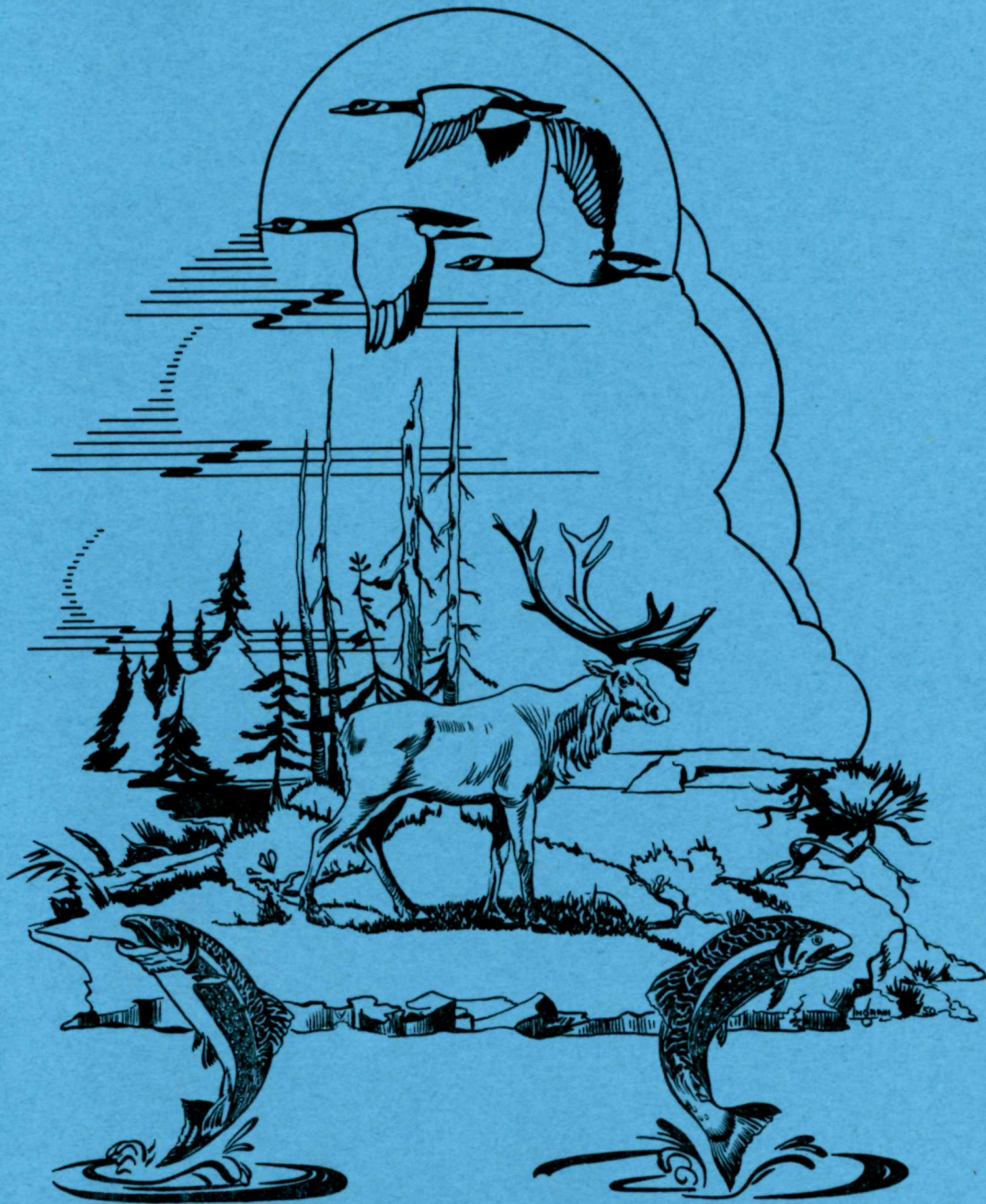


WILDLIFE MANAGEMENT BULLETIN



**DEPARTMENT OF RESOURCES AND DEVELOPMENT
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THE BIRDS OF
PRINCE ALBERT NATIONAL PARK,
SASKATCHEWAN

by
J. Dewey Soper

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Wildlife Management Bulletins are produced to make available to wildlife administrators the information contained in reports which are submitted by officers of the Canadian Wildlife Service.

The reports do not, in most cases, cover extensive studies and are not written primarily for publication. Recommendations arising from the studies are not included.

Foreword

Prince Albert National Park is situated almost in the geographical centre of Saskatchewan, 312 miles north of the international boundary. It is the third largest of Canada's national parks, being exceeded in size only by Banff and Jasper National Parks. Its area at the time this investigation took place was 1,869 square miles, but has since been reduced to 1,496 square miles. Its greatest north-south length is about 51 miles and its maximum width, in the latitude of Trappers Lake, 31 miles. The mean elevation above sea-level is approximately 1,800 feet.

Although the park has a general boreal aspect, it is comparatively close to the agricultural lands of the Great Plains, the southeast corner of the park being only about 30 airline miles from Prince Albert and 105 miles from Saskatoon. An all-weather highway runs from Prince Albert to park headquarters at Waskesiu. The incoming tourist notices a rapid and interesting transition from the open farmland country to the seclusion of the deep forest. Now that access to the park is easy, it has become one of the chief recreation areas of prairie folk.

In 1940 little knowledge of the wildlife of the park was available to the administration. The Federal Department of Mines and Resources therefore directed that a survey of the fauna should be made and assigned the writer to investigate the mammals and birds. This report presents the information about the bird life of the park that was obtained. The mammals are described in a separate bulletin of this series.

The investigation was not carried on continuously. It

was begun in mid-summer, 1940, and various periods were devoted to it during 1942, 1943, and 1946. Field work was carried on during periods staggered as much as possible to cover the seasons from early spring to autumn. No field work was done in winter, as during that season the bird population is very small and consists of only a few species. Numerous representative areas of different types of habitat were examined from the southern boundary of the park to Lavallee and Crean Lakes in the north. Travelling was done by motor car, truck, motor boat, and canoe, and on foot from headquarters established in camps or wardens' cabins. The data secured by observation and trapping was supplemented by information obtained from the reports of the warden service.

Acknowledgments

Herbert Knight, former Superintendent of the Park, provided material assistance during the investigations and made available a great deal of information about the wildlife. He continued this helpful co-operation afterwards by correspondence and furnished extracts of great value from the park wardens' reports. It is a pleasant duty to express gratitude for his numerous kindnesses.

Wardens Harrison, Arnold, Jervis, Anderson, Genge, and Schermerhorn gave ready and cheerful assistance in travelling about the park. Warden Harrison was particularly helpful on a strenuous packing trip from Kingsmere Cabin to Lavallee Lake in July, 1940.

To the annotated list of birds there have been added a few items of information taken from records made in the park by Harrison F. Lewis in 1945 and by A.W.F. Banfield in 1947 and 1949.

Physiography

The park may be regarded as lying wholly within the coniferous forest belt. The relatively simple topography is defined by lake basins and by low hills and ridges, occasionally rugged but usually well-rounded, and seldom more than 150 to 200 feet above lake-level. In some places, especially in the south, the land is gently undulating or nearly flat, the coniferous forest conditions are modified, and open to semi-open expanses of true prairie are found (Fig. 1).

The divide between the North Saskatchewan and Churchill River basins runs through the park; part of it is the Bluebell Divide lying a few miles south of Waskesiu Lake (Fig. 2). Most of the drainage is into the Churchill through Waskesiu and Montreal Rivers; the southern part of the park drains into the Saskatchewan through Sturgeon and Spruce Rivers. The drainage is immature in some areas, particularly northwest of Halkett Lake and north of Crean Lake, where there are extensive tracts that have many small lakes and muskegs.

The lake system of the park is remarkable. There are hundreds of bodies of water from pools to fair-sized lakes. The largest and most important lakes -- Waskesiu, Crean, and Kingsmere (Fig. 3) -- are grouped together in the central part of the park. Lakes Halkett, Namekus, Hanging Heart, and Lavallee (Fig. 4) are also interesting. The larger lakes are clear and deep (maximum depth 165 feet) and have many fine sandy beaches. All the lakes named except Lavallee Lake can be reached by motor car.

There are also a great many streams ranging in size from tiny spring runs to fairly large rivers. Waskesiu River,

the largest stream, runs from Waskesiu Lake to Montreal Lake and drains a large area in the central part of the park. Other large streams are Sturgeon River and Spruce River. Most streams in the park are too shallow for canoe travel.

The region was once heavily glaciated, as is shown by the numerous bodies of water, bogs, sand and gravel ridges, and deep deposits of boulder clay. In some localities, particularly in the south, the soil is a black loam of considerable depth and fertility. There is only a moderate amount of boulder drift, which is seen chiefly as an outwash product along streams and lakes and consists of both sedimentary and Precambrian materials.

In most of the park the bed-rock is of Mesozoic age, referable to the Foxhill and Pierre formations in approximately the southern half of the park and to the older Benton and Niobarra formations in the northern half.

The surface fringe of the Precambrian rocks of the Canadian Shield is to be found about 55 miles north of the northern boundary of the park.

Climate

Because of its northern mid-continental location the park has relatively short warm summers and long, cold winters. Spring usually commences about the middle of April and extends to the middle of June. Trees leaf out and the passerine birds appear in migration during May. Mean maximum and minimum temperatures for the spring months are as follows: April, 44° and 18° ; May, 58° and 32°; June, 68° and 42°. There is an average of about 4.8 inches of

rainfall during these months.

Summer varies in length in different years, but usually lasts about three months. The warmest weather usually comes between mid-July and mid-August, and during this time temperatures as high as 90° may be experienced. Mean maximum and minimum temperatures are: July, 74° and 46° ; August 70° and 43° . There is a total growing season of about 110 days from average time of seeding to average date of first killing frost, and an average precipitation during the months from April to September of about 11 inches. During periods of drought on the plains to the south, precipitation in the park may be greatly reduced.

Autumn is likely to be the pleasantest season because of the absence of flies, the vivid colours in the woods, and the presence of large numbers of birds in migration. September is the ideal autumn month, but autumn conditions may extend well into October. Mean maximum and minimum temperatures are: September, 60° and 35° ; October 48° and 25° .

Winter is the longest season, with an average duration of five months, perhaps five and a half months in the northern coniferous woods of the park. Snowfall is comparatively light, but a good deal of snow usually accumulates in the bush by spring. Winter accounts for about 5 inches of a total annual precipitation of 16 to 17 inches. January is the coldest month with a mean maximum temperature of 1° and a mean minimum of -20° . February temperatures average two or three degrees higher. In December the mean maximum is 8° and the mean minimum -12° . March and

November both have mean monthly temperatures of about 15°, although the mean minimum in March is approximately 10 degrees lower than in November.

Vegetation

It was previously mentioned that in the southern part of the park there are tracts similar in character to the parklands or aspen grove belt of the Great Plains. In these areas, the aspen poplar (Populus tremuloides) is the dominant tree, and it also forms a large part of the forest elsewhere in the park, in association with conifers. The only other tree of this genus is the balsam poplar (P. balsamifera), which grows usually in moist lowlands, sometimes forming a distinct zone along lakes and streams.

The white birch (Betula papyrifera) is common but is irregularly dispersed and is scarce or absent in some extensive areas.

Conifers predominate in a large part of the park. The commonest of these is the white spruce (Picea glauca), which is usually confined to uplands and well-drained lowlands and grows both in dense pure stands and in association with aspen poplar and birch (Figs. 2 and 3). Another common evergreen is the Banksian pine (Pinus Banksiana) which appears in the foreground of Figure 3. It grows sometimes on low, sandy land, but more characteristically on sand and gravel ridges. The balsam fir (Abies balsamea) is found throughout the region but is not often seen in the park.

Bogs and muskegs are common and have typical plant

communities. The two familiar trees of the muskegs are the black spruce (Picea mariana) and the tamarack (Larix laricina). Other typical muskeg plants are willows (Salix), alders (Alnus), Labrador tea (Ledum groenlandicum), dwarf birch (Betula glandulosa), cloudberry (Rubus Chamaemorus), and bog cranberry, (Vaccinium Oxycoccus). Most typical of all such plants is muskeg moss (Sphagnum capillaceum) and cottongrass (Eriophorum) and various sedges of the genus Carex are often well represented.

Within and along the edges of certain kinds of woods, various species of shrubs abound. In some localities the glaucous willow (Salix glauca) and the woodland alder (Alnus crispa) grow in dense marginal thickets. Other common species of shrubs are the silverberry (Eleaeagnus argentea), snowberry (Symphoricarpos albus), wild rose (Rosa), shrubby cinquefoil (Potentilla fruticosa), red osier dogwood (Cornus), highbush cranberry (Viburnum opulus), chokecherry (Prunus virginiana), pincherry (P. pensylvanica), and saskatoon (Amelanchier).

The large lakes of the park are relatively clear and cold and do not have a great deal of aquatic vegetation. For the most part they appear to be destitute of subaquatic growth, considerable quantities of which are found only in sheltered shallow coves and bays. By far the commonest emergent aquatic plant is the roundstem bulrush (Scirpus) which often forms a narrow belt along shores of lakes and ponds. Cat-tail (Typha) is also represented in widely scattered stands. Some small lakes, ponds, and streams have a good growth of aquatic plants; among them are several species of pondweeds (Potamogeton), water-milfoil

(Myriophyllum), coontail (Ceratophyllum), arrowhead (Sagittaria), and yellow water-lily (Nymphaea).

Faunal Life Zone

Canadian Life Zone (Coniferous Forest Biome) conditions are clearly dominant throughout the park and in the northern three-quarters are nearly unmodified. Most of the species of birds are therefore typical of that zone, among them spruce grouse; pileated, Arctic, and American three-toed woodpeckers; Canada jay; northern raven; hudsonian chickadee; hermit and olive-backed thrushes; Cape May, myrtle, and black-poll warblers; and white-throated and Lincoln's sparrows.

The intrusion of Transition Life Zone conditions in the southern part of the park accounts for the presence of some species usually associated with prairie and prairie-parkland environments. Among these are pinnated grouse, magpie, catbird, cedar waxwing, red-eyed and warbling vireos, yellow warbler, western meadowlark, Baltimore oriole, and clay-coloured and vesper sparrows.

A number of species that cannot be described as belonging definitely to either zone are also present. The ranges of such species overlap the boundaries of the life zones.

Conditions for Wildfowl

On the whole, Prince Albert National Park is an inferior summer range for most game ducks and geese owing to the fact, previously mentioned, that the large lakes are clear and cold and lack food plants in adequate quantities.

Few of the lakes are devoid of waterfowl and wherever marsh nesting areas and sub-aquatic food plants occur, a fair number

may be seen. In this respect, Hanging Heart Lake is one of the best in the park, and a fair number of game ducks also visit Moose Bay in Crean Lake, the marshes along the west shore of Lavallee Lake, and Amyot Lake. However the number of ducks even in the best localities is insignificant in comparison with the number to be seen in good breeding localities in the Great Plains. It is doubtful whether the total game duck population of the park would equal the number on one good-quality lake of the prairie region.

The lakes are fairly well suited to other kinds of wildfowl such as common loons, American mergansers, white pelicans, cormorants, common terns, grebes, and gulls. White-winged scoters and American golden-eyes are fairly common in a few areas.

Some of the more important lakes and the waterfowl associations found on them are briefly described in the following paragraphs.

Waskesiu Lake.- One of the most beautiful bodies of water in the park and the one most often visited by tourists. Park headquarters and Waskesiu townsite located on east shore. Greatest length (east-west), 15 miles; greatest width, 5 miles, but is narrow in most places. Shoreline irregular with many sandy beaches, fringed with bulrushes in only a few places. Sub-aquatic food plants meagre. Game ducks scarce, chiefly represented by common mallards and American golden-eyes. Small waterfowl population consists chiefly of common loons, white pelicans, red-necked grebes, ring-billed gulls, and common terns.

Kingsmere Lake.- Similar in general characteristics to

Waskesiu Lake, but smaller and oval-shaped. Length, 6 miles; average width about 4 miles. Is deep and cold; has many sandy or stony beaches and little marsh vegetation. Duck population small, chiefly mallards, American golden-eyes, and ring-necked ducks. Common loon the most plentiful water bird.

Crean Lake.- The largest body of water in the park. Length, 10 miles; average width about 4 miles; total area approximately 42 square miles. Has numerous attractive islands and very irregular picturesque shoreline. Notably deep in places. Very little aquatic vegetation and game ducks scarce. Moose Bay is best part of this lake for waterfowl, having shallow water, muddy margins and bottom, much growth of bulrush and some of cattail, and heavy growth of subaquatic vegetation. About 250 to 300 ducks, many of them local breeders, inhabited this bay. Grebes, loons, coots, and gulls made up a large part of the waterfowl population.

Hanging Heart Lake.- Has better breeding conditions for waterfowl than most lakes in the park. Aquatic growth, including duck food plants, locally abundant. Few ducks seen, but more than in most localities in the park. Species observed were common mallard, blue-winged teal, baldpate, ruddy duck, ring-necked duck, shoveller, gadwall, and American golden-eye. A number of herring gulls, red-necked grebes, and white pelicans also present.

Lavallee Lake.- Poor area for game ducks, but more seen along marshy west shore (Fig. 4) than at any other lake except Hanging Heart, Amyot, and Moose Bay, Crean Lake. Species observed were mallard, shoveller, blue-winged teal, ring-necked duck, and

American golden-eye. A number of mergansers, and scattered red-necked grebes, common loons, ring-billed and Bonaparte's gulls, and common and black terns. Three colonies of white pelicans and double-crested cormorants, totalling many thousands, nested on islands in northern part of lake.

Bagwa Lake.- A small lake; greatest length and width about $1\frac{1}{2}$ miles. Surrounded by typical Canadian Life Zone forest. Lake is shallow, especially in many places along shore. Bulrush, the only emergent aquatic plant, occurs only in stands along shore too thinly for concealment of marsh-breeding ducks. Little sub-aquatic growth. Best marsh conditions in Pease Narrows, leading into Kingsmere Lake. Chief waterfowl present were red-necked grebe, common loon, Bonaparte's and ring-billed gulls, American coot, and itinerant flocks of white pelicans and double-crested cormorants. Total duck population about 120.

Lily Lake.- A little larger than Bagwa Lake; general character and waterfowl population similar but shoreline more gravelly and bulrush fringe thinner and less extensive. Best conditions and most numerous waterfowl, except common loons, in narrows leading to Bagwa Lake.

Clare Lake. - Small lake, about a mile long, between Lily and Kingsmere Lakes. Water-level was several feet below normal; grass-grown flats around part of shoreline. Some good stands of bulrush. Subaquatic plants fairly plentiful but few waterfowl observed.

Amyot Lake.- Medium-sized lake, about $3\frac{1}{2}$ miles long, near southwest corner of park. Low land, much of it open prairie,

on west. Low rolling ridges, with many small lakes and muskegs, to north and east. Poplar dominant in forest cover. Water-level low in 1946, leaving some bays dried out completely. Narrow fringe of bulrush along shores of islands and mainland. Sub-aquatic vegetation fairly good in some places, but poor on the whole. Waterfowl population chiefly common loons, red-necked grebes, coots, white pelicans, ring-billed and Bonaparte's gulls, and common terns. Ducks common in places, but very scarce in others and not plentiful on the whole, though better than Bagwa, Lily or Clare Lakes. Most common at north-west end and along west shore. Total duck population about 350.

Namekus Lake.- Medium-sized lake roughly oval in shape with main axis $2\frac{1}{2}$ miles and width about 1.7 miles. Surrounded by rather flat land covered with coniferous forest. Shoreline simple, with many sand and gravel beaches. Water-level several feet below normal at time of investigation; much new littoral growth of vegetation. Some extensive growth of bulrush in places. Most of the lake relatively shallow; subaquatic vegetation abundant only in restricted areas. Red-necked grebe commonest waterfowl species, followed by pied-billed and western grebes and American coots. Resident duck population not more than 150.

The following table gives the species composition of ducks observed in four lakes in the park during June, 1946. The results obtained are believed to provide a reliable indication of occurrence of ducks in the park as a whole.

TABLE - Per cent composition of ducks observed
at four lakes, June, 1946.

S P E C I E S	Namekus Lake	Moose Bay, Crean Lake	Bagwa Lake	Amyot Lake	Average
	Per cent of total	Per cent of total	Per cent of total	Per cent of total	Per cent of total
Common Mallard	29.9	41.1	21.5	7.9	25.1
Blue-winged Teal	14.0	17.4	17.5	6.6	13.9
American Merganser	21.8	5.8	23.9	1.6	13.3
Ring-necked Duck	1.8	8.9	9.0	32.5	13.0
American Golden-eye	12.4	2.4	18.1	2.6	8.9
Canvas-back	1.5	16.3	0.0	5.2	5.7
White-winged Scoter	3.0	0.0	0.0	16.5	4.9
Buffle-head	1.6	0.0	6.3	5.4	3.3
Lesser Scaup	7.7	2.3	0.0	0.0	2.5
Baldpate	0.0	0.0	3.7	5.8	2.4
Pintail	6.3	0.0	0.0	1.7	2.0
Ruddy Duck	0.0	0.1	0.0	7.8	2.0
Redhead	0.0	4.6	0.0	2.6	1.8
Green-winged Teal	0.0	1.1	0.0	2.6	0.9
Shoveller	0.0	0.0	0.0	0.8	0.2
Gadwall	0.0	0.0	0.0	0.4	0.1
	100.0	100.0	100.0	100.0	100.0
Total Number of Ducks Observed	150	260	120	330	

Annotated List of Birds

This list follows the order and nomenclature of the American Ornithologists' Union "Check-list of North American Birds, Fourth Edition, 1931", and Supplements 19 to 25 inclusive, published in The Auk. In most cases binomial names are used as insufficient evidence is available to make subspecific identification certain. The list comprises a total of 175 species.

1. Common Loon. Gavia immer (Brünnich).

This loon inhabits almost all the larger bodies of water in the park and on some of the large lakes it is common. No species is more characteristic of the Canadian Life Zone, with its deep, cold, clear lakes and good supply of several kinds of fish. Loons were observed on all the larger lakes visited, as well as on many small bodies of water, including typical muskeg lakes and ponds.

At some lakes the common loon was the predominant species of waterfowl and at Kingsmere Lake, a flock of 17 (an unusual sight) was seen off the southeast shore. It was the only species of waterfowl observed at Nikik Lake. Loons were found nesting at Namekus, Crean, and Bagwa Lakes and a pair of adults with juveniles was seen in late June at Amyot Lake. Breeding pairs were especially common at Moose Bay, Crean Lake, where four nests, each with two eggs, were found within a few hours on June 10, 1946.

2. Red-necked Grebe. Colymbus grisegena Boddaert.

This species (formerly known as Holboell's grebe) occurs

in fair numbers in the park wherever proper marsh conditions for nesting exist. In early July, 1940, one was noted on an expansion of Spruce River and others were seen occasionally in Waskesiu, Hanging Heart, Crean, and Kingsmere Lakes, and in ponds and small lakes between Kingsmere Lake and Lavallee Lake. In Lavallee Lake several pairs were seen in marshy bays along the west shore, where, no doubt, they were breeding.

From 1942 to 1946 the species was found to be fairly common at Namekus Lake and Moose Bay, Crean Lake. At other lakes studied, including Hanging Heart, Waskesiu, Kingsmere, Bagwa, Lily, and Amyot Lakes, it was less numerous. Nests of the species were found in bulrush growth in all the areas mentioned except at Waskesiu and Kingsmere Lakes, and, in the latter, an adult with newly-hatched young was seen on June 20, 1946. As late as June 28, several nests of the species were noted at Amyot Lake with full sets of unhatched eggs. Other sets were just hatching at that date.

3. Horned Grebe. Colymbus auritus Linnaeus.

Auritus is an uncommon species in the park. During investigations from 1940 to 1943 only one was positively identified; it was noted on a marshy expansion of Spruce River. Another was tentatively recorded at the second narrows of Hanging Heart Lake. Throughout the investigations of June, 1946, the species was observed only at Amyot Lake. On June 27 a small flock of five adults was seen along the west shore. It is likely that they were transient non-breeders, as none had been seen previously during several days of close observation of the lake. What appeared to be the same

flock of five was again observed near the same place on June 28. The species was not seen elsewhere in the park at any time.

4. Western Grebe. Aechmophorus occidentalis (Lawrence).

This species was not observed in 1940 or 1942. Two were seen in the lower part of Hanging Heart Lake on June 4, 1943, and on the following day another pair was noted at the north end of Crean Lake. In 1946, one was observed at Namekus Lake on June 5, and another at Amyot Lake on June 26. No positive evidence of breeding was obtained. It is clear from the data gathered that the western grebe is quite scarce in the park.

5. Pied-billed Grebe. Podilymbus podiceps (Linnaeus).

The rarity of this grebe in the park is well indicated by the fact that it was nowhere observed by the author until early June, 1946. At that time a few were seen in the main marsh area of Namekus Lake and two at Moose Bay, Crean Lake. An adult, with three juveniles, was noted at Sugar Creek on June 28. On September 1, 1945, Lewis observed three on the Waskesiu River. They were so young that streaks were discernible on the backs of their necks.

6. White Pelican. Pelecanus erythrorhynchos Gmelin.

This showy species is generally distributed in the park but is nowhere actually common except at Lavallee Lake. A few pelicans are likely to be seen loitering and feeding on any of the larger lakes. It was reported that a few used to nest on an island in a small lake about $8\frac{1}{2}$ miles southwest of Kingsmere Lake, and that two or three young pelicans unable to fly were seen on the northwest arm of Waskesiu Lake in the summer of 1940, indicating that a pair

had nested in the vicinity that year. At present, however, the only known breeding colony in the park is in the north part of Lavallee Lake at the northern boundary of the park, where the pelicans occur in large numbers and nest on three different islands.

Ben Ferrier visited all three colonies at Lavallee Lake in 1938 and reported his observations to the National Parks Bureau. He counted 965 adults and 733 young and estimated that about 1,000 adults were spending the summer at the lake.

July 12, 1940, was spent by the writer and Warden Harrison at Lavallee Lake. Only the largest island, here referred to as Heron Island, was visited. This island is situated approximately in latitude $54^{\circ} 18' N$. Its main axis lies roughly east to west, with a length of half a mile; its area is about 25 acres. The pelicans had what was believed to be the second largest of their colonies on the northern tip of the western end of the island, where they were nesting in association with double-crested cormorants (Figs. 6 and 7). It was impossible to make an accurate census, but it was certain that there were at least 900 adult white pelicans and 1,500 flightless young in this one colony. It appeared that the population had increased since Ferrier's visit in 1940.

There was great variation in the size of the juveniles at that time. Some were just hatching while others were quite large, probably weighing as much as 10 pounds. Between these extremes were all sizes and stages of development. Many eggs were present in the nests.

In 1946, white pelicans were again found at most of the larger bodies of water, scattered individuals and small flocks, probably transient non-breeders, being seen in every area investigated.

On the whole they were most common at Moose Bay, Crean Lake, and in the Bagwa-Kingsmere locality. The species is said to have been common formerly at Amyot Lake, but during the investigations no more than four or five were frequenting the lake at any one time. No evidence of breeding was seen at Amyot Lake or at any of the other lakes studied, which did not include Lavallee Lake.

On September 2, 1945, Lewis observed 26 white pelicans at Amyot Lake.

7. Double-crested Cormorant. Phalacrocorax auritus (Lesson).

In 1940 this species was observed only at Lavallee Lake where it breeds in association with the white pelican in three nesting colonies on three different islands. As explained in the next preceding section, all three colonies were visited by Ferrier in 1938, and the colony on Heron Island by Warden Harrison and the writer in 1940.

Ferrier counted 357 adult cormorants and estimated the total number of adults to be at least 400. On July 23 he counted 120 young in the colony on Heron Island and 249 and 105 respectively in the other two colonies, a total of 474.

In 1940 it was difficult to count the adults on Heron Island as they were very wild, flew warily about at a distance, and finally settled on the water far out in the lake. There were estimated to ~~be~~ about 200. The number of juveniles was estimated to be 500. Like the young pelicans, they varied greatly in size. Some were just hatching, but most were from one-half to two-thirds adult size. Many ~~un~~hatched eggs, probably infertile, were seen in the nests.

Lavallee Lake is the only place in the park where breeding colonies of this species are known to occur. Elsewhere the species is found erratically in many lakes. In 1946 a few were noted at Crean and Bagwa Lakes and, on June 16, several flocks were observed flying over the northern part of Kingsmere Lake in the direction of northern Crean Lake. Throughout most of the park the bird is rarely seen.

8. Great Blue Heron. Ardea herodias Linnaeus.

In 1940 this species was observed in only two places. A pair was seen flying along upper Spruce River on July 10 and a nesting colony was found on July 12 on the eastern half of Heron Island, in the north part of Lavallee Lake. With Warden Harrison, about an hour was spent investigating this colony shortly after landing on the island. The strange croaking notes of the young had been heard across the water for some time before a landing was made. In all, 22 nests were counted and there may well have been several more.

The forest where the colony is located is very heavy and is composed of white spruce and poplar. Spruce dominates and covers many acres. All the nests were high up in large white spruces and probably most of them held young. Two or three young were seen in many of the nests and at several others where they were not visible, their croaking was heard. Throughout the colony the air was heavy with the strong odour of excrement. In two instances we saw juveniles that had fallen from the nests and had caught by leg or wing in the forks of branches 20 to 30 feet above the ground and far below the nest platforms and there perished. The remains of a few others were noted on the ground. There may

have been as many as 50 adult herons in the colony. The big pelican and cormorant nesting ground on this island is situated about 400 yards along the north shore to the west-northwest of the heron colony.

In subsequent years, relatively few herons were observed in any other part of the park. They are widely distributed, however, as pairs, or more often as solitary examples. Most of those seen were at Crean, Hanging Heart, Bagwa, Lily, Amyot, and Namekus Lakes. No nesting activities other than those at Lavallee Lake were noted.

9. American Bittern. Botaurus lentiginosus (Montagu).

These birds were observed in marshy areas around the lakes in every locality investigated except at Kingsmere Lake. They were fairly common at Moose Bay, Crean Lake, but only single individuals, or pairs, were noted elsewhere. A nest containing one egg was found at Moose Bay, on June 10, 1946, and a nest with a full complement of five eggs was located in a dense patch of bulrush in the marshy channel between Crean and Hanging Heart Lakes on June 13. In the latter case the adult was so devoted and combative that some difficulty was experienced in removing her from the nest to count and photograph her eggs (Fig. 10).

10. Whistling Swan. Cygnus columbianus (Ord).

A few swans, undoubtedly referable to this species, are reported to visit this region during migration. Warden H. Harrison stated that several had visited the north end of Kingsmere Lake in mid-October, 1945. Other reports indicated that during spring and autumn limited numbers of the swans tarry for short periods on the

larger lakes of the region, including Montreal Lake.

11. Canada Goose. Branta canadensis (Linnaeus).

These geese are regular migrants through the region in spring and autumn and there is some slight evidence that a few pairs nest in the park. No personal observations substantiated this belief and field work was carried on for the most part too late in spring and too early in the fall to gather data in regard to numerical status during migration. The species was observed only once: on June 6, 1946, a flock of nine rested briefly at Namekus Lake, then disappeared.

12. Common Mallard. Anas platyrhynchos Linnaeus.

This is the commonest duck species in the park. Its relative abundance was greatest at Moose Bay, Crean Lake (41.1%), and least at Amyot Lake (7.9%). On the average it was found to be nearly twice as abundant as the next most plentiful duck species, the blue-winged teal. At Namekus Lake, on June 4, 1946, a female with eight downy young only a few hours old was observed. A brood of seven much larger young was seen at the south end of Crean Lake on June 13, and a similar brood of eight at Amyot Lake on the 24th. On the 16th a nest containing eight eggs was found in thick woods at the north end of Kingsmere Lake. Among nesting pairs there is a marked variation in time of egg-laying and hatching. The wardens' reports show that the mallard migration through this region is relatively heavy.

13. Gadwall. Anas strepera Linnaeus.

The gadwall is the scarcest species of sporting ducks in

the region. During the investigations from 1940 to 1943 it was observed only once, when one was flushed at the central narrows of Hanging Heart Lake in mid-July, 1940. The most extensive waterfowl investigations were carried out in 1946, but even then it was identified positively only once, at Amyot Lake, and doubtfully only once, at Moose Bay on June 11, 1946.

14. Baldpate. Mareca americana (Gmelin).

The baldpate is a scarce summer resident. During the investigations from 1940 to 1943 only a few scattered pairs or individuals were seen, chiefly at Hanging Heart, Crean, and Halkett Lakes. In 1946 it was found that the species was tenth in order of abundance among the ducks of the park. It was observed only at Bagwa and Amyot Lakes, and there in small numbers. It was somewhat more common at Amyot Lake than elsewhere. The only evidence of nesting obtained was the observation of a female accompanied by seven half-developed juveniles at Hanging Heart Lake, on July 13, 1940.

15. American Pintail. Anas acuta Linnaeus.

This species occurs rarely and is found in only a very few localities. Up to 1943 only a few pairs had been recorded. All were observed along the north shore of Crean Lake in the early half of June, 1942. In June, 1946, pintails were observed only at Namekus and Amyot Lakes, and there in small numbers. On the basis of sample counts, this species was eleventh in order of abundance among the ducks of the park. Nothing was learned regarding its nesting in that area.

16. Green-winged Teal. Anas carolinensis (Gmelin).

In this part of the north woods at least, the green-winged teal is remarkably scarce during the summer months. Only one was seen during the investigations of 1940, a male on upper Spruce River, July 8. On June 7, 1942, a solitary male was noted at the northeastern extremity of Crean Lake, and another was seen on the 11th at Hanging Heart Lake. The species was not observed in 1943. During 1946 investigations a few more were seen. According to records made in that year, the species was fourteenth in order of abundance among the ducks of the park. It was found only at Moose Bay in Crean Lake, and at Hanging Heart and Amyot Lakes. Only eight or ten were noted during the entire month of June. In all probability, a few pairs nest within the park.

17. Blue-winged Teal. Anas discors Linnaeus.

This teal was seen fairly often, individuals and pairs being noted in varying numbers on practically all lakes traversed. In no locality visited, however, could it be said to be particularly abundant, although in 1946 it was exceeded in number only by the common mallard. The species was found to be most plentiful in the channels leading from Bagwa Lake to Kingsmere Lake and at Moose Bay in Crean Lake, and scarcest at Amyot Lake. On June 4, 1946, a nest containing six eggs was located at Namekus Lake. Presumably the blue-winged teal is a common nester in the park but no juveniles were seen.

18. Shoveller. Spatula clypeata (Linnaeus).

The shoveller is very scarce in the park. In 1940 it was seen only once, when, on July 12, a pair was flushed from a

marshy bay on the west side of Lavallee Lake. No more were recorded until June, 1946, when a few were seen in Amyot, Halkett, and Hanging Heart Lakes. The species apparently occupied fifteenth place in order of abundance in 1946. There was no evidence of its nesting in the park, but it is assumed that it does.

19. Redhead. Aythya americana (Eyton).

Previous to 1946 this species was not found in the park. In that year a few were observed at Moose Bay, Crean Lake, and at Amyot Lake. It was thirteenth in order of abundance among the ducks of the park. No nests with eggs or young of the year were found.

20. Ring-necked Duck. Aythya collaris (Donovan).

This species was not very common anywhere, but it was observed on nearly all the lakes visited. It ranked as the fourth commonest duck. In 1946, the species was apparently scarcest at Namekus Lake and commonest at Amyot Lake. Its breeding status is not known, but it is practically certain that it nests in a few localities in the park.

21. Canvas-back. Aythya valisineria (Wilson).

The canvas-back was not recorded during the investigations until 1942, when one was observed at the north shore of Namekus Lake on the evening of August 18, in a flock of American golden-eyes and lesser scaups. It was next observed during June, 1946, in three of the four lakes investigated in that month i.e.,

Namekus, Crean (Moose Bay), and Amyot Lakes. It was still scarce by ordinary standards. According to the records, it was sixth in order of abundance among the ducks of the park, and was most plentiful at Moose Bay, where 12 were flushed from a wide patch of tule on June 8. On June 10 and 11 in the same general area, 18 and 40 respectively were observed.

Although considerable attention was given to study of marsh-breeding, no evidence that the canvas-back nested within the park was found except at Amyot Lake, where an adult female with six very small juveniles was observed on June 24.

On September 1, 1945, Lewis observed a family group of six on lower Hanging Heart Lake and a similar group of five on Moose Bay, Crean Lake. The young birds in these groups were apparently not yet able to fly.

22. Lesser Scaup Duck. Aythya affinis (Eyton).

The general scarcity of this distinctly boreal species within the park cannot readily be explained, as the environment appears to be suitable for its breeding. Nevertheless, the species was thinly dispersed and relatively uncommon. From 1940 to 1943, the few observed were chiefly on Halkett and Crean Lakes. In June, 1946, moderate numbers were seen at Namekus Lake and at Moose Bay, Crean Lake, but there were none, apparently, on any of the other lakes investigated. They were more in evidence at Namekus Lake, where from four to eight were seen daily, than at Crean Lake where, on two occasions, a pair was seen at the south end. The species was ~~ninth~~ ninth in order of abundance. No evidence of nesting was obtained.

23. American Golden-eye. Bucephala clangula (Bonaparte).

As a summer resident the golden-eye is not uncommon, but it is irregularly distributed and apparently avoids some bodies of water that it might be expected to inhabit. It regularly visits most of the larger lakes. In 1946 it was found that the species ranked fifth among the ducks in order of abundance. It was seen in moderate and very various numbers on all lakes investigated.

Golden-eyes were commonest at Bagwa Lake and adjoining channels, second commonest at Namekus Lake, and least common at Moose Bay. On June 13, a female, accompanied by seven downy young only two or three days old, was seen at the south end of Crean Lake. Six days later another female with eight young about the same age was observed at Bagwa Lake, and the following day (June 20), a brood of nine, recently hatched, was observed along the west shore of Kingsmere Lake.

24. Buffle-head. Bucephala albeola (Linnaeus).

This duck was first recorded on August 13, 1942, when a flock of three was seen on a small body of water a short distance west of Trappers Lake. On June 11, 1943, a pair was observed at Hanging Heart Lake. The species was very sparingly distributed and appeared to be absent in many areas.

During the 1946 investigations small numbers were observed at Namekus, Bagwa, and Amyot Lakes. It was somewhat more numerous in the Bagwa area than elsewhere. The buffle-head ranked eighth in order of abundance among the ducks of the park. No nest of this duck was found, nor were any juveniles noted until June 24,

when a brood of eight downy young was observed, at Amyot Lake. This brood appeared to have been hatched recently, perhaps no earlier than the 22nd.

25. White-winged Scoter. Melanitta deglandi (Bonaparte).

This species was not found in the park until June 4, 1943, when a small flock was put to flight from the middle expansion of Hanging Heart Lake. Subsequently at Crean Lake a few were observed at the north end and two small groups were seen near the three larger islands in the south-central part.

In early June, 1946, a very few scoters were observed at Namekus Lake. They were not seen again until the latter part of the month, at Amyot Lake where they were found to be much more numerous. The species was seventh in order of abundance. No positive evidence of breeding was obtained.

26. Ruddy Duck. Oxyura jamaicensis (Gmelin).

The Ruddy Duck proved to be one of the rarest birds in the park. It was not recorded until 1946, when a pair was seen in the heavy bulrush "island" near the head of Moose Bay on June 9 and again on June 10. The species was next and for the last time observed at Amyot Lake, where from two to eight were seen daily. They especially favoured the tule-fringed northeast shore of the lake. Undoubtedly at both lakes they were on their nesting grounds. The species ranked twelfth in order of abundance.

27. American Merganser. Mergus merganser Linnaeus.

This duck is a relatively common and widely dispersed summer resident of the region, resorting to practically all the

large bodies of water. More were observed in Crean Lake than elsewhere. At the north end of that lake they favoured the rocky south shore of the long point at the northeastern end. The largest flock noted there consisted of 20. The birds were commonly seen among the islands farther south and off some of the points along the south shore.

The data showed this species to be the third most numerous duck species in the park. It was seen regularly on all large lakes examined. The relatively highest number was recorded at Bagwa Lake, although it was nearly as common at Namekus and Crean Lakes; many were also seen at Kingsmere Lake. The species was scarcest at Amyot Lake. On June 20, an adult female with a brood of eight downy ~~off~~spring which appeared to be less than 24 hours old was overtaken on Kingsmere Lake.

28. Red-breasted Merganser. Mergus serrator (Linnaeus).

In early June, 1943, a few mergansers believed to be referable to this species were noted at a distance in Waskesiu and Crean Lakes. That many of the species do visit this region during migration is indicated by statements of some of the wardens that two kinds of mergansers are seen in the spring and that one of them disappears during the summer months.

29. Goshawk. Accipiter gentilis (Wilson)

This raptor, although uncommon, is undoubtedly a regular migrant through the park. It was recorded by the author but once, when one was seen at close range near Bagwa on June 20, 1946. Banfield observed individuals on January 7 and 11, 1947, and February 3, 1949.

30. Sharp-shinned Hawk. Accipiter striatus (Wilson).

From the data available, the "sharp-shin" is to be regarded as an uncommon migrant and scarce summer resident. Only a very few were observed at widely separated points in the park.

31. Red-tailed Hawk. Buteo jamaicensis (Gmelin).

Comparatively few of these birds inhabit the park and their distribution is notably spotty. Before 1946 only a few scattered individuals or pairs were noted, from the southern boundary of the park north to Lavallee and Crean Lakes, more commonly in the southern prairie-parklands between Sugar Creek and Sturgeon River than elsewhere.

During the first three weeks of June, 1946, only one was observed, an individual with typical plumage at Hanging Heart Lake. During investigations at Amyot Lake in late June, two to four were noted every day. One pair had a bulky nest, which appeared to contain young, in a big poplar near the west shore of the lake; the adults were very active and vociferous in its vicinity. Others were seen in the forest-prairie country east of Sugar Creek. Two of these were very pale in colour and appeared to be intergrades between borealis and krideri.

On September 2, 1945, Lewis observed at least seven red-tailed hawks, including one fine specimen of krideri, in the southwest part of the park.

32. Broad-winged Hawk. Buteo platypterus (Vieillot).

In 1940 two of these hawks were seen in the park -- one on July 12 at Lavallee Lake and the other near Halkett Lake two days later. During the shorter period of investigation in 1942 this

species was not observed. In 1943, seven were recorded between June 4 and June 11, from the southern part of the park north to a point beyond Crean Lake.

In 1946, a single example was noted at Waskesiu Lake while approaching Kingsmere River on June 15, but no others were seen. Apparently the number of the species had declined since 1943.

33. Swainson's Hawk. Buteo swainsoni Bonaparte.

One beautifully plumaged, typical adult was observed on a prairie east of Rabbit Creek, August 21, 1942, in an area similar to that shown in Figure 1. This was the first and only example observed, showing the rarity of this hawk within the park.

34. Bald Eagle. Haliaeetus leucocephalus (Linnaeus).

The bald eagle was not found in the park during 1940 and 1943, but was listed on the basis of obviously well-founded warden reports. In early June, 1946, a pair was seen frequenting large white spruces along the east shore of Namekus Lake, probably with nesting intentions. Thereafter, solitary birds were recorded as follows: Bagwa Lake, June 17; Lily Lake, June 19, and west shore of Kingsmere lake, June 20. It is also known to be a summer resident at Crean Lake, where it is believed to nest.

35. Marsh Hawk. Circus cyaneus (Linnaeus).

This hawk is a relatively scarce inhabitant of the region. It is rarely seen in the park except in the southern extremity and even there at comparatively wide intervals. It was

never observed by the writer in any locality in the northern part of the park. Most of the records from 1940 to 1943 were for the prairie-parklands between Rabbit and Sugar Creeks. In 1946 only one of the species was recorded -- at Amyot Lake on June 26.

On September 1, 1945, Lewis observed two of the species at Crean Lake.

36. Osprey. Pandion haliaetus (Linnaeus).

This species is seldom noted anywhere in the park. Only three, all solitary birds, were actually recorded; at Crean Lake July 14, 1940; June 10, 1943; and June 7, 1946. The species is known to some of the wardens and, at times, colloquially referred to as "fish hawk". It is ~~said~~ to have appeared occasionally at Kingsmere, Waskesiu, and Montreal Lakes.

37. Pigeon Hawk. Falco columbarius Linnaeus.

In all probability the pigeon hawk is generally distributed in the park as a summer resident, but it was actually seen only along upper Spruce River and at Kingsmere, Hanging Heart, and Crean Lakes, from June to August, inclusive. The species is poorly represented, as only a few were recorded during all the investigations.

38. Sparrow Hawk. Falco sparverius Linnaeus.

This little falcon was observed at intervals in many parts of the park, but it may rightly be described as uncommon. All those recorded were seen in the southern half of the park, with the exception of one on July 12, 1940, at Lavallee Lake. The favourite area of occupation lies between Sugar Creek and Sturgeon River. A pair observed at Amyot Lake in late June, 1946, was

nesting in an old flicker hole in a dead balsam poplar.

39. Spruce Grouse. Canachites canadensis (Linnaeus).

This handsome grouse breeds sparingly in suitable environment throughout the park. During early summer, 1940, it was many times observed in spruce swamps, and occasionally in the borders of pine woods, along Spruce River north of Township 54. At a point near the river almost due west of Namekus Lake, an adult female with five partly downy young just able to fly well was observed in a spruce muskeg on July 8. The following day another female with several young, similarly developed, was noted two or three miles to the south. A male was observed near Sanctuary Lake and another along Chipewyan Portage, between Kingsmere and Crean Lakes. Several were seen during mid-July in spruce-poplar forest in Township 57, Range 5.

According to reports of wardens, spruce grouse were common, or relatively so, from at least 1938 to 1940. Thereafter an abrupt decline in the population took place. During the investigations of 1942 and 1943 not one was observed. The species was still scarce in 1946, although apparently recovering. Only two adults were observed during the entire month spent in the park -- one at Moose Bay, Crean Lake, June 8, and the other at the north shore of Kingsmere Lake on the 16th. The latter was accompanied by several small offspring that were barely able to fly.

A grouse of this species was seen by Banfield on January 15, 1947.

40. Ruffed Grouse. Bonasa umbellus (Linnaeus).

These birds inhabit the park generally but in 1940

they were apparently rather scarce and obviously less numerous than spruce grouse. On the other hand a few were seen in 1942 and 1943, when spruce grouse were not seen at all. These observations suggest that ruffed grouse have a cyclic recovery somewhat more rapid than spruce grouse.

Further proof of this was obtained in June, 1946, when ruffed grouse were about four times as numerous as spruce grouse, although still at a relatively low numerical level. Only nine were observed during the month then spent in the park. A brood of young was seen at Namekus Lake; at Moose Bay, Crean Lake; at the north-western end of Hanging Heart Lake; and at Bagwa Lake. An adult with several flying immatures was observed in the vicinity of Rabbit Creek, June 28. Juveniles were first seen in flight at Bagwa Lake on June 19.

Banfield observed this species in the following numbers in 1947: January 6, eight; January 8, two; January 10, two; January 11, three. On February 3, 1949, he saw two more.

41. Willow Ptarmigan. Lagopus lagopus (Linnaeus).

Warden Harrison stated that a number of these birds are found in the northern part of the park during the winter months. Small flocks have been flushed at various times between Lavallee and Tibiska Lakes. They enter the park from the north in November or December and withdraw again in late winter or early spring.

42. Pinnated Grouse. Tympanuchus cupido (Linnaeus).

On July 14, 1940, several of these "prairie chickens" were noted along the west boundary road in about latitude 53° 50' N., in an area where there were tracts of aspen poplar and small patches

of prairie or grassy woodland glades. This discovery came as a surprise, as no previous record of this species in Saskatchewan north of about latitude 52° was known. Warden Frank Jervis stated that he also had seen this grouse rarely along the western boundary of the park south of the point mentioned above. It appears evident that the species moved north with the settlement of the country. During subsequent years in the park, the species was not again observed.

43. Sharp-tailed Grouse. Pedioecetes phasianellus (Linnaeus).

This grouse is normally a rather scarce summer resident, apparently confined during that season to the mixed woods and prairies at the southern end of the park. Undoubtedly it nests in that area. None was noted farther north, but it is said that a few occur in the northern area when a movement from higher latitudes is apparent during late autumn or early winter. In mid-July, 1940, the birds were relatively common in a restricted area between Sugar Creek and Sturgeon River, but they were **decidedly** scarce during subsequent investigations. Unlike ruffed grouse, this species showed no perceptible increase in population up to 1946.

During that year only one was seen, on a patch of prairie near Amyot Lake on June 27. When abundant, these birds are reported to occur in large flocks in the vicinity of Montreal Lake.

Banfield made the following observations of this species in 1947: January 6, 15; January 7, three; January 9, 16; January 10, five. He also noted two on February 3, 1949.

44. European Partridge. Perdix perdix (Linnaeus).

Perdix were not observed within the park by the

writer, but were seen close to the southern boundary. The wardens have seen them in the park on several occasions, especially on the scattered prairies between Sugar and Rabbit Creeks. A few are also known to wander into the park farther west and as far north, at least, as latitude 53° 50' N. Usually they are attracted only to open, or semi-open land. Warden Schermerhorn, however, informed the writer that he saw a small group of them at the south end of Crean Lake in the late summer of 1934. It is most unusual to find these birds in heavy coniferous forest.

45. Sandhill Crane. Grus canadensis (Linnaeus).

At least moderate numbers of brown cranes migrate through the park in spring and autumn; the wardens have seen the migrating flocks at various times and places. It is suspected that the number may be greater than is positively known at the present time, considering that many thousands appear on the plains to the south during migration. They were observed by the writer only once, when a flock of 30 was seen flying south-southwest over Sugar Creek on August 19, 1942.

Warden Schermerhorn stated that a number of years previously he had seen a pair during July near Rabbit Creek. In all probability these were breeding examples of G. c. tabida, now becoming very rare. The large flocks are composed of the abundant Arctic and sub-Arctic nesting race, G. c. canadensis.

46. Sora Rail. Porzana carolina (Linnaeus).

These rails were commonly heard during early July, 1940, in marshes along Spruce River from north of Township 54 to

Beartrap Lake. In some places their loud and unmistakable calls were among the most frequently heard sounds. They were also heard at the south end of Montreal Lake and along Sturgeon River. By 1946, the species was a comparatively common inhabitant of marshy tracts in many park localities. In fact, several were seen or heard in every large area studied. On June 6, 1946, a nest of the species, containing 10 eggs, was found by A. Cameron in bulrushes along the west shore of Namekus Lake. In all probability it nests throughout the park.

47. American Coot. Fulica americana Gmelin.

In early July, 1940, this species was observed daily along upper Spruce River, where attractive environmental conditions exist at several places. Coots were especially common in the marshy expansion above the dam southwest of Trappers Lake, where downy young were frequently seen. Numbers were present at the south end of Montreal Lake and at Hanging Heart Lake. The distribution of the species was very irregular, obviously depending upon the existence of marsh areas suitable for nesting.

During June, 1946, the birds were observed in every locality investigated. In most areas they were only moderately common, as very limited tracts had emergent aquatics sufficiently dense to meet nesting requirements. They were most numerous in Moose Bay, Crean Lake, and in the northern part of Amyot Lake. Nests were located as follows: Namekus Lake, June 5 and 6, four nests with 7, 7, 8, and 10 eggs, respectively; Moose Bay, June 8 and 10, two nests with 8 and 10 eggs respectively; and Hanging Heart Creek, June 13 one nest with 7 eggs. Hatching normally occurs

during the first week of July.

48. Semipalmated Plover. Charadrius hiaticula Linnaeus.

On June 5, 1943, one of these little plovers was seen on a sandy flat at the mouth of a creek flowing into the northeastern part of Crean Lake. As none had been noted during previous years this bird was regarded as a stray from the main line of migration, or possibly a lingerer. Only one other record was secured in the park, showing the infrequency of migration through ~~this~~ country. On June 9, 1946, two were seen together on the north shore of Crean Lake about two miles east of Moose Bay. They were clearly migrants stopping over for food and rest. Southward migrants usually appear in this latitude in late August.

49. Killdeer Plover. Charadrius vociferus Linnaeus.

The distribution of this species is fairly general in the park, but the total population is relatively small. It was seen in most areas studied, but was usually represented by a single pair or an individual. The large lakes usually had several pairs each, widely separated along the shore. Area for area, the species appeared to be most numerous at Namekus, Halkett, and Amyot Lakes. Its status was that of a breeding summer resident.

50. Black-bellied Plover. Squatarola squatarola (Linnaeus).

This species was repeatedly observed on sandy flats and spits at the north end of Crean Lake from June 5 to 9, 1943. Most groups consisted of two to four members, but one flock of eight was seen. The only other record is that of a solitary example seen at the north end of Namekus Lake on June 6, 1946. The species was obviously a very uncommon migrant within the park.

No data with respect to the southbound fall migration from the Arctic breeding grounds are available.

51. Ruddy Turnstone. Arenaria interpres (Linnaeus).

A small flock of five was observed at close range along the north end of Crean Lake on June 8, 1943. In this region the species is clearly a very uncommon migrant, as the above is the only record for the park.

52. Wilson's Snipe. Capella gallinago (Linnaeus).

In 1940 it was expected that this snipe would be found commonly distributed in most parts of the park, but only two were seen, individuals flushed from wet, grassy areas along a creek a few miles east of Nesslin Lake on July 16 and 18. In August, 1942, several were observed at Owen Lake and in the valley of Sugar Creek. During June, 1946, a great deal of travelling was done in the park but only a few were found, all these in the country adjoining the north shore of Crean Lake where they were often seen and heard making their nuptial flights. In June, 1946, five in all were seen, at Namekus Lake and Moose Bay, Crean Lake.

53. Upland Plover. Bartramia longicauda (Bechstein).

On June 28, 1946, a solitary example of this species was seen on a small prairie between Rabbit and Sugar Creeks. It is obviously very rare in the park, since this is the only record of occurrence.

54. Spotted Sandpiper. Actitis macularia (Linnaeus).

Macularia was infrequently but regularly observed along the shores of most lakes. Occasionally one was seen along the small tributary creeks and on the shores of islands in the

southern part of Crean Lake. As a result of extensive observations, it became clear that the species was thinly but widely distributed in the park, and was breeding along most lakes and streams. On June 16, 1940, a nest with four eggs was found at Kingsmere Lake; another nest, with a full complement of eggs was found near the south shore of Crean Lake on June 14, 1946.

55. Solitary Sandpiper. Tringa solitaria Wilson.

Solitaria was found to be far from common in the park and was rather capriciously distributed. On the whole, however, it was somewhat more numerous than any other summer resident wader. The species was noted along many lakes and streams throughout the park but tended to be most common in the north. No definite breeding record was obtained, but unquestionably it nests throughout the region. A pair observed at a muskeg pond northwest of Sanctuary Lake on July 11, 1940, were greatly excited and acted as though young were in the vicinity. Similar behaviour was noted in other cases during late June at Tibiska and Amyot Lakes.

56. Willet. Catoptrophorus semipalmatus (Gmelin).

On June 17, 1946, one of these birds was seen near the junction of Bagwa Lake and Pease Channel. The occurrence of the species so far north in the forest was a distinct surprise. The bird was obviously a rare wanderer from the plains to the south.

57. Lesser Yellow-legs. Totanus flavipes (Gmelin).

These waders were sparingly distributed throughout the region. Usually they were in pairs, but small flocks were

also seen occasionally during the breeding season. In 1946 they were moderately common at Namekus Lake during early June but after that only widely scattered individuals or pairs were observed. Except for two seen at Bagwa Lake, the species was not found in northern or central parts of the park between June 11 and 23. Several were seen during the last week of the month at Amyot Lake where there were some juveniles about two-thirds grown.

58. American Knot. Calidris canutus (Linnaeus).

On June 9, 1946, four of these birds were noted on a long sand and gravel spit on an island in the southern part of Crean Lake in association with a small flock of semipalmated sandpipers. This is the only record of occurrence in the park.

59. Baird's Sandpiper. Erolia bairdi (Coues).

Two were seen along the north shore of Halkett Lake on August 19, 1942. On June 5, 1943, a group of three was observed on a sand-flat with many pools of water, at the north end of Crean Lake, and two days later ten more were noted in the same place. On September 2, 1945, Lewis observed three in the southern part of the park.

60. Dowitcher. Limnodromus griseus (Gmelin).

A flock of five dowitchers was seen on June 10, 1943, on the shore of a small, semi-marshy bay in Crean Lake, a few hundred yards east of the channel leading to Hanging Heart Lake. This is the only record of occurrence in the park.

61. Stilt Sandpiper. Micropalama himantopus (Bonaparte).

One of this species was observed along the north-east shore of Moose Bay, Crean Lake, on June 11, 1946. It was

associating with a number of semipalmated sandpipers. Since this is the only record for the park, it is clear that extremely few of the species are found there even during migration.

62. Semipalmated Sandpiper. Ereunetes pusillus (Linnaeus).

One of this species was noted on the north shore of Halkett Lake on August 19, 1942, in company with two Baird's sandpipers. On each of the three days from June 8 to 10, 1943, a few were seen in a number of places along both the north and south shores of Crean Lake. A small flock of about two dozen was also observed on an island a couple of miles from the south end. A flock of eight was present at Namekus Lake on June 6, 1946, and, on June 11, two more were seen on the northeast shore of Crean Lake. The species appears to be an uncommon migrant through the park.

63. Sanderling. Crocethia alba (Pallas).

This species was first recorded in 1946. Specimens were collected on June 4 of that year at Namekus Lake, where several times one was seen feeding restlessly along the west shore. Two others were observed on the north shore of Crean Lake on June 9. No more were noted after that date.

64. Wilson's Phalarope. Steganopus tricolor Vieillot.

This species, too, was first recorded in the park during 1946. One was seen at Namekus Lake on June 4 and eight at Amyot Lake on June 24 and 25. There was no positive evidence of nesting but the pairing and general behaviour of the birds seen suggested that Amyot Lake might be a breeding-place of the species.

It breeds usually on the prairies, and would not be expected to nest farther north in central Saskatchewan.

65. Herring Gull. Larus argentatus Pontoppidan.

The herring gull is decidedly scarce in the park except at a few points, mostly in the north. During July, 1940, it was observed only at Halkett, Kingsmere, Crean, and Lavallee Lakes. The species was most numerous, though by no means abundant at Lavallee Lake, where gulls were nesting in close association with pelicans and cormorants. During investigations in 1942 and 1943, only a few scattered pairs and individuals were seen, in some of the areas mentioned and also at Hanging Heart and Montreal Lakes.

During June, 1946, this species was found in moderate numbers at Namekus, Crean, Bagwa, and Kingsmere Lakes and there was no evidence of nesting. The data for all the years indicated that the species was generally, though very sparsely, dispersed over most of the park and nested upon the islands of Lavallee Lake.

66. California Gull. Larus californicus Lawrence.

The erratic and sparse distribution of this gull in the park is clearly shown by the fact ~~that~~ nothing was seen of it there until June, 1946. At that time a few were noted about the islands and shore at the southern end of Crean Lake and at Bagwa Lake. It is uncertain whether the species nests in the park, and under the circumstances, it may be regarded as improbable that they do.

67. Ring-billed Gull. Larus delawarensis Ord.

In the course of investigations a few of these gulls

were seen irregularly at most of the larger lakes, particularly in the northern half of the park. The time and locality of occurrence varied greatly, suggesting that they were strays, rather than breeding residents.

In early June, 1943, they were fairly common at Crean Lake -- more so than at any other time or place. At one point along the north shore 12 birds were seen in one flock, resting on a low, sand and gravel point. At the mouth of the creek that enters the lake near its northeast corner, there is a sand flat over which the creek flows in several shallow rivulets to the lake. Many fish were dying in a vain effort to wriggle through the shallows into the deep water of the creek. Every day a number of ring-billed gulls frequented this flat to feed on the dead fish, in which they were joined by occasional herring gulls and many common crows.

No more than eight or ten were noted during June, 1946. They were somewhat more numerous than californicus, but less common than argentatus. No evidence of nesting was found in the park.

68. Bonaparte's Gull. Larus philadelphia (Ord).

This little gull was observed in many places east to Montreal Lake and north to Lavallee and Crean Lakes. It was nowhere found abundant, or even common. It was most frequently seen in the northern area, where it probably breeds. During all seasons the species was very scarce or entirely absent in most areas where field work was carried out. There were, however, a few notable exceptions; for example, in June 1946 they were seen

at Namekus and Bagwa Lakes in fair numbers. Most of these were small flocks, apparently non-breeders.

On September 1, 1945, Lewis observed 12 at Crean Lake.

69. Common Tern. Sterna hirundo Linnaeus.

On the whole, this tern occurs in very limited numbers. The 1940 records show that only a few were seen from July 11 to 13, while travelling from Waskesiu to Lavallee Lake, and via Crean Lake to Hanging Heart Lake. They were more numerous per unit of area at Lavallee Lake than elsewhere. They may have nested in or near the pelican-cormorant colony, as there were more of them there than elsewhere, but no nests or young were found. The largest number seen at one time was at Halkett Lake on July 14.

Observations in subsequent years showed that the status of the species remained about the same as in 1940. No definite breeding record was obtained.

70. Black Tern. Chlidonias niger (Linnaeus).

From 1940 to 1943 these terns were common along Spruce River and moderately common at the south end of Montreal Lake and around some small, marshy ponds and lakes in the southwestern part of the park. Fair numbers were also noted in favourable localities while travelling from Waskesiu Lake to Lavallee Lake. At Lavallee Lake they were seen rather frequently, but they did not seem to be actually abundant anywhere in the north. A few were present in marshes at Hanging Heart Lake.

The 1946 investigations revealed about the same dispersal and abundance. In a number of localities the species

was fairly common, especially at Namekus Lake, Moose Bay (Crean Lake), and Bagwa and Amyot Lakes. At all these lakes there are fairly large bulrush marshes suitable for nesting. At Namekus Lake a nest containing three eggs was found on June 6. On June 9 and 10 two nests, each with four eggs, were found at Moose Bay. One nest was located on top of an old muskrat lodge. At Bagwa Lake another nest with only two eggs, was noted on June 18.

71. Mourning Dove. Zenaidura macroura (Linnaeus).

On June 12, 1943, two of these doves were seen between the buffalo paddock and the southeastern park entrance. This was just enough to establish a record for the park, where they had not been seen previously. No other record of occurrence was obtained by the writer, but Warden Davis stated that in May, 1946, he saw a small flock of five in poplar-prairie country about a mile west of Sugar Creek and another southwest of there in the vicinity of Sturgeon River. Apparently the species is very rare but the evidence shows that it does occasionally visit the southern extremity of the park.

72. Great Horned Owl. Bubo virginianus (Gmelin).

This is a familiar, permanent resident of large areas of coniferous forests. It was heard or seen in practically all localities investigated. Little or no difference in relative abundance between northern and southern areas was noticeable, but there did appear to be marked variation in local occurrence. Many immatures were noted.

A winter observation was recorded by Banfield on January 7, 1947.

73. Snowy Owl. Nyctea scandiaca (Linnaeus).

This is a fairly regular visitor from the Arctic regions. It has been seen in various parts of the park by several, if not all, of the wardens. In some winters the influx is quite large, and the owls become common.

74. American Hawk Owl. Surnia ulula (Linnaeus).

Hawk owls were not seen in this region by the writer, but, according to the wardens, they enter the park from the north during winter, and they are reported as casual visitors in wooded country even in the south. There is a good possibility that they may occasionally nest in the rather inaccessible northern parts of the park, but as yet there is no positive evidence.

75. Short-eared Owl. Asio flammeus (Pontoppidan).

The only record of occurrence of this species in the park was obtained in the prairie-aspen grove country west of Sugar Creek on July 14, 1940. It seems very likely that an occasional pair nests in the southern, semi-open prairie country. The species appears to be no more than a rare summer resident in the park and adjacent country.

76. Nighthawk. Chordeiles minor (Forster).

This hawk was often seen on summer evenings, particularly in the south part of the park where it was definitely most numerous, although present in all localities as far north as Lavallee and Crean Lakes. It appeared to vary greatly in number in different localities.

In the early part of the season, before nesting commenced, nighthawks were common. In June, 1946, a flock of a

dozen was seen migrating north over Namekus Lake. In mid-summer they became scarcer, and seldom was more than one seen in a day.

77. Ruby-throated Hummingbird. Archilochus colubris (Linnaeus).

On August 25, 1942, one of this species was seen probing flowers in a window box at Warden Anderson's cabin near Kitigan Creek, close to the southern boundary of the park. The species has also been seen by the wardens at Rabbit Creek and near Tap Creek. Early in July a male was noted by the writer at Spruce River, southwest of Trappers Lake. It is said that one is occasionally seen at Waskesiu. During the summer of 1945 Warden Schermerhorn saw one on an island in the southern part of Crean Lake.

78. Belted Kingfisher. Megaceryle alcyon (Linnaeus).

This species is a well-distributed summer resident, and was observed in nearly all parts of the park where there were lakes and streams. It was nowhere common, and sometimes long distances were travelled without seeing any. It may have been a little more numerous in the south part of the park than in the north.

79. Yellow-shafted Flicker. Colaptes auratus (Linnaeus).

This species occurs in varying numbers throughout the park but was found somewhat more plentiful in the southern part where there are less coniferous woods. Over large areas the species appeared to be scarce. It was however, the commonest of the woodpeckers.

Evidently it was a widely dispersed summer resident throughout the park, as positive proof of nesting was obtained at Namekus, Bagwa, Kingsmere, and Amyot Lakes.

80. Pileated Woodpecker. Drycopus pileatus (Linnaeus).

This species is relatively rare and was seldom seen although dispersed throughout the park. It was hardly ever observed in the south, most of the sparse population being located north of Waskesiu Lake. Not more than eight or ten were actually seen during the investigations from 1940 to 1946. The few other records were based solely on the unmistakable calls of the birds.

Banfield observed one of these woodpeckers on February 3, 1949.

81. Yellow-bellied Sapsucker. Sphyrapicus varius (Linnaeus).

This woodpecker, too, appeared to be poorly represented in the park, although definitely more numerous than the next preceding species. It probably occurs throughout the park, but, perhaps fortuitously, not one was seen north of Ajawaan Lake or the southern part of Crean Lake. In large areas, even in the south, the species was not found. No doubt it nests wherever found in summer.

82. Hairy Woodpecker. Dendrocopos villosus (Linnaeus).

The occurrence and general distribution of this species was quite similar to that of the next preceding species, although it appeared to be slightly more numerous. It was certainly uncommon, as sometimes several days elapsed while travelling and observing without recording a single individual.

The species is a permanent resident throughout the entire territory and was seen by Banfield on several occasions in January, 1947, and February, 1949.

83. Downy Woodpecker. Dendrocopos pubescens (Linnaeus).

This woodpecker is relatively scarce in the park and only a few examples were recorded in any season. In 1942 not one was observed. The species is a permanent resident.

Banfield observed single individuals on January 6, 7, 8, 10, and 15, 1947; two on January 9, 1947; and four on February 3, 1949.

84. Arctic Three-toed Woodpecker. Picoides arcticus (Swainson).

Only insignificant numbers of this species appeared to inhabit the park. They were observed in 1940 only, and then in small numbers. Several were seen during early July in coniferous woods along Spruce River; one on July 11 near Sanctuary Lake; and two during mid-July in spruce-poplar woods a few miles east of Nesslin Lake. Evidently some factor affected the subsequent numerical status of the birds as not one was noted after 1940 although a careful watch was kept for them. Those seen in July, 1940, were supposedly local residents.

Banfield reported observing single individuals on January 7 and January 11, 1947.

85. American Three-toed Woodpecker. Picoides tridactylus
(Linnaeus).

A solitary male was seen in heavy coniferous forest near the north shore of Kingsmere Lake on June 16, 1946. No other record of occurrence in the park was obtained.

86. Eastern Kingbird. Tyrannus tyrannus (Linnaeus).

This kingbird appeared to be a common or fairly common summer resident throughout the region but its abundance clearly fluctuated from one district to another. It was definitely

more numerous south of Waskesiu Lake than north of it. According to the daily records there was even an observable difference in numbers between the north and south ends of Crean Lake, the birds being somewhat more common in the latter locality. They are seen oftener in the southern extremity of the park than elsewhere. Several nesting records were secured during the course of the investigations.

87. Crested Flycatcher. Myiarchus crinitus (Linnaeus).

A new record for the park was established on June 16, 1946, when one of these birds was identified along the trail between Kingsmere and Ajawaan Lakes. It is very rare in this latitude and well beyond its normal range.

88. Eastern Phoebe. Sayornis phoebe (Latham).

This species is an uncommon summer resident in the park with distribution so thin that apparently it is absent from large areas. In 1940 only one was observed, on July 10 between Waskesiu and Nikik Lake. None of the species was recorded in 1942 or 1943. In 1946 it was noted only at the south end of Crean Lake, at the townsite of Waskesiu, and at Halkett Lake. A freshly constructed nest (evidently completed) was found on June 12 at the warden cabin at Crean Lake but it contained no eggs. Two birds were very active in the vicinity and occasionally visited the nest.

89. Alder Flycatcher. Empidonax traillii (Audubon).

Traillii is a fairly common summer resident. It was frequently noted in early July, 1940, along Spruce River and Cowan and Beartrap Creeks. At that time the males were still calling. Most were seen in semi-swampy willow and alder areas near

streams and ponds. Occasionally one was heard or seen in small tracts of black spruce muskeg. In mid-July they were heard calling at wide intervals in the western part of the park. On July 16 a nest was found near a pond in the western part of Township 57, Range 5, in a willow four feet from the ground. It was constructed of both coarse and fine grasses, and contained three young about two days old.

In subsequent seasons the species was ascertained to be well represented and widely dispersed throughout the park. Its characteristic calls were among the most familiar bird voices of the wilderness. On June 25, 1946, a nest containing two eggs was found at Amyot Lake.

90. Least Flycatcher. Empidonax minimus (Baird and Baird).

This little flycatcher was fairly common in poplar woods in most parts of the park, especially southward from Namekus and Amyot Lakes. In early July, 1940, it was frequently observed in southern localities and was still in full song. It seemed to be much less numerous in the north, probably because there is more spruce and less poplar.

On June 25, 1946, a nest with a full complement of eggs was found at Amyot Lake.

91. Western Wood Pewee. Contopus richardsonii (Swainson).

One of this species was heard on June 4, 1942, in spruce-poplar woods close to the north end of Hanging Heart Lake, and another was noted near the same place on June 10. All the other records were obtained in June, 1946, when singing males were heard at Namekus, Crean, and Amyot Lakes. It is obvious

that richardsonii is represented by a very thinly spread population.

92. Olive-sided Flycatcher. Nuttallornis borealis (Swainson).

During July, 1940, these birds were observed only along Spruce River, westward from Trappers and Namekus Lakes, where they were fairly common. Their loud calls were frequently heard issuing from willow - coniferous tracts along the river and from spruce-grown muskegs here and there throughout the district. The species was not observed in 1942, and in 1943 only one was recorded -- a singing male near the north shore of Crean Lake on June 8.

In 1946 there appeared to be very few of these birds in the park. In all the localities visited during June only six were recorded. These were 'singles' seen at Namekus, Crean (north and south ends), Hanging Heart, Kingsmere, and Bagwa Lakes.

93. Horned Lark. Eremophila aspestris (Linnaeus).

A few horned larks migrate through the park in April and in autumn. None was seen during the summer months. This was contrary to expectations, as it was supposed that E.a. enthymis (Saskatchewan horned lark) would be found nesting on the scattered prairielands between Sugar and Rabbit Creeks.

On September 2, 1945, Lewis recorded 15 horned larks, some at Waskesiu and some along the highway leading south from that place. The next day he observed 18 between Waskesiu and the north boundary of the park.

94. Tree Swallow. Iridoprocne bicolor (Vieillot).

The tree swallow is well distributed in the region,

but it occurs only sparingly in the greater part of the country, with distinct variation in numbers in different localities. More were seen between Spruce River and Amyot Lake than farther north. These birds breed throughout the park.

95. Bank Swallow. Riparia riparia (Linnaeus).

This species was observed but once within the park: several were seen on an afternoon in July, 1940, in the vicinity of Halkett Lake. These may have been non-breeding transients, as no nesting site was discovered.

96. Barn Swallow. Hirundo rustica Linnaeus.

The only record of the occurrence of this species in the park was established in late June, 1946, when a pair was observed flying about the buildings of warden headquarters at Sturgeon River Crossing near the southern boundary. They were nesting at this point, and had nested there previously.

On September 2, 1945, Lewis observed a pair of barn swallows nesting on the warden's cabin at Sturgeon River Crossing. Both adults were in ragged plumage and had scarcely any fork in their tails. The nest was on the outside of the cabin, close under the eaves at one end of the ridgepole. The heads of two young projected over the rim of the nest and were visible from the ground. This was said to be a second nesting, after loss of the first.

97. Purple Martin. Progne subis (Linnaeus).

The purple martin is another bird that is scarce in the park. It was found to be apparently restricted to the south part. The records secured were: one at upper Spruce River, July 7,

1940; one at Sugar Creek, August 24, 1942; and two pairs at Amyot Lake, late June, 1946. In the last case the birds were nesting; the nest of one pair was discovered in an abandoned woodpecker cavity in a tree near the west shore of the lake."

98. Canada Jay. Perisoreus canadensis (Linnaeus).

Canadensis is a moderately common permanent resident that was observed daily in every part of the park investigated. It was somewhat more common at Moose Bay, Crean Lake, and in the Bagwa-Lily-Kingsmere Lakes district, than elsewhere. These jays are certainly more numerous in the areas of heavy coniferous forest in the north than in the more open sections of aspen parklands and prairies of the south. Dark, slaty-grey immatures were often seen.

Frequent winter observations were recorded by Banfield in 1947 and 1949.

99. Blue Jay. Cyanocitta cristata (Linnaeus).

During the investigations of 1940 and 1942, blue jays were observed only in the extreme southern part of the park, especially between Halkett Lake and the west boundary. Throughout the country west of Sugar Creek, the birds were as common as Canada jays. In later years, eight were seen farther north, at Waskesiu, Hanging Heart, Crean, and Bagwa Lakes.

Banfield observed 11 blue jays in January, 1947.

100. American Magpie. Pica pica (Linnaeus).

The magpie is confined almost altogether to the

southern part of the park. It is fairly common in some places, but occurs only casually in others. The northern limit of its range in the park appeared to be roughly in the latitude of Halkett and Amyot Lakes. Warden Schermerhorn stated, however, that one was seen at the south end of Crean Lake in the autumn of 1945. Magpies have invaded the park in recent years, doubtless as a result of settlement of the country to the south.

Eight of these birds were seen by Banfield in January, 1947, and two in February, 1949.

101. Northern Raven. Corvus corax Linnaeus.

This species is a widely distributed permanent resident, typical of the northern coniferous forest. It was nowhere common, pairs being scattered over the territory at wide intervals. It was noted occasionally in nearly all localities investigated. This species was observed in winter by Banfield in 1947 and 1949.

102. Eastern Crow. Corvus brachyrhynchos. Brehm.

Crows occur throughout the park, but for the most part they are very thinly distributed. Generally, only scattered individuals or pairs were seen in northern and central areas, but perceptibly larger numbers were recorded in the south, as from Halkett Lake westward to Amyot Lake. Only two nests were located, both in southern areas, but the species is doubtless a regular, if infrequent, summer resident throughout the region.

103. Black-capped Chickadee. Parus atricapillus Linnaeus.

Only moderate numbers of these chickadees inhabit

the park, where they are permanent residents. Seldom were more than one or two per day seen during the investigations. There appeared to be about the same number of them in the south as in the north, and they were about equally common in coniferous forest and in aspen woods.

Banfield observed 24 of this species in January, 1947, and 10 in February, 1949.

104. Hudsonian Chickadee. Parus hudsonicus Forster.

These birds are by no means numerous, but they are about twice as common as the next preceding species. They were seldom observed anywhere in the southern part of the park, but they were seen at Waskesiu and at all the lakes to the westward and northward that were visited. They appeared to be somewhat commoner at Bagwa and Lily Lakes than elsewhere. The species inhabits the park throughout the year and was seen by Banfield in 1942 as follows: January 6, 1; January 7, 5; January 8, 3; January 9, 5; January 10, 3; January 15, 3. On February 3, 1949, he saw 25.

105. White-breasted Nuthatch. Sitta carolinensis Latham.

Only one of this species was seen by the writer, on June 7, 1943, in the woods on the long point that projects into the northeast extremity of Crean Lake. Three were seen on February 3, 1949, by Banfield. There are no other records of this species in the park, which appears to lie at the extreme northern limit of its range in central Saskatchewan.

106. Red-breasted Nuthatch. Sitta canadensis Linnaeus.

The red-breasted nuthatch occurs in approximately

the same numbers as the hudsonian chickadee, with practically the same distribution. The species was seen most frequently in the Moose Bay (Crean Lake) area and in the district embracing Bagwa, Lily, and Kingsmere Lakes. Notably few were found farther south, where there is less coniferous forest. Most, if not all, of these birds desert the park during the winter months. At the time of migration the birds become more numerous. Northward migration takes place about mid-April, and the autumn migration is prolonged through October and sometimes into early November.

107. House Wren. Troglodytes aëdon Vieillot.

In 1940, two of these birds were observed along upper Spruce River between July 5 and 8, and one at Montreal Lake on July 10. On the 14th one was **heard** singing along the Sturgeon River south of Kiyam Lake. In 1942 and 1943 only a few scattered individuals were observed south and west of Waskesiu. During June, 1946, the species was recorded at Waskesiu townsite and at Namekus, Bagwa, Lily, and Amyot Lakes. None was seen at Hanging Heart, Crean, and Kingsmere Lakes from June 7 to 16. It was **clearly** more numerous in the southern part of the park than farther north. On June 27, a nest containing juveniles hatched only a few days previously was found at Amyot Lake.

108. Winter Wren. Troglodytes troglodytes (Vieillot).

It was anticipated that the winter wren would be plentiful in the park, but it was everywhere scarce or absent. Only one was recorded in 1940, on the edge of a spruce muskeg west of Amyot Lake, and it would not have been noticed had it not been heard singing. No more were seen until 1946. In that year it was

still very rare and only two were seen during June. Both were singing males, one near the south end of Crean Lake and the other in the vicinity of Ajawaan Lake.

109. Long-billed Marsh Wren. Telmatodytes palustris (Wilson).

This species was not noted in the park until June 6, 1943, when a singing male was observed in a small marsh along the north shore of Crean Lake. A few additional records were secured in June, 1946. During that month the species was seen in bulrush-cattail tracts at Namekus and Amyot Lakes, and also in the marshy channel connecting Crean and Hanging Heart Lakes. Empty newly-built nests were discovered in the latter area on June 13 and 14.

110. Catbird. Dumetella carolinensis (Linnaeus).

In June, 1946, two of these birds were recorded near each of Namekus, Halkett, and Amyot Lakes. These are the only records of occurrence in the park as none were secured in previous years. The species was obviously scarce and confined to the south part of the park. It is assumed that the birds were nesting in the localities where they were observed.

111. Eastern Robin. Turdus migratorius Linnaeus.

In 1940 very few robins were seen, despite close examination of large areas. Similar results were obtained during August, 1942, when field work was chiefly concentrated in the south, from Sugar Creek westward. In 1943 there were even fewer of them in the Hanging Heart-Crean Lakes district.

In June, 1946, robins were rather generally dispersed, but were noticeably more common in southern than in northern areas. They were scarcest in the Crean-Kingsmere-Bagwa Lakes district and

commonest in the country from Halkett Lake westward to Amyot Lake and Sturgeon River. At best, the species was nowhere very numerous. Spotted immatures just able to fly were seen at Amyot Lake on June 24 and 25. Young which were larger and also stronger in flight were noted at Waskesiu a few days later.

112. Hermit Thrush. Hylocichla guttata (Pallas).

The data secured indicate that guttata ranks as the second most common thrush in the park. The species was heard and seen infrequently in practically all spruce and spruce-poplar areas north to Lavallee and Crean Lakes. Its beautiful song is one of the main ornithological attractions of the boreal forest during the nesting season. It was generally distributed, but most of the population appeared to inhabit central and northern localities; even there, however, dispersal and abundance were irregular.

113. Olive-backed Thrush. Hylocichla ustulata (Nuttall).

This is the commonest thrush of the park, where it occurs in moderate abundance. Distribution is general, and less variable than that of guttata, although close study revealed a clear preference for certain localities. Singing males and other individuals were seen in every locality investigated and also at many points en route. They were found to be much less numerous in the extreme southern part of the park than farther north.

114. Mountain Bluebird. Sialia currocoides (Bechstein).

During the investigations of 1940 nothing was seen of this species, but on August 18, 1942, a flock of about 50 in post-breeding movement was noted close to the southeastern corner

of the park. Four days later a flock of four was seen on the prairie east of Rabbit Creek.

Only a few were observed during June, 1946. One was recorded at the buffalo enclosure near the southeast gate-house on June 3; the others at Amyot Lake and between that point and Sugar Creek during the last week of the month. The species was not found elsewhere in the park, but a few migrants probably visit the northern part in early spring and autumn.

115. Golden-crowned Kinglet. Regulus satrapa Lichtenstein.

On June 10, 1942, a small flock of these diminutive birds was observed in coniferous forest between Crean and Hanging Heart Lakes. A few were seen in heavy coniferous forest at Moose Bay, Crean Lake, on June 8 and 9, 1946. These are the only records for the park, showing that the species is among the rarer members of the avifauna.

116. Ruby-crowned Kinglet. Regulus calendula (Linnaeus).

These birds are fairly common and are usually well distributed in the region. They were found more common in spruce-grown muskegs north of Crean Lake than in any southern locality, but fair numbers were observed and heard singing in every large area investigated, except at Amyot Lake and in the prairie-park-lands to the southeast of that lake. The males were very vocal in June and early July and, in some coniferous woods their delightful songs were nearly always audible. On June 22, 1946, A.W. Cameron located a nesting pair at Waskesiu. The nest was situated near the end of a long spruce bough about 20 feet from the ground; its contents were not seen. The records show that this species is at least 20 times as numerous as satrapa.

117. Pipit. Anthus spinoletta (Linnaeus).

On September 2, 1945, Lewis observed a flock of 12 pipits on the pier at Waskesiu.

118. Bohemian Waxwing. Bombycilla garrulus (Linnaeus).

Owing to the fact that the investigations were carried on in summer this species was not observed in the park by the author, but limited information and a knowledge of occurrences in nearby localities clearly indicate that it occurs in the park as an irregular winter resident.

119. Cedar Waxwing. Bombycilla cedrorum Vieillot.

This waxwing is widely and rather commonly dispersed as a summer resident in the park, and was frequently recorded in all localities. It is not uncommon in northern areas, but the largest numbers were noted in territory south of the latitude of Kingsmere Lake. In addition to mated pairs, many small flocks were seen during June and July. These were tardy nesters that, in this latitude, apparently do not settle down to nesting until late June, or early July.

120. Northwestern Shrike. Lanius excubitor Linnaeus.

This species was not observed in the park by the writer. It is not likely to nest so far south, but there is not the slightest doubt that it occurs as a migrant or winter visitor from the north. When the wardens stated that "butcher birds" were sometimes noted in late fall or winter they undoubtedly referred to this species, as the white-rumped shrike (L.e. excubitorides) has not yet been recorded in the park.

121. Blue-headed Vireo. Vireo solitarius (Wilson).

A single example, the only one observed that season,

was seen at Sanctuary Lake on July 11, 1940. None was found in 1942 or 1943. On June 14, 1946, a singing male was collected near the south end of Crean Lake and later in the month a few others were recorded at Bagwa, Lily, Kingsmere, and Amyot Lakes. It seemed that the species was an uncommon summer resident.

On September 3, 1945, Lewis observed one of this species in song near Waskesiu.

122. Red-eyed Vireo. Vireo olivaceus (Linnaeus).

This is a common and widely distributed species and by far the most numerous of the vireos. It was recorded regularly in all parts of the park visited. It seemed to be most abundant around the southern end of Crean Lake, at Waskesiu, Hanging Heart, Kingsmere, and Bagwa Lakes, and from Waskesiu south to the southeastern extremity of the park. The birds sang very actively during June and most of July. The species clearly favoured forest of unmixed poplar or with a minimum of conifers.

123. Warbling Vireo. Vireo gilvus (Vieillot).

This species is relatively rare in the park and is very seldom observed. The few that occur appear to be confined to the southeastern part of the park. In early July, 1940, two or three were noted in that locality. On June 3, 1946, a solitary male was heard singing in deciduous woods between the southeastern gate and Halkett Lake. The species is assumed to nest in that area.

124. Black and White Warbler. Mniotilta varia (Linnaeus).

While varia was moderately common in some localities and was observed in practically all parts of the park, it cannot be regarded as being more than sparingly distributed. Little or not

difference in its numbers between northern and southern areas was noted.

125. Tennessee Warbler. Vermivora peregrina (Wilson).

These birds occurred in fair numbers almost everywhere throughout the region. They were recorded as more than usually common around Crean, Hanging Heart, Kingsmere, and Waskesiu Lakes. In some areas the singing was almost incessant and constituted the dominant bird song. This is undoubtedly the most abundant of the summer resident warblers.

126. Orange-crowned Warbler. Vermivora celata (Say).

Two of these warblers, one of which was singing, were seen in early July, 1940, along Spruce River and Cowan Creek. Nothing was seen of the species in 1942 and 1943, but it was again observed in 1946, when a singing male was found at Namekus Lake on June 5 and another at Amyot Lake on June 27. Occurrence at the latter date clearly indicated local breeding as did the occurrences of July, 1940. Undoubtedly the species is much more numerous as a migrant than a summer resident, since it nests commonly over a very large region farther north. It would appear that the park is on the southern limit of its breeding range.

127. Nashville Warbler. Vermivora ruficapilla (Wilson).

So little was seen of this warbler that it may be safely listed among the rarer birds of the park. Only four records of occurrence were obtained, as follows: July 7, 1940, Cowan Creek; July 10, 1940, Beartrap Creek; August 23, 1942, Sugar Creek; and June 6, 1946, Namekus Lake. All refer to single individuals. As will be noted, all four occurrences were in the southeastern and

south-central parts of the park, and there was no evidence of occurrence farther north or west. No nests were discovered, but the birds presumably breed wherever found during mid-summer.

128. Yellow Warbler. Dendroica petechia (Linnaeus).

This is a familiar summer resident, with a marked preference for shrub-grown forest fringes along streams and lakes. The population density is greatest in the south and falls off very noticeably in central areas. In the north the species is seen only at relatively wide intervals and in a number of well-investigated localities none were recorded.

129. Magnolia Warbler. Dendroica magnolia (Wilson).

During late May and early June this warbler is fairly common, but as a summer resident it appears to be rather rare. After the migration period it was only casually seen except in a few localities. The records plainly reveal that the species is rare or absent in the south and prefers the coniferous forest areas farther north.

130. Cape May Warbler. Dendroica tigrina (Gmelin).

During June, 1946, one or two of this species were seen daily at Crean, Bagwa, Lily, and Kingsmere Lakes. It was identified chiefly through the rather weak, though distinctive, songs of the males. Others were heard singing at Amyot Lake on June 26 and 27. Strangely enough, the species had not been observed in the park on earlier visits.

131. Myrtle Warbler. Dendroica coronata (Linnaeus).

These warblers were observed practically everywhere during the investigations. The species may be said to be common

or fairly common, but not as numerous as the Tennessee warbler. The myrtle warbler and the black and white warbler have about the same status in some areas, but coronata is definitely more numerous in most places. Immatures were often noted. The species favours spruce-covered muskeg areas and adjoining mixed forest during the breeding season, but after that wanders widely in all types of forest, including tracts of Banksian pine.

132. Black-throated Green Warbler. Dendroica virens (Gmelin).

It was an agreeable surprise to find this species during the investigations of June, 1943, as it had not previously been recorded in the park. The first individual was observed near the north end of Hanging Heart Lake on June 4, while travelling north to Crean Lake. Except for its highly characteristic song, its presence would have been overlooked. A circuit of Crean Lake was made, and no more were observed until the south end of the lake was again reached, when another of the species was identified by its song. On June 10 three different individuals were heard or seen in woods between Crean and Hanging Heart Lakes and a specimen was secured. On June 12 a male was heard singing near the highway a short distance south of the Bluebell Divide.

On June 13, 1946, two singing males were heard in the same woods, between Crean and Hanging Heart Lakes, where the species was first recorded in 1943. On June 19, another singing male was observed on the portage trail between Lily and Clare Lakes.

133. Blackburnian Warbler. Dendroica fusca (Müller).

Several of this species were observed at the south end of Crean Lake and at Hanging Heart Lake, June 9 to 11, 1943.

One was collected on the 10th. The males were then in full song. During the investigations of June, 1946, it was seen or heard singing only at the south end of Crean Lake and near Ajawaan and Bagwa Lakes. It seemed more numerous than elsewhere along the southwest shore of Crean Lake, where two specimens were collected in mid-June. Not more than eight or ten were observed during the entire month.

134. Bay-breasted Warbler. Dendroica castanea (Wilson).

This species was first noted on June 5, 1943, when three singing males were seen along the north shore of Crean Lake. The species was not again observed until June 10, when two singing males were seen and one collected near the south shore of the lake. During June, 1946, the species was found in only three localities: the south end of Crean Lake; the Bagwa-Lily Lakes area; and along Kingsmere River. One was collected at Crean Lake on June 12. The species has about the same numerical status as D. fusca.

135. Black-poll Warbler. Dendroica striata (Forster).

This warbler was first noted at the north end of Crean Lake on June 5, 1943, when a pronounced migration of warblers to the north took place. The males were then in full song (as were those of most other species) and occurred in fair numbers. They were not as numerous as myrtle warblers, but about as numerous as magnolia warblers. A specimen was collected on June 8. Only one was seen at the south end of Crean Lake between June 9 and 11, and none thereafter while observing farther south.

Although much time and effort was devoted to checking the migrating and resident warblers, only four singing male black-poll warblers were observed during the whole of June, 1946. One

was seen at Namekus Lake and the others at the north and south ends of Crean Lake. This species was not observed elsewhere.

136. Palm Warbler. Dendroica palmarum (Gmelin).

Palmarum was commonly observed from Spruce River eastward to Montreal Lake and northwest to Lavallee Lake from July 5 to 12, 1940. The species was not seen later in the month anywhere in the extreme south, nor along the western side of the park. It was heard singing daily during the early part of July. Only a few scattered examples were noted in August, 1942 in the Sugar Creek and Rabbit Creek areas and the same held true for the Crean Lake district in June, 1943. During June, 1946, it was recorded as one of the scarcest of the warblers. Only two were observed; both of these were singing males, at Moose Bay, Crean Lake, on June 10 and 11.

137. Oven-bird. Seiurus aurocapillus (Linnaeus).

The oven-bird was seen and heard singing almost daily in all parts of the park investigated except around Bagwa and Lily Lakes. While the species is by no means abundant, it is rather generally and more or less evenly distributed, with little or no appreciable difference in abundance in northern and southern areas. It appeared to inhabit only those woods which were semi-open, or at least not too dense, and in which poplars predominated; thick coniferous woods were normally avoided.

138. Water-thrush. Seiurus noveboracensis (Gmelin).

This conspicuous bird, with its clear and startling song, may be called a rather common summer resident. It was often seen or heard in most parts of the park north to Lavallee, Crean,

and Tibiska Lakes, where streams and lakes offered suitable habitat. This species and the next preceding species seemed to occur in about equal numbers. Owing to wide variation in environment noveboracensis was much more numerous in some localities than in others.

139. Connecticut Warbler. Oporornis agilis (Wilson).

The Connecticut warbler is a typical inhabitant of the spruce and tamarack bogs and swamps of the north woods, and is also found in willow-alder thickets along streams and lakes. While it is generally dispersed in suitable situations throughout the park, occurrence is very spotty, and the population density is consequently low. Nevertheless, it is often observed in some areas, where its loud and unmistakable "free chappel" songs are among the most striking sounds of the northern forest. The song period extends from late May through June and most of July.

140. Mourning Warbler. Oporornis philadelphia (Wilson).

This warbler was not found in the park until June 10, 1943, when two males were seen in heavy woods along the south shore of Crean Lake. Despite its distinctive and easily recognized song, it was not again identified in 1943. This is strange and incomprehensible, seeing that in June, 1946, the species was sparingly recorded in all parts visited except around Moose Bay, Crean Lake and Amyot Lake. At that time, the total population was apparently about the same as that of the oven-bird and that of the Connecticut warbler.

141. Yellow-throat. Geothlypis trichas (Linnaeus).

During July, 1940, this species was more or less

common in the southern part of the park, but much less so in the north. It was most frequently seen and heard singing along Spruce River, Cowan and Beartrap Creeks, and east to Montreal Lake. The species was also recorded several times in country east of Nesslin Lake.

Observations in 1942, 1943, and 1946 confirmed the conception of distribution in the park obtained in 1940. Of all localities visited during June, 1946 those in which the species was most frequently recorded were in the south between Sugar Creek and Amyot Lake. The greatest density of all was found around Amyot Lake. Elsewhere the species appeared to be thinly and irregularly, although generally, distributed.

142. Wilson's Warbler. Wilsonia pusilla (Wilson).

This warbler was not found in the park until June 5, 1943, when a solitary male was noted at the northeastern extremity of Crean Lake. Another was seen on June 7 along the margin of a black spruce muskeg flanking the Tibiska Lake trail. On June 8 three more were observed at various points along the northeast shore of Crean Lake. At that time a pronounced northward movement of various species of warblers was in progress. The species was not seen again in that year, nor during 1946. These observations suggest strongly that the species occurs in the park only as a very infrequent migrant, but this does not exclude the possibility that a few scattered pairs nest in the extreme north.

143. Canada Warbler. Wilsonia canadensis (Linnaeus).

The records obtained show that the occurrence of

this warbler in the park is rare and localized. Only two were positively identified in 1940. One was observed on July 11 between Lone Island and Sanctuary Lakes, and another on the following day in spruce-tamarack lowlands near the west shore of Lavallee Lake. In 1942, it completely eluded observation, but in early June, 1943, two singing males were recorded near the north shore of Crean Lake.

Throughout June, 1946, not one was seen, although much northern country similar to that in which the species was found in 1940 and 1943 was covered. Perhaps it is to be regarded chiefly as a rare migrant, although the birds noted in July, 1940, were undoubtedly nesting where found. It is highly probable that the species breeds sparingly throughout the northern end of the park.

144. American Redstart. Setophaga ruticilla (Linnaeus).

The investigations of July, 1940, and August, 1942, revealed the presence of only a moderate number of these birds, chiefly in the Spruce River Valley and along Cowan Creek. Strangely enough none was observed farther north or northwest. In early June, 1943, however, they were found to be about as numerous and widespread as myrtle warblers in the Crean Lake district -- that is, locally common to abundant. Elsewhere, and especially farther south, the species was seldom seen.

Evidently something was amiss in June, 1946, as redstarts were almost totally absent. Only one was observed during the whole of that period, a male associating with groups of other migrating warblers at Namekus Lake on June 5. These circumstances

appear to be significantly related to a statement by Warden Jervis that a large number of warblers perished in this region during a heavy snowfall and cold weather in early June, 1945.

145. English Sparrow. Passer domesticus (Linnaeus).

This introduced species was not observed by the author, but it is reported to occur casually about buildings in the southern end of the park. On neighbouring farmlands outside the park the species is widely distributed and not uncommon.

146. Western Meadowlark. Sturnella neglecta Audubon.

On June 26 and 27, 1946, two different individuals of this species were observed on separate isolated prairies immediately west of Amyot Lake. Both were singing males, presumably nesting where seen. Another was noted on the following day on a small prairie between Fox and Rabbit Creeks. These are the only records for the park.

147. Yellow-headed Blackbird. Xanthocephalus xanthocephalus (Bonaparte).

During the 1946 investigations two small colonies of these blackbirds were discovered in the park in a place where the species had not been recorded previously. Both of these colonies were located in "islands" of bulrush at Moose Bay, Crean Lake, one near the head of the bay, where 18 adults of both sexes were seen, and the other, with 12 inhabitants, in a smaller patch of emergent growth at the southeastern entrance to the bay. The birds were presumably on their nesting grounds, although up to the time of leaving Moose Bay on June 11 no evidence of nest-building was noted.

148. Red-winged Blackbird. Agelaius phoeniceus (Linnaeus).

In the greater part of the park this species is a

common summer resident and in some particularly favourable marsh areas it is abundant. It was especially numerous in bulrush tracts at Namekus Lake and Moose Bay, Crean Lake, and in marshy channels between Bagwa and Lily Lakes and between Bagwa and Kingsmere Lakes. Evidence of breeding was found in all these localities.

Among several nests with eggs noted at Namekus Lake, one contained two young just hatched on June 5, showing that some pairs breed early. Many nests at Namekus Lake and at Moose Bay contained from one to five eggs. On June 13, a nest at Hanging Heart Lake contained four juveniles well-grown and partly feathered. Immature red-wings were first noted in flight at Bagwa Lake on June 18. Later, many young in the same locality and in several other places were seen learning to fly.

149. Baltimore Oriole. Icterus galbula (Linnaeus).

This species was not identified in 1940. A single individual was noted flying south on August 24, 1942, a short distance northwest of Palsen Lake. On June 26, 1946, two were seen along the west shore of Amyot Lake and next day a male was seen along the road between Rabbit and Sugar Creeks. These are the only known records of occurrence in the park.

150. Rusty Blackbird. Euphagus carolinus (Müller).

This blackbird was observed in the park only on July 11 and 12, 1940, when several were seen between Kingsmere and Sanctuary Lakes, and a few others at Lavallee Lake. Their presence at that season indicated breeding activity, but curiously enough the birds were never observed again within the park. Probably they are

common as migrants in early spring and late autumn.

On September 2, 1945, Lewis observed five in the southwest part of the park. The next day he recorded five between Waskesiu and the north boundary.

151. Brewer's Blackbird. Euphagus cyanocephalus (Wagler).

This species is rare in the park. Between August 22 and 24, 1942, four were observed along Sugar Creek, two of them together. In early June, 1946, a pair was seen near the buffalo compound in the southeastern corner of the park, and, late in the month, another pair in semi-open country a few miles north of Owen Lake. It is to be noted that all of these occurrences are confined to the extreme southern part of the park which suggests that this is the local northern limit of breeding in central Saskatchewan.

152. Bronzed Grackle. Quiscalus versicolor Vieillot.

These birds were recorded fairly often in the Spruce River district during early July, 1940. In the Kingsmere-Lavallee Lakes area the species was not observed. On July 13 a pair was seen near Chipewyan Lake. Two days later another pair was observed at a woodland pond several miles east of Nesslin Lake. In most parts of the country the birds seemed to be either scarce or absent.

In 1942 and 1943 only a few scattered pairs and individuals were seen between Halkett Lake and Bluebell Divide and at the townsite of Waskesiu.

During June, 1946, one or two pairs were noted with fair frequency in some localities. They were not seen in the south, except at Amyot Lake, but were observed daily at Moose Bay

and other points along the north shore of Crean Lake. A few others were noted at Hanging Heart Lake, Waskesiu, and Kingsmere River. No breeding data were obtained, but there is good circumstantial evidence that the species nests sparingly in many localities in the park.

153. Cowbird. Molothrus ater (Boddaert).

During the earlier periods of investigation in the park this species was seen seldom and chiefly in the south, which suggested that this was the local northern limit of its range. In 1946, however, it was common north to at least Namekus Lake. For several days, from June 3 to 6, cowbirds inhabited the west side of this lake in dozens. Suddenly they disappeared and not one was recorded again until June 22, when a solitary individual was noted at Waskesiu. Subsequently two were seen at Amyot Lake and another on a small prairie west of Sugar Creek. In early June, 1943 a few were found as far north as the country lying between Crean and Tibiska Lakes. At all other times the species appeared to be consistently rare or absent in the northern part of the park.

154. Western Tanager. Piranga ludoviciana (Wilson).

This showy bird was not seen during the investigations in 1940, 1942, and 1943. In view of its characteristic song and ease of identification, it should have been easily found if present, although in the light of later observations it is difficult to believe that it was not.

During June, 1946, it was seen in two localities, the southern extremity of Crean Lake and the general vicinity of

Kingsmere Lake. Three were recorded in the former locality and six in the latter, at different places along several miles of trail north to Ajawaan Lake and flanking the northeast angle of Kingsmere Lake. The birds were not seen elsewhere in the park, and appeared to have a very localized distribution. For this reason they might well be difficult to find.

155. Rose-breasted Grosbeak. Pheucticus ludovicianus
(Linnaeus).

The data clearly revealed that this grosbeak was sparsely and erratically distributed. In July, 1940, only one was recorded, a male in the southeast corner of the park, near the mouth of Bell Creek. On June 4, 1943, two widely-spaced singing males were heard -- one south of Halkett Lake, and the other a few miles to the north. Three others were noted on the 8th and 9th along the north shore of Crean Lake. In 1946 the species was recorded only once, when a male was heard singing at Namekus Lake on June 5. While no nest was found in the park, the birds may be regarded as rather **rare** breeders therein.

156. Evening Grosbeak. Hesperiphona vespertina (Cooper).

A solitary example of this species was seen and heard along the northeast shore of Crean Lake on June 5, 1943. No other occurrence was recorded by the writer. Park personnel report that numbers invade the region during the late autumn and the winter. Nesting in the park is possible, but uncertain in view of the known rarity of occurrence during the breeding season.

157. Purple Finch. Carpodacus purpureus (Gmelin).

This finch was observed so infrequently that its

status as a breeder is somewhat in doubt; the few inhabiting the park may well have been non-breeding stragglers. A very few were noted in mid-July, 1940, between Kingsmere and Lavallee Lakes; in early June, 1946, at Waskesiu and Namekus Lakes; and late in the same month at Amyot Lake. Three singing males were present in the last instance.

158. Pine Grosbeak. Pinicola enucleator (Linnaeus).

This species was not observed in the park during the spring or summer. On the basis of information gathered by the warden service it is clear that the species is an irregular but sometimes fairly common visitor in winter. Banfield saw three of this species on January 7, 1947, two on January 8, 1947, and four on February 3, 1949.

159. Common Redpoll. Acanthis flammea (Linnaeus).

The remarks about the next preceding species apply equally well to the common redpoll. Evidently it appears during the winter in flocks of varying size, sometimes consisting of scores. If one may judge by similar flocks visiting other districts in the Prairie Provinces, it is to be expected that it is frequently found in association with the less numerous hoary redpoll (Acanthis hornemanni).

Banfield observed small numbers of common redpolls on two occasions in January, 1947, and a flock of approximately 75 on February 3, 1949.

160. Pine Siskin. Spinus pinus (Wilson).

Small flocks, individuals, and pairs of these birds were seen from time to time in nearly all localities visited in

July, 1940. They appeared in largest numbers along Spruce River and along the west boundary east of Nesslin Lake. Only an insignificant number was recorded in August, 1942, and June, 1943, in southern and northern areas, respectively. On the other hand, between June 13 and 21, 1946, individuals and small flocks were observed daily in the central part of the park, from Crean and Waskesiu Lakes on the east to Bagwa and Kingsmere Lakes on the west. Nothing was seen of the birds anywhere in the region after June 21. The breeding status of the species in the park is unknown. It is likely that nesting takes place to a limited extent, although it is thought that most of the siskins appearing in flocks are itinerant non-breeders.

Banfield saw five of the species on January 9, 1947, in the southwest part of the park.

161. White-winged Crossbill. Loxia leucoptera (Gmelin).

Banfield observed two of this species near Waskesiu on January 15, 1947, and approximately 75 on February 3, 1949.

162. Goldfinch. Spinus tristis (Linnaeus).

During 1940 and 1942 only very small numbers of goldfinches were observed, most of these along Sugar Creek and on prairies to the northwest from August 20 to 22, 1942. At times they appeared singly, but more often in small groups of four or five. There is only one record for June, 1943, when a pair was seen near the upper end of Hanging Heart Lake.

During early June, 1946, only a few pairs were observed, at Namekus Lake and as far north as the south end of

Crean Lake. From June 22 until the end of the month, the birds were more numerous, and were observed daily between Halkett and Amyot Lakes. At Amyot Lake the largest flock observed was one of 20, along the west shore on June 26. These birds are late breeders, and continued flocking at that time might indicate either that they had delayed nesting or were wandering non-breeders. Since none was noted in the north, the southern part of the park may be near the northern limit of range in central Saskatchewan.

163. Savannah Sparrow. Passerculus sandwichensis (Gmelin).

The entire region comes within the breeding range of this species. In suitable situations it is rather common throughout the park, and it was recorded in all areas investigated except around Bagwa and Lily Lakes, where it probably occurred but was overlooked. The species was more numerous at Amyot Lake and in adjoining country to the west than in any other area studied. Favourite habitats in the northern forest were meadows around the heads of bays and moist, grassy lowlands along creeks and channels. There was much variation in abundance, and it was evident that the population diminished towards the north.

164. Leconte's Sparrow. Passerherbulus caudacutus (Latham).

The general occurrence and distribution of this shy little sparrow were very similar to those of the next preceding species, but on the whole it was much less common. Nevertheless, it was recorded almost daily in every locality studied, ~~except~~ around Bagwa and Lily Lakes, where the savannah sparrow also was not found. It was more frequently noted around Amyot Lake than in

any other part of the park. The very close similarity of Leconte's sparrow to Nelson's sparrow (Ammospiza caudacuta nelsoni (Allen)), led to the collection of many specimens in an unsuccessful effort to identify the latter species.

165. Vesper Sparrow. Pooecetes gramineus (Gmelin).

This sparrow ~~was~~ seen in the park only on scattered grasslands and prairies in the south part, chiefly between Sugar Creek and Amyot Lake. At present there seems to be no reason to believe that it ranges any farther north in Central Saskatchewan. The population was found to be very small and widely dispersed. As the birds are summer residents, they no doubt breed in the area in which they were found.

On September 2, 1945, Lewis recorded 110 of the species along the dirt road in the southwest and west parts of the park.

166. Slate-colored Junco. Junco hyemalis (Linnaeus).

Hyemalis is a more or less uniformly distributed summer resident throughout the forested areas of the region. It was common in numerous localities in the park but scarce in other tracts equally suitable for it, a variation in distribution not readily explainable. The data indicated that the species was most numerous in the northern half of the park. This was perhaps partly due to there being so much open land in the southern half. On June 16, 1946, a nest containing four juveniles of the species about a week old was found near the north shore of Kingsmere Lake.

167. Chipping Sparrow. Spizella passerina (Bechstein).

The chipping sparrow is widely distributed in the

park where, in most districts, it was observed with fair frequency. It was distinctly more numerous in the south than elsewhere, and north of Waskesiu Lake it was rarely noted, except once at the north end of Crean Lake, where the birds were common from June 5 to 8, 1943, as if a distinct northward movement was taking place. After the latter date they were noticeably less numerous.

The species breeds throughout the region. On June 12, 1946, a nest with five eggs was found between Crean and Hanging Heart Lakes.

168. Clay-coloured Sparrow. Spizella pallida (Swainson).

Fair numbers of this small, pale species inhabit the park, chiefly in the patches of prairie in the extreme south. They were most numerous from a point east of Sugar Creek west to Sturgeon River and north to the latitude of Nesslin Lake. The species also occurred in grassy uplands within the heavy forest farther north, but was rarely seen north of Waskesiu. It was found to the eastward as far north as the country lying between Crean and Tibiska Lakes but not in those latitudes farther west, from Kingsmere Lake to Lavallee Lake. Males were in full song throughout June and July and pairs were presumed to be nesting wherever found.

169. White-crowned Sparrow. Zonotrichia leucophrys (Forster).

On September 2, 1945, Lewis observed one of these sparrows in the south part of the park and one in the west part. The species is presumably a regular transient migrant in the park.

170. White-throated Sparrow. Zonotrichia albicollis
(Gmelin).

This is a common summer resident and breeder throughout the region. Its clear, high-pitched whistle is one of the most typical and arresting bird sounds of the wilderness. It was seen frequently in all parts of the park where there was coniferous forest, especially in semi-dry black spruce and tamarack swamps. The population density was greater in the northern than in the southern part of the park. The species was particularly plentiful in spruce-grown lowlands around Crean, Kingsmere, and Lavallee Lakes. In the extreme south it was found most commonly in the scattered spruce lowlands and in stands of mixed spruce and poplar along the creeks.

171. Lincoln's Sparrow. Melospiza lincolni (Audubon).

Lincolni is fairly well represented in this region, throughout which it breeds in locally favourable situations. Because of its shyness it is seldom seen, but the sweet, rippling song is unmistakable. The species favours semi-open situations in the forest near lakes and streams where there are willows, alders, tangled underbrush, and conifers. Moist situations with second-growth spruce and shrubbery are also favoured. The species was found to be more plentiful in central and northern areas of the park than farther south.

172. Swamp Sparrow. Melospiza georgiana (Latham).

The data indicated that this sparrow was about five times as numerous as the next preceding species. It was noted almost daily in all areas investigated. In no area could it be said to be very common, but it was well distributed. On

June 4, 1946, a nest containing five eggs was found in a forest muskeg near Namekus Lake.

173. Song Sparrow. Melospiza melodia (Wilson).

This is a relatively common, wide-ranging summer resident. It was noted daily in all areas investigated. It showed a distinct preference for lowlands close to lakes and streams, and avoided upland areas of forest and shrubby grassland where there was little or no water close by. Distribution appeared to be fairly uniform throughout the park. A nest containing four eggs was found at Namekus Lake on June 4, 1946.

174. Lapland Longspur. Calcarius lapponicus (Linnaeus).

This hardy summer resident of the Arctic tundra is a common spring and autumn migrant through central Saskatchewan, as it is through the other Prairie Provinces. Flocks invade fields and prairies, and meadows and shorelines of lakes within the forest belt. Favourite resorts within the park are the scattered grasslands between Sugar and Rabbit Creeks. On the northward flight the birds reach the park in mid-April, or somewhat sooner in an early spring. The first autumn migrants are usually observed during the latter half of September, the numbers increase rapidly until early October, and they move on southward about the third week of that month. Banfield observed about 15 of the species of February 3, 1949.

175. Snow Bunting. Plectrophenax nivalis (Linnaeus).

These well known birds are breeding associates of the Lapland longspur in the polar lands, but are considerably later in their southward migration. The vanguard normally appears in

central Saskatchewan about the time the Lapland longspur leaves for the south, during late October.

Large flocks reappear during the latter part of April, and all but a few stragglers migrate north in early May. Tardy individuals have been seen at Crean Lake as late as the third week of that month.

Within the park, the flocks show a decided preference for the scattered patches of prairie near the southern boundary. A flock of approximately 75 was observed by Banfield on February 3, 1949. He also observed a flock of about 50 on January 6, 1947, flocks of about 25 on January 8 and 9, 1947, four individuals on January 7, 1947, and five on January 10, 1947.



Fig. 1. Prairie, with conditions similar to those of the Transition Life Zone, in the extreme southern part of the park a few miles northeast of Owen Lake.



Fig. 2. Small lake immediately north of the Bluebell Divide, south of Waskesiu Lake, looking westward.

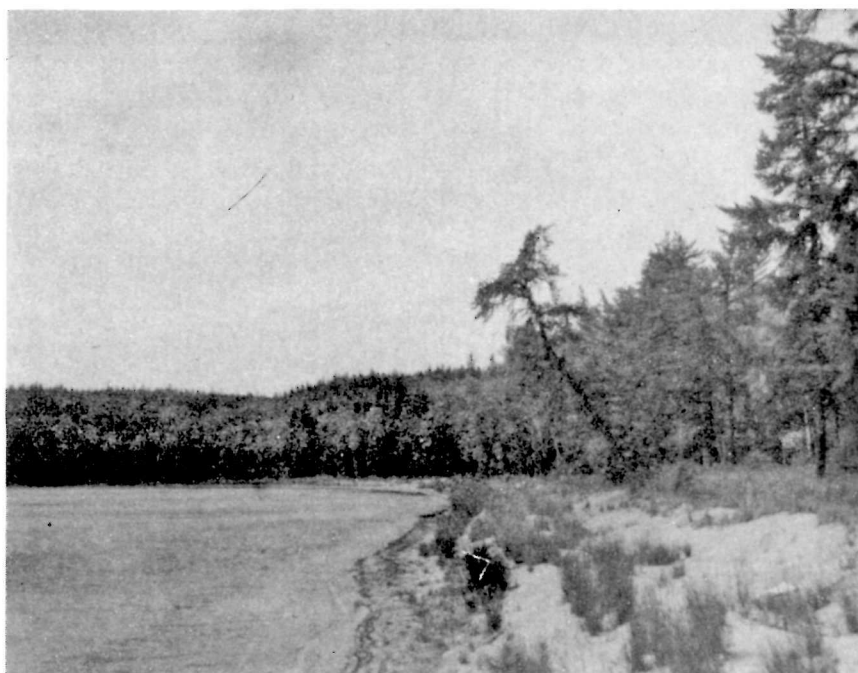


Fig. 3. Northeast shore of Kingsmere Lake looking west-northwest. Typical Canadian Life Zone forest.

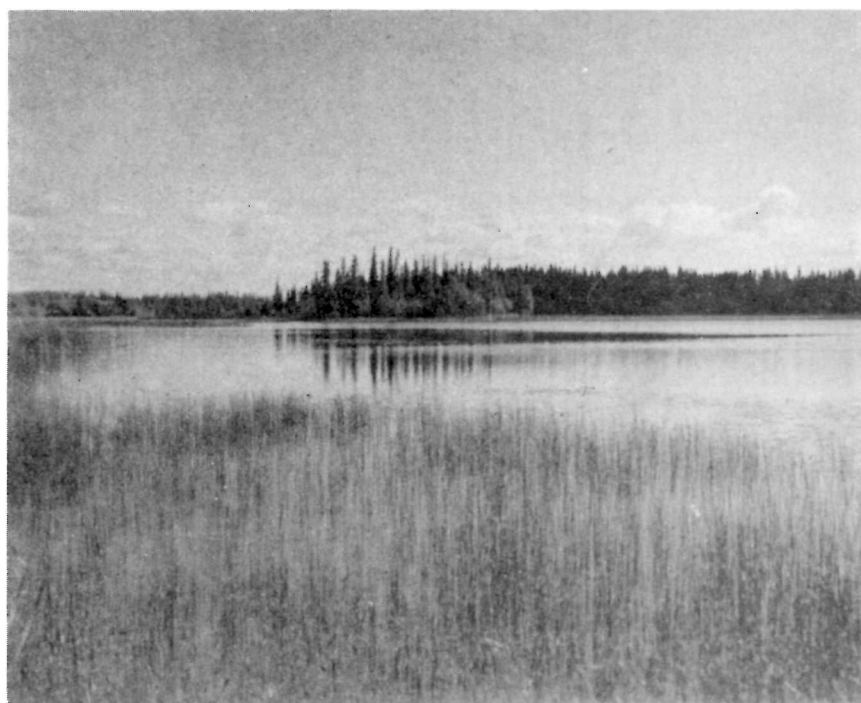


Fig. 4. Shallow water and rich growth of roundstem bulrush and subaquatic plantlife on west shore of Lavallee Lake.



Fig. 5. Aspen woods,
on edge of prairie,
southern part of
park.



Fig. 6. Breeding
colony of white
pelicans, Lavallee
Lake.

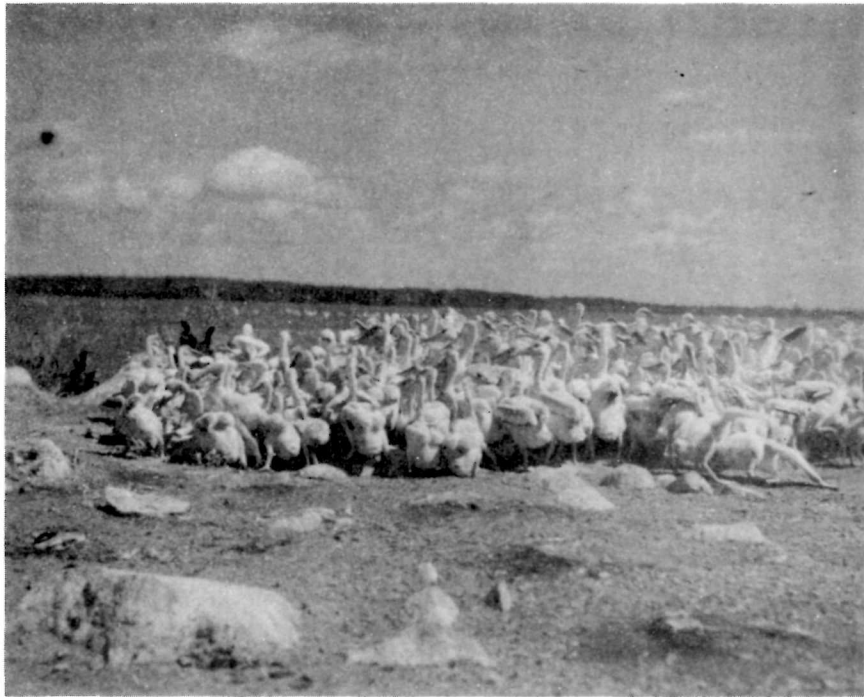


Fig. 7. Group of flightless young white pelicans at Heron Island, Lavallee Lake. A few double-crested cormorants in background.



Fig. 8. Group of immature double-crested cormorants still in the nests at Lavallee Lake. White pelicans in background.

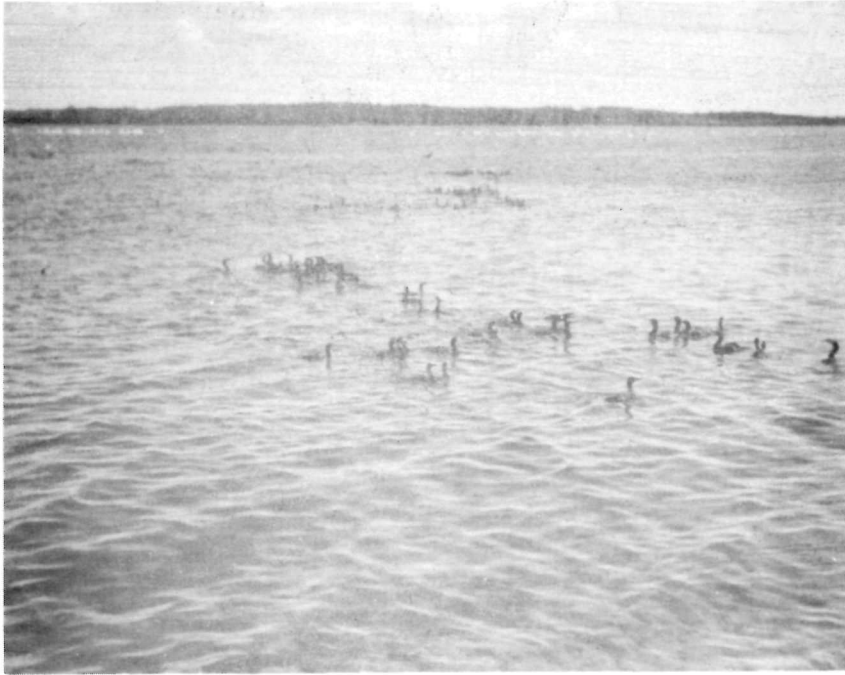


Fig. 9. Flocks of adult and immature double-crested cormorants, photographed from Heron Island near the north end of Lavallee Lake.



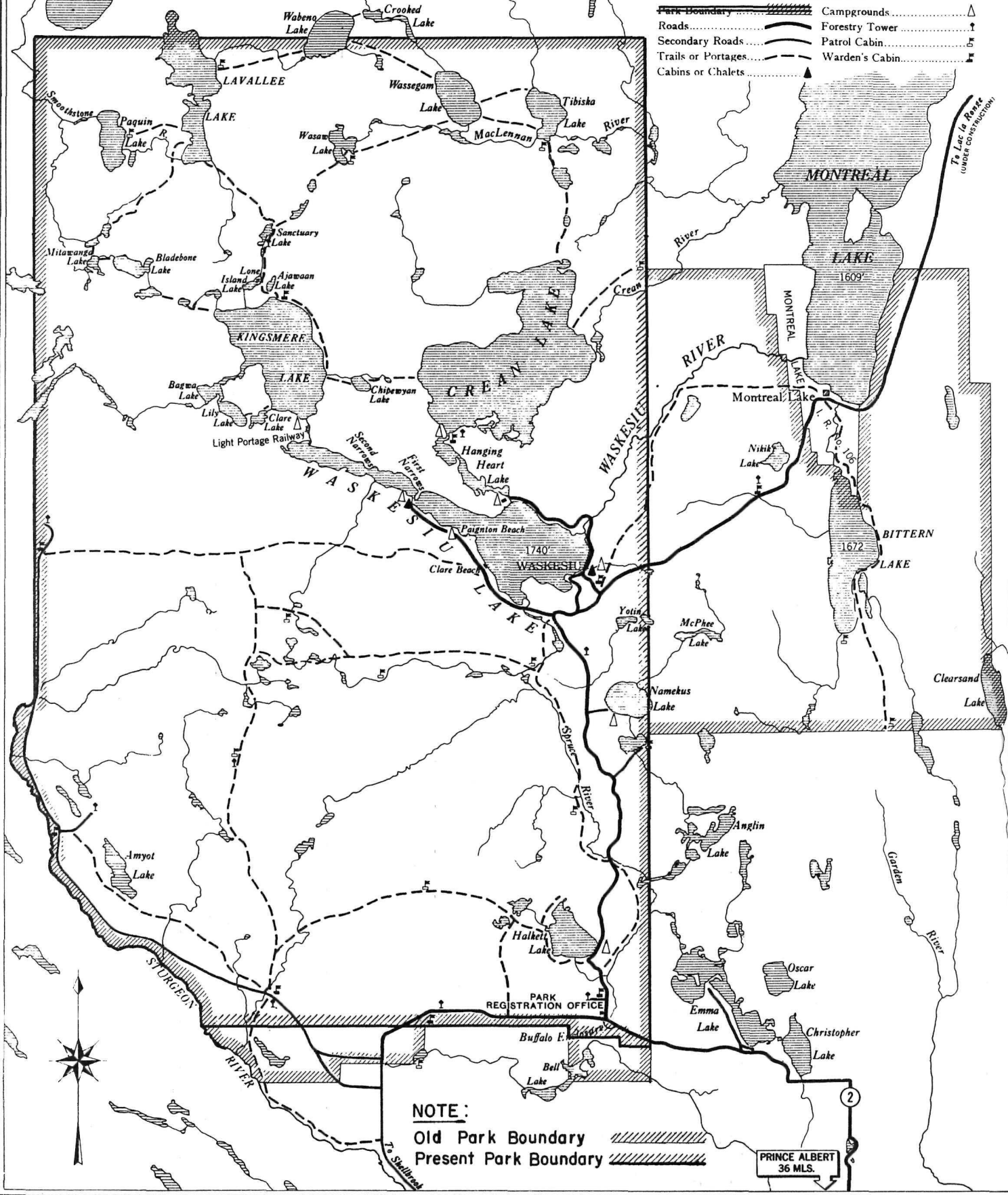
Fig. 10. Nesting American bittern in a marsh at Hanging Heart Lake, June 14, 1946.

MAP OF PRINCE ALBERT NATIONAL PARK SASKATCHEWAN

Scale of Miles
0 5 10

REFERENCE

- | | | | |
|--------------------|---------|----------------|---|
| Park Boundary | | Campgrounds | △ |
| Roads | ———— | Forestry Tower | ↑ |
| Secondary Roads | ----- | Patrol Cabin | ⌘ |
| Trails or Portages | - - - - | Warden's Cabin | ⌘ |
| Cabins or Chalets | ▲ | | |



NOTE:
Old Park Boundary
Present Park Boundary

PRINCE ALBERT
36 MLS.

