

CLIFF NESTING BALD EAGLES IN NORTHERN SASKATCHEWAN

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Gerard *et al* listed several factors which influence nest site selection of Bald Eagles in Saskatchewan.⁷ Bald Eagles were found to prefer shoreline habitat on large lakes and rivers, or sites on islands. The authors also noted that only 2 out of 290 nests were on cliffs, the rest being in trees. Godfrey states that Bald Eagles nest "mostly in trees, frequently near the top; more rarely on cliff ledges".⁹ Thus a Bald Eagle occupying a cliff nest is rather an unusual circumstance, and is probably the result of an adaptation due to the lack of trees sturdy enough to support a large nest.^{6 15}

This is the situation at Hunt (known locally as Lefty's) Falls, in far northern Saskatchewan, where a pair of Bald Eagles was found nesting on a cliff in August of 1980. The author made these observations while conducting field work for Saskatchewan Environment from 6-13 August 1980, and 12-16 June 1981. The location of the cliff nest was on a lake (dubbed Eagle Rock Lake) above Hunt Falls, on the Grease River, 41 km northwest of Stony Rapids, at 59°30' N 106°25' W.⁵

Hunt Falls lies on the border of the Northwestern Transition and Athabasca South sections of the boreal forest.¹³ The area possesses rugged, high-relief terrain and is completely forested with Black Spruce (*Picea mariana*), White Spruce (*Picea glauca*), Alaskan Paper Birch (*Betula neoalaskana*) and Jack Pine (*Pinus banksiana*) on bedrock outcrops; Jack Pine — lichen woodland on sandy till; and various combinations of shrubs, Balsam Poplar (*Populus balsamifera*) and Trembling Aspen (*Populus tremuloides*) in the stream valleys.⁵

The eagle cliff nest was first observed on 8 August 1980, about three-quarters of the way up a sheer 50 m cliff which rimmed the north side of the lake (Fig. 1). The base of the cliff consisted of piles of large boulders and rubble, with a growth of shrubs and jackpine which extended 15 to 20 m to a narrow sandy beach. A large area of whitewash drew attention to the nest, which consisted of a jumble of sticks resting on the ledge and spilling part way down (Fig. 2). The nest contained two fully feathered young. For a short while on 9 August both adults were at the nest and both young were fully visible. The adults then flew to a ledge about 30 m to the west, and later to the tops of spruce trees which lined the top of the cliff. The adults were in attendance at or within 0.5 km of the nest until about 1800 hours when viewing ceased. The young were observed on subsequent days in nearly the same positions, one on the outside edge of the nest facing in, and the other lying down in the back facing to the right (east). On the morning of 10 August the first young eagle moved from its outside position to a point on the ledge just below the nest. It moved back up a short time later, then returned to the ledge.

The nesting cliff, accessible only by canoe, was visited 11 August. A walk to the top of a nearby section of the cliff gave an indication of what the eagles would be seeing from the ledge: a view of the steep and rugged terrain stretching off in the distance, and the lake below. One adult eagle was flushed from another part of the cliff. Forest fire smoke made it impossible to obtain clear photographs. On 12 August both young were sitting up, and both adults

were on the tops of nearby spruce trees.

The area was revisited 12-16 June 1981, but the cliff nest was deserted. A single adult Bald Eagle was seen on a large tree on top of a cliff (smaller than the one previously described) at the confluence of the Grease and Straight Rivers, about 3.5 km SSW from the nest described above. The cliffs in this area form part of the Grease River-Straight River fault line. There was no evidence of any eagles nesting in the area, but no time was available to confirm this. There was a stick nest in a large aspen on the opposite bank at the confluence, and a Common Raven was flushed from the site.

A search of the literature and of the

Prairie Nest Records Scheme (PNRS)³ revealed a number of references to Bald Eagle cliff nests in Saskatchewan. (No references were found for the adjoining provinces.) These were as follows:

Grove Lake (Porcupine River), near Stony Rapids, 59°20' N 104°10' W (G. Anweiler and M. R. Lein).^{3 4 12} 15 July 1964. The nest, active but inaccessible, was situated on a ledge 75 feet up on a cliff along the river. The contents were not determined.

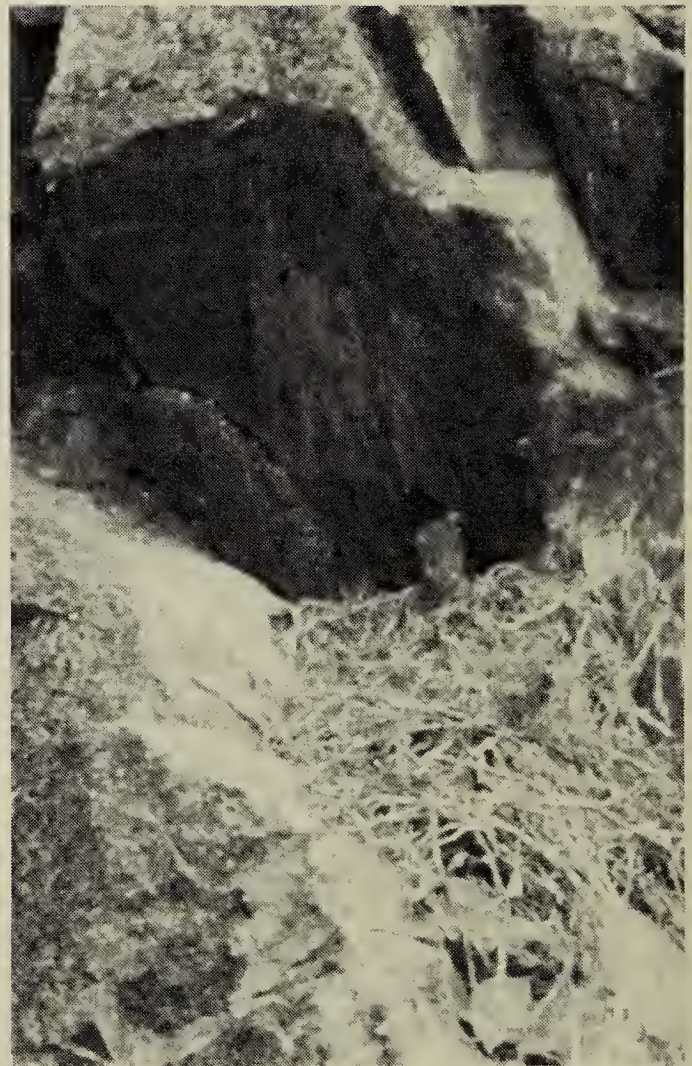
Fond du Lac River, 7 miles west of Stony Rapids (B. Siemans). 24 July 1962. A nest with one young was observed "on top of a rock cliff 100 feet above the river".¹¹

Lower Foster Lake, 56°20' N 105°20' W (D. Whitfield, J. Gerrard).^{3 6} 14 July 1968.



Cliffs at Hunt Falls

Chris Adam



Bald Eagle nest

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Cliff, no other details given. One young was in the nest. It was empty when revisited on 18 July 1969.⁶

Foster River, 56°20' N 105°30' W (D. Whitfield, J. Gerrard).^{3 6} 18 July 1969. Cliff, no other details given. Three young were in the nest. Gerrard also comments that in 1940 a forest fire swept the Foster Lakes area, resulting in a lack of suitable nest trees.⁶

"A small river 8¼ miles ENE of Otter Rapids (55°40' N 104°30' W), reported by Dr. Johnson of Prince Albert".⁴ The nest was observed "in early July, 1965, on the face of a cliff about 30 feet above the water". It apparently was "recently occupied". Whitfield and Gerrard visited it on 1 July 1966, but it was not occupied at that time.⁴ Gerrard states that this cliff nest was revisited in 1968 and was found to be used by Golden Eagles.⁶ He suspects that this nest had been used by Golden Eagles all along.

Clearwater River, one mile from the Black Birch River mouth (G. Nelson).⁴ This nest was used for several years by a pair of eagles which nested on the ledge of a cliff. In view of the comments by J. Gerrard above, this record must remain unsubstantiated.

Fond du Lac River, 12 miles west of Stony Rapids (J. Good).⁴ "At first the nest was in a dead jack pine snag, but eventually the snag fell down and they nested for a couple of years on a ledge of rock in the same area". This was in the early 1960's, and seems to be a sound record.

Flight out of Creighton, July, 1967.⁸ Two cliff nests were observed (location not given) but were empty at the time of the flight. These nests had been active for several years previous to 1967; one observer had seen a parent with a dark head and tail. Gerrard reported that although on rare occasions an immature Bald Eagle can raise young at nests, this only occurs in stressed populations where there is a paucity of adults.⁶ This nest, and the other one seen, probably belong to the Golden Eagle.

Two references to nests in the Northwest Territories are also described.

7 miles SW of Fort Reliance, 62°30' N

109°10' W (E. Kuyt).³ 23 July 1968. The habitat was a rock escarpment in the boreal forest, and the nest, containing one young, was on a ledge 70 feet up a cliff.

A record of ground-nesting Bald Eagles on the West Mirage Islands, 62°16' N 114°29' W, on Great Slave Lake, 21 km SSW of Yellowknife, is described in a short note by Bromley and Trauger.² The authors describe a ground nest on a small island "on a low rocky peninsula only a few feet above water" and situated about 55 m from a small grove of trees. This ground nest was first noted in July of 1970 but did not contain young until July 1972. The ground nest again contained young the following year. The authors pointed out that during 1970 and 1971, the eagles, presumably the same ones which had built the ground nest, were nesting near the top of a dead 9 m spruce tree on an adjacent island, 275 m from the ground nest. This tree nest was in a precarious position, and had to be rebuilt each year, after being blown down. Bromley and Trauger considered that this contributed to the construction and later use of the ground nest, an obviously more secure site. It is interesting to note that in 1972, the eagles raised young in the ground nest after having rebuilt the tree nest.

Bent (p. 335) cited other instances of Bald Eagles nesting on cliffs and buttes on coastal areas and along rivers in the Alaskan Peninsula and in northern Canada.¹ Bent concluded that eagles will nest in these situations in the absence of trees. Troyer and Hensel reported on a Bald Eagle nesting survey on Kodiak National Wildlife Refuge in Alaska.¹⁶ They found that although eagles preferred to nest in Black Cottonwood (*Populus trichocarpa*) trees, and since these were not present in great quantities, other substrates used were rocky cliffs and the "bases of alder [*Alnus crispa*] trees protruding from rock cliffs along the seashore". The authors noted that eagles did not nest in areas where no trees or cliffs were present. In 1963, out of 158 active nests, 106 were in cottonwood trees, 35 on rocky cliffs, and 17 on alder cliffs.

Sherrod *et al*, in their study of Bald Eagles on the treeless Amchitka Island of the Aleutian Island chain, Alaska, reported that eagles will normally nest on sea stacks (pinnacles sticking out of the sea), ridges, islets and hillsides.¹⁵

Bent and Harrison note that Bald Eagles will usually use the same site for several years, adding to the nest each year until it becomes very large.¹⁰ This may not be possible on narrow cliff ledges, such as the situation of Hunt Falls. This is demonstrated by the Amchitka study, where nest size was determined by the substrate used, and the nest material was usually destroyed every year by weather, resulting in yearly rebuilding or remodeling.¹⁵

In Saskatchewan, cliffs are common in the northwest corner of the province, including the Uranium City and Beaverlodge Lake area, but decrease in number eastwards to Black Lake and Stony Rapids. East of this their occurrence is sporadic. Regions with cliffs are thus present on the north side of the Athabasca basin, with some scattered across the remainder of the Precambrian Shield, notably in the Deep Bay — Reindeer River area.¹⁴

Bald Eagles, then, will nest on cliffs, buttes and ground sites where there are normally no trees, or where the trees are too small. In forested Saskatchewan and adjacent areas the use of cliffs is a rather uncommon adaptation of a normally tree-nesting species.

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¹ BENT, A. C. 1937. Life histories of North American birds of prey. U.S. National Museum Bulletin 167. Reprint. 1961. Dover Publications, New York.

² BROMLEY, R. G., and D. L. TRAUGER. 1974. Ground nesting of Bald Eagles near Yellowknife, Northwest Territories. Canadian Field-Naturalist 88(1): 73-75.

³ COPLAND, H. 1981. Personal communication.

⁴ DAVIS, D. W. 1966. A plea for conservation of the Bald Eagle in Saskatchewan. Blue Jay 24(4): 160-167.

⁵ EPP, H. T., L. TOWNLEY-SMITH and C. I. G. ADAM. 1982. Hunt Falls natural area, Saskatchewan. Saskatchewan Natural Areas Report No. 2, Saskatchewan Environment, Regina. Unpublished report. 37 pp.

⁶ GERRARD, J. 1981. Personal communication.

⁷ GERRARD, J. M., P. GERRARD, W. J. MAHER and D. W. A. WHITFIELD. 1975. Factors influencing nest site selection of Bald Eagles in northern Saskatchewan and Manitoba. Blue Jay 33(3): 169-176.

⁸ GERRARD, J. M. and D. W. A. WHITFIELD. 1967. Bald Eagle banding in northern Saskatchewan (1967). Blue Jay 25(4): 177-183.

⁹ GODFREY, W. E. 1966. The birds of Canada. National Museum of Canada Bulletin 203. Ottawa.

¹⁰ HARRISON, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. Collins, Toronto.

¹¹ NERO, R. W. 1963. Birds of the Lake Athabasca region, Saskatchewan. Sask. Natural History Society (SNHS) Special Publication No. 5. Regina.

¹² NERO, R. W. 1967. The birds of northeastern Saskatchewan. SNHS Spec. Publ. No. 6. Regina.

¹³ ROWE, J. S. 1972. Forest regions of Canada. Can. Forestry Service Publication No. 1300. Ottawa.

¹⁴ SASKATCHEWAN GEOLOGICAL SURVEY BRANCH, Saskatchewan Mineral Resources. 1980. Personal communication.

¹⁵ SHERROD, S. K., C. M. WHITE and F. S. L. WILLIAMSON. 1975. Biology of the Bald Eagle on Amchitka Island, Alaska. The Living Bird 15: 143-182.

¹⁶ TROYER, W. A. and R. J. HENSEL. 1965. Nesting and productivity of Bald Eagles on the Kodiak National Wildlife Refuge, Alaska. Auk 82: 636-638.