general appearance of the nest and nest site, and because of its distance from any major body of water, we feel that this nest was occupied by Golden Eagles. Only two other cliff aeries were seen during the survey, one inactive and the other occupied by Bald Eagles.

Aeries 1 and 2 were low and difficult to see from the air because of screening by trees, but the others were high and exposed. The difference in aerie height was accounted for by the type of cliffs available in each region.

A local resident (Bill Chanin) told us that nest 2 had been in use since 1962. Whitfield saw it in June of 1965, when it showed signs of current use, but he presumed it was occupied by Bald Eagles. It was seen again in 1966, when it appeared to be empty.

Food Habits

The nests contained the remains of Common Raven (*Corvus corax*) feathers, one Mink (*Mustela vison*), and four Snowshoe Rabbits (*Lepus americanus*). In some cases rabbit fur made up a large portion of the covering of the nest. Pellet contents show that the young eagles were being fed primarily Snowshoe Rabbits (Table 2). Rabbit remains were found in 18 of 19 pellets. Remains of birds, Mink and miscellaneous materials made up the rest of the pellet matter. The skeleton and hide of one Mink were in the same nest as the three pellets in which Mink fur was found. An assortment of grasses, conifer needles, twigs, bark, green leaves (alder, crow-

TABLE 2. Contents of 19 pellets regurgitated by Golden Eagle nestlings

Food item	Per cent of pellet contents by volume	Absolute frequency	Per cent frequency
Snowshoe Rabbit	81.1	18/19	95
Mink	4.1	3/19	15
Bird	11.9	12/19	63
Remainder (non-animal content)	2.9	18/19	95



Photo by J. M. Gerrard

Ten-week-old Golden Eagle at nest number 3, Foster River, July 1968.

(berry, aspen), mosses, lichens, and pebbles were found in the pellets. These materials could serve a dietary function or as an aid in pellet formation, or may serve no function.

Food habits of the Golden Eagle have been summarized by Bent (1937) and McGahan (1968). There is a striking similarity between the food habits of Montana eagles as reported by McGahan and the eagles at the four nests we visited (Table 3).

Relationship with Bald Eagles

During the survey, we found more than 10 times as many Bald Eagle as Golden Eagle aeries. The two species occupy different ecologic niches with little competition; Golden Eagles

usually nest on cliffs, eat mainly rabbits (see section on food habits) and hunt over the land, whereas Bald Eagles nest almost exclusively in trees and eat mainly fish (only one rabbit was seen in 55 Bald Eagle nests examined). We suspect that lack of suitable nesting territory (cliffs for nesting and open or burned areas for hunting) limits the Golden Eagle population in this area.

In one instance only 1.3 miles separated a Bald Eagle nest and a Golden Eagle nest. The next smallest distance was 3.0 miles.

Behaviour

One of the best known particulars of Golden Eagle behaviour is their

TABLE 3. Comparison of foods eaten by Montana Golden Eagles and by those of the present study

Class	Present study (per cent)	Montana Golden Eagles (1962-1964*) (per cent)
Mammals	85.2	87.0
Birds	11.9	12.4
Reptiles	0.0	0.4
Other	2.9	—

* Data from McGahan, 1968.

typical response to the sight of human intruders near their nests; they immediately fly away from the area (see, for example, Bent, 1937).

Our observations suggest that their usual reaction to the sound of human voices nearby is different. We walked to nest number 2 from a small lake about one-half mile away and approached it from above. From the cliff top it was possible to see only the extreme outer edge of the nest, about 15 feet below. It took five minutes to find a position precisely above the nest and to tie the climbing rope. During this time we were talking and moving noisily about. When the coiled rope was heaved over the cliff edge, an adult eagle flew off the nest and out of sight. At nest 3, we approached the bottom of the cliff from the side, and our loud conversation should have been clearly audible at the nest. It was not until we came into sight of the nest, at a distance of about 40 yards, that the adult bird flew away.

Incidents similar to these have been seen by others, including Bent (1937), C. S. Houston (pers. comm.) and by Whitfield on two occasions at different series in the southern part of the province.

As is to be expected in a species with such a range of behavioural responses, these patterns are not rigidly adhered to. For example, Santy (1958) failed to dislodge a brooding eagle from its nest even by approaching, in sight of the bird, to within a few feet below the nest and throwing clods of dirt onto the nest top, and Gerrard observed an adult fly from its nest as

several persons quietly approached the cliff top, out of sight of the nest.

Conclusions

We suggest that Golden Eagles nest in small numbers throughout the Boreal Forest region of western Canada where their numbers are limited by suitable nest sites and hunting areas. This population could be the source of the many Golden Eagles which are seen on the open prairie during the winter.

Acknowledgements

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