

BIRDS OF THE EAST JAMES BAY COAST BETWEEN LONG POINT AND CAPE JONES¹

T. H. MANNING and A. H. MACPHERSON

Ottawa

THIS PAPER is based on observations and collections made between June 26 and September 2, 1950, along the east James Bay coast between Long Point and Cape Jones. Our main collecting stations were at Moar Bay and Paul Bay, but shorter periods were spent at other places and notes were kept of the birds seen during our canoe journeys along the coast. Observations made during 4 days (Aug. 8-11) on Long Island and during our trips by canoe between the Moose River and Long Point in June and September will be dealt with separately. During the summer 498 birds were collected. The study of these specimens which are now in the National Museum was done by the senior author, who wishes to acknowledge the assistance received from Mr. W. E. Godfrey. We are also indebted to Mrs. T. H. Manning for typing and checking the manuscript.

Information on the birds of the inland region due east of the coastal strip covered by this paper is entirely lacking, but some idea of the probable population may be gathered from Godfrey's records (1949) at Lake Mistassini and Manning's (1949) at Kinglet Lake and Lake Bienville. The reader is also referred to these papers and to Godfrey and Wilk (1948) and Manning (1951) for range limits which have not usually been given here. Lewis and Peters (1941) give a list of birds observed by them in southern James Bay, but as yet there is no one paper in which all the available records for the region between the Moose River and Long Point have been assembled.

The first recorded ornithological collections from the region were made by C. Drexler, who obtained specimens at Fort George in 1860 and possibly in 1861. No faunal list resulted from his work, but reference to his specimens is made by Turner

(1885), Packard (1891), Baird (1874), and other writers. In 1887, Bell (1879) explored the coast from Moose Factory to Cape Jones and then northward to Cape Dufferin. In a paper on the birds of Hudson Bay (Bell 1882) he gives some general ornithological information on this region, and mentions specimens collected at Fort George. Most of these specimens were not preserved (Bell 1882 p. 49), and there is occasional doubt as to the accuracy of their identification. In 1887 and 1888, Low (1889) and his assistant, J. M. Macoun, worked on the east coast and islands of James Bay, but only casual reference to the birds is made in Low's report (Low 1896b pp. 323L-328L) of these trips, and his "List of Birds of the Interior of Labrador Peninsula" seldom mentions east James Bay. In 1896, Low (1898) was accompanied by W. Spreadborough on his journey from the Moose River to Richmond Gulf. This journey lasted from June 14 to June 30, and they were in the area covered by this report from June 18 to June 24 (Low 1896a). No separate list of birds was published as a result of this journey, but a number of Spreadborough's records, including several from the area here dealt with, were used in Macoun's Catalogue of Canadian Birds, and some of Spreadborough's specimens (chiefly eggs) are still in the National Museum of Canada. Unfortunately, Spreadborough's records as published by Macoun are not always reliable. Macoun's catalogue was first published in three parts (Macoun 1900, 1903, 1904). Later they were combined in an enlarged and revised edition (Macoun & Macoun 1909). All the references given here are taken from the 1909 edition except for those to museum specimens which are listed in the first editions only.

In 1920, Fritz Johansen collected a few birds from the James Bay region while

¹ Received for publication May 28, 1951.

working for the Biological Board of Canada. In 1926, Sutton (1932 p. 2), W. E. C. Todd, and J. B. Semple went by canoe from Moose Factory to Richmond Gulf, and in 1935, Doult (1935), R. L. Fricke and J. K. Doult travelled southward by canoe along this coast after collecting birds and mammals on the Twin Islands. Unfortunately, the ornithological results obtained on these expeditions, like those from other expeditions sponsored by the Carnegie Museum to the Labrador Peninsula, have not yet been published.

Description of the Area

The coastline of east James Bay is typical of low-lying Precambrian country. From Eastmain northward, there are few hills over 200 feet high, and most of the country within 10 miles of the coast is under 100 feet. Nonetheless, the greater part of it is very broken and rocky, with numerous little hills and ridges of solid granite gneiss or of glacial drift, the latter frequently taking the form of boulder moraines. Since this broken, hilly surface continues westward beyond the coastline, and the general submarine slope is very gradual, a maze of small rock and drift islands fills most of the bays and extends seaward for about 10 miles. The points are rocky or bouldery, but toward the head of the bays there are wide, boulder-covered mud flats broken by occasional rocky tidal islands.

Between Factory River and Long Point there is a sudden change in the character of the forest along the coast. South of Long Point, balsam poplar forms large groves near the coast and even on some of the islands, while north of there it grows near the coast in sheltered places only, and the trees are dwarfed and straggly. There are, however, some well grown groves a few miles up the rivers. North of Long Point, the outer fringe of islands as well as some of the smaller islands in the bays are treeless except for a few scattered stunted spruce: even the tips of some of the points are barren. This sudden change in the dominant vegetation may be caused by lower early summer temperatures due to pack ice being trapped here by the Solomons Temple and Paint Hills islands. Thus, in 1950, the ice had left Factory River some time before our arrival on June 26, but it did not finally leave Moar Bay until July 3. On June 27 at Moar Bay, the leaves on alder and willow

were only half out along the southern shorelines, and only just budding in places exposed to the northwest. A few patches of snow lay amongst the woods. Between Long Point and Attikuan Point there is no marked change in the dominant vegetation along the coast, although the islands and longer points tend to become more barren as one goes north. North of Attikuan Point, there is a narrow strip of continuous barrens along the coast. At the Roggan River, the first spruce grows about 2 miles inland in small, scattered clumps. North of the Seal River the tree line is often out of sight from the sea, and the peninsula north and west of the Salmon River appears to be entirely barren.

The forests between Long Point and the Roggan River consist principally of white spruce with a few scattered tamarack. In some of the marshy areas the majority of the scattered, sickly-looking trees, are black spruce. Between the spruce and the shore there is often a narrow band of alder 6 to 15 feet tall, while on some of the treeless islands and on the coastal barrens at the Roggan River, there are large, almost impenetrable patches of alder. A mile or two from the coast, the alder is largely replaced by willow which grows along the river banks and borders the open grass marshes.

Main Collecting Stations

MOAR BAY (south end).

June 26-July 13. 56.5 hrs. observing: (9.5 hrs. in marsh, 9 hrs. in willow and alder, 25.5 hrs. in spruce woods, 12.5 hrs. along shore at edge of alder.)

Sept. 2. 4 hrs. observing at edge of alder and in marsh.

Our first camp at Moar Bay was on the grass fringe of the shore of a small, shallow, muddy bay. Immediately behind the tent, a strip of alder about 30 feet wide, bordered the main white spruce forest which here grew on the side of a boulder moraine. The top of the moraine was almost treeless, and sloped gradually westward to a barren point about a quarter of a mile from our camp. In the spruce forest behind the moraine, about a mile northeast of our camp and a few hundred yards from another small, muddy bay, was a little lake some 300 yards across. Immediately surrounding the lake was a boggy area with willow, alder, Labrador tea, sphagnum moss, and small, sickly-looking spruce. We visited this lake several times. Half a mile east of our camp at the

head of the bay, the tidal mud flats terminated in an open grass marsh about a quarter mile in diameter and with a wet patch of bare mud in the centre. Surrounding the marsh was a fringe of tall willow and alder, and at its head was first an area of isolated willow bushes, then stunted spruce and tamarack, and finally, continuous spruce forest. We visited or passed through this marsh most days during our stay. On the south side of our little bay were some solid rock ridges 30 to 50 feet high with small treeless patches on top. Through the spruce woods beyond these ridges was a comparatively deep lake about half a square mile in area. This lake was visited on July 2. On July 11, we went to another shallow bay between our camp and the Poplar River. Here there was a larger area of marshland, but the bird population was smaller than in the marsh near our camp.

Except for the trip on July 11, and those to Sheppard Island and the Poplar River which are dealt with separately, the area included in our Moar Bay observations did not extend more than 1½ miles from our camp, but within that area all habitats typical of the mainland coastal region are found. Continuous forest, principally of white spruce with a few tamarack and some black spruce in the wetter areas, covers about 70 percent of the hinterland; 20 percent is water, and the remaining 10 percent is divided between barren, rocky ridges and open marshes. Around the shore at the head of the bays and along the rivers, marshes account for a larger area. The ground cover of about three-fourths of the open spruce forest is sphagnum moss and Labrador tea; the remaining quarter is dry country, often fairly open, with a luxuriant growth of caribou moss. In the wetter areas walking was difficult owing to Labrador tea and dead-falls. In both areas of spruce birds were scarce.

SHEPPARD ISLAND.

July 4, 8, 13-15. 28.5 hrs. observing in various habitats. Sept. 2. .25 hr. on barren N.E. point.

Sheppard Island is separated from the mainland near our first Moar Bay camp by a strait a few hundred feet wide. We visited Sheppard Island on July 4 and 8, and moved our camp to it on July 13. The central eastern part of this island consists of dry and wet spruce forest similar to that of the

mainland. Amongst the forest as well as in places around the coast, are small outcrops of bare, solid rock. On the western third of the island, the spruce is small and scattered, and there is a considerable amount of dwarf birch. Along the north shore is a band of dense alder almost 10 feet tall. Most of the small points, including the one to the north-east where we camped from July 13 to 15, are barren. There are several small lakes on the island. A few partly spruce-clad islands lie in the wider part of the strait between Sheppard Island and the mainland. These were visited on July 14, and the time spent there is included in the time given above for Sheppard Island.

Most of the species seen on the mainland were also recorded on Sheppard Island and vice versa. Where the numbers of individuals were about the same, the records for the two places have been given together. On the whole, passerines were more numerous on the island.

ISLAND A.

July 8. 2 hrs. observing.

On July 8, we spent an hour on Island A, which lies about half a mile north of Sheppard Island. It is only a few hundred yards long and is composed largely of bare rock. There is a small lake, some dwarf birch scrub, and a small patch of alder about 7 feet high. On July 8, the leaves were about half out on the alder. A group of similar barren islands lies a mile west of Sheppard Island, and there are others to the north in Moar Bay.

POPLAR RIVER.

July 6. 12 hrs. observing: (2 hrs. in marsh, 3.5 hrs. in spruce, 6.5 hrs. in tall willow and poplar).

A little distance within the mouth of the river, the alder which is so plentiful near the coast is replaced by willow which lines the river banks and forms thickets 15 to 20 feet high over a considerable area. On July 6 the willow was considerably more advanced than that near our camp, but was still not quite in full leaf. We visited some extensive open sedge marshes about a mile from the river mouth, and from the air photographs it appears that there may be larger ones farther inland. About 2½ miles up the river is a grove of well grown poplars. The main spruce forest was similar to and continuous with that at our Moar Bay camp.



Map of James Bay showing localities at which collections were made.

PAINT HILLS ISLANDS (Walrus Island).

July 16. 3 hrs. observing on barrens and amongst isolated spruce.

Aug. 29-Sept. 2. 17.5 hrs, observing (11.5 hrs. on barrens and near isolated spruce; 6 hrs in small spruce woods and poplar grove).

Our observations on the Paint Hills Islands were confined to the largest island which is sometimes known as Walrus Island. It is a rocky island with a 150-foot hill at its western end. A few stunted white spruce grow on some open level ground below this, and near the centre of the island there are two stands of rather short, but well-formed white spruce and a small grove of stunted balsam poplar. There is some dwarf birch, but alder is surprisingly scarce. The dry barrens are covered with *Dryas*, caribou moss, blackberry, and a carpet of crowberry. There were also patches of strawberries, dwarf raspberries, and bakeapples.

On July 16, we landed near the western end of Walrus Island and walked over and around the hill. From August 29 to September 2, we were camped near the centre of the island close to the poplar grove.

POINTE AU HUARD.

July 17. 4 hrs. observing (2.5 hrs. on barrens, 1.5 hrs. in alder, and marsh with small scattered spruce and tamarack).

Our camp was actually on the small unnamed point about 1.5 miles north of Pointe au Huard. The outer half mile of this point is barren with patches of alder and a considerable amount of dwarf birch: in fact, rather similar to Stromness Harbour island. Inland, larger areas of taller alder with some open marshes and scattered spruce and tamarack merged gradually into the spruce forest. The spruce forest was not visited.

WALRUS PENINSULA.

Aug. 27-29. 13 hrs. observing (9 hrs. in spruce, 2.5 hrs. on barrens, 1.5 hrs. in marsh).

Our camp was on the well wooded south-east point of Walrus Peninsula. Here there were both open white spruce forest with caribou moss ground cover and denser, wetter forest with sphagnum and Labrador tea. Within the forest were some small sedge and open marshes with the attendant alder and willow thickets. Macpherson also visited a larger marsh on the mainland op-

posite our camp. The birds seen there were essentially the same as on the peninsula, and the records have been included together. The northern and western parts of the peninsula are barren and rather rocky, with patches of alder about 7 feet high in the sheltered valley. The other vegetation on these barrens is similar to that on Kakachischuan Peninsula.

STROMNESS ISLAND.

July 18-21. 9 hrs. observing.

Aug. 25-27. 6.5 hrs. observing.

Stromness Island is a moderately rocky island not more than 30 feet high. A sixth of its surface consists of bare rock, a sixth is covered by spruce, a third by tall alder with a little willow, and the remaining third by grass and heath, including dwarf birch and Labrador tea. Most of our time was spent near the small spruce clumps where the passerines seemed most plentiful.

PAUL BAY.

July 21-Aug. 7. 63 hrs. observing (30 hrs. in spruce, 28.5 hrs. in willow, alder, and small marshes, 4.5 hrs. in larger marsh).

Aug. 18-25. 27 hrs. observing (17.5 hrs. in spruce, and 9.5 hrs in willow and alder and small marshes).

Our Paul Bay camp was on a southerly facing shore about half a mile west of the mouth of the Piagochiwi River. Immediately behind the tent was a dense alder thicket with occasional open patches and a few white spruce trees. Behind this was a fairly dry spruce forest with considerable undergrowth. About 300 yards from the tent, the first of a series of 50-foot high rocky ridges ran parallel to the shore. Only scattered stunted spruce and tamarack grew on the ridge tops, but between and surrounding these ridges was the continuous spruce forest. On the ridges were some small rock pools, and between them a few little lakes closely surrounded by spruce, heavy undergrowth, and numerous deadfalls which made walking difficult. Along the shore to the east and west of our camp was a narrow, broken strip of dense alder which gave place to willow a few hundred yards up the river. A quarter of a mile west of our camp was a stand of well grown and fairly open spruce, between which grew a deep carpet of caribou moss. Two hundred yards east of the camp was a little grove of stunted poplar

Table 1. — MAIN CANOE JOURNEYS.

| | | | |
|---|-----------|----------------------|---------------------------|
| Across Moar Bay | July 15 | 1.5 hrs. travelling. | Rough. |
| Moar Bay to Pointe au Huard | July 16 | 2.5 hrs. travelling. | Rough and foggy at times. |
| Pointe au Huard to Dead Duck Bay .. | July 17 | 6 hrs. travelling. | Calm. |
| Dead Duck Bay to Stromness Harbour | July 18 | 6 hrs. travelling. | Calm. |
| Stromness Harbour to Paul Bay | July 21 | 2 hrs. travelling. | Calm. |
| Paul Bay to Kakachischuan Point and return | Aug. 1 | 2 hrs. travelling. | Calm. |
| Paul Bay to Stromness Harbour and return | Aug. 4, 5 | 4 hrs. travelling. | Calm. Some fog. |
| Paul Bay to Seal River | Aug. 7 | 9 hrs. travelling. | Rough. |
| Seal River to Cape Jones | Aug. 8 | 4 hrs. travelling. | Rough and foggy. |
| Cape Jones to Roggan River | Aug. 11 | 6 hrs. travelling. | Mostly calm. |
| Roggan River to Kakachischuan Point | Aug. 16 | 5 hrs. travelling. | Calm, then rough. |
| Kakachischuan Point to Paul Bay | Aug. 18 | 1.5 hrs. travelling. | Calm. |
| Paul Bay to Stromness Harbour | Aug. 25 | 2.5 hrs. travelling. | Rough. |
| Stromness Harbour to Walrus Peninsula | Aug. 27 | 3 hrs. travelling. | Rough. |
| Walrus Peninsula to Paint Hills Islands | Aug. 29 | 11 hrs. travelling. | Moderately rough. |
| Paint Hills Islands to S. end Moar Bay | Sept. 2 | 2 hrs. travelling. | Calm. |

scarcely taller than the surrounding alder. About three-quarters of a mile west of our camp a fairly deep lake about a quarter of a mile long was visited on July 24 and 25. At one end of this was a rocky scarp; at the other, an open sedge marsh with willow and scattered small black spruce. On July 31, we visited a very shallow lake about half a mile in diameter south of the Piagochiwi River. At its eastern end were some extensive sedge marshes. On August 23 and 24, the bay northwest of our camp was visited. Here a small brook flowed from a shallow lake a few hundred yards inland. At the head of this lake, ducks, shore birds, and passerines appeared more plentiful than elsewhere, although there was no obvious difference in the country or the vegetation. On most of our longer walks, we went through part of the continuous spruce forest

which was similar to that at Moar Bay. In it, birds were extremely scarce, and it was not unusual to walk for an hour and see none. On July 27, we went by canoe to a peninsula about $1\frac{1}{2}$ miles northwest of our camp and spent 4 hours observing there. Only about a third of this peninsula was wooded. Most of the remainder was covered by thickets of tall alder. On the same day we both spent an hour on a small island just west of this peninsula. Half of this island was open barrens (largely covered with crowberry), and the other half dense alder thickets. Both on the peninsula and on the island passerines were more numerous than in our camp areas.

Although all our observations at Paul Bay were made within a radius of about 2 miles of our camp, I think we sampled all habitats typical of the mainland region.

KAKACHISCHUAN PENINSULA.

Aug 1. 10 hrs. observing.

Aug. 7. .5 hr. observing.

Aug. 16-18. 11 hrs. observing.

Kakachischuan Peninsula is 6 miles long and is joined to the mainland by a narrow isthmus. It consists of broken, rocky country with hills up to about 40 feet. Our three visits were to the outer 4 miles of the peninsula. The greater part of this western end is covered by a short, dry vegetation including *Dryas*, blueberry, bakeapple, and crowberry, the latter being particularly plentiful and producing vast quantities of berries. In sheltered places there were also dense patches of alder about 7 feet high, and three or four stunted spruce trees. A few areas were moderately marshy, and there were three or four small lakes and one large brackish lake with a narrow exit to the sea.

ROGGAN RIVER.

Aug. 11-16. 28 hrs. observing (18 hrs. on barrens including alder patches and marshes, 2 hrs. in inland sedge marsh and amongst willow, 2 hrs. in burnt country, 1 hr. on barren inland plateau, 3 hrs. in spruce, 2 hrs. in canoe on river).

The country about the mouth of the Roggan River is covered by glacial drift and rock outcrops are rather scarce. The coastal barrens consist of dry tundra with vegetation similar to that on the Paint Hills Islands, but with the addition of patches of dense, but fairly low (5 to 6 feet) alder. There is also a fair amount of marshland and several small lakes as well as tidal inlets and lagoons. Toward the edge of the main spruce there is some very wet marsh with alder patches and tall sedge. The first little clump of stunted white spruce grows about 1.5 miles inland, and the main spruce forest begins a mile beyond. On August 13, we went 6 miles up the river by canoe from our camp on the north bank at the river mouth. During the day we visited a well grown white spruce forest with a thick caribou moss carpet, a dry, barren, bouldery plateau about 100 feet high, some sphagnum bogs with scattered spruce, and an area which had been burned over 10 or more years ago and now supported a thick growth of dwarf birch and willow. I also spent two hours near the edge of a willow thicket and an open sedge marsh.

CATALOGUE OF BIRDS OBSERVED.

In the following systematic list an attempt has been made to show the population density of some of the common species by means of tables. The dates used in these tables are the first and last dates on which the species in question was observed at the station. The time in hours represents the total time spent in search of birds during our stay at the station, or the time spent in some particular habitat as indicated in the different tables. The number seen in the case of the small numbers is the sum of daily counts, and in the case of large numbers, the sum of daily estimates made during our timed observations. In the case of some of the larger birds, particularly the water birds which were also seen on canoe trips, the number seen per hour is also given to facilitate quick comparison. In the case of some of the smaller birds, an estimate has been made in round numbers of the population per square mile at their normal habitat. This estimate is based on the number seen, the time spent observing, and the distance at which the species could usually be seen. An allowance has also been made for the fact that some species are more easily seen in the fall when they are in flock than they are during the nesting season.

Common Loon, *Gavia immer immer* (Brünnich).

Common Loons were fairly numerous and evenly distributed along most of the coast. During our short stay at Pointe au Huard they were exceptionally plentiful, but at Stromness Island and Kakachischuan Point where they might have been expected in equal numbers, they were apparently scarcer than in the comparatively sheltered water at Moar and Paul Bays. At least one Common Loon visited the little tidal lagoon opposite our camp at Moar Bay almost every day, and at Paul Bay it was not unusual to see 2 or 3 on the sea outside our tent, but these have not been recorded in Table 2 unless they were actually seen during our timed walks, a circumstance frequent at Moar Bay, where we often walked along the shore to the marsh at the head of the bay. Both at Moar and Paul bays we noticed that the loons were very loath to take flight, and at Paul Bay one or two were seen which had considerable difficulty in getting off the water. This was probably due to full stomachs, as

Table 2. — POPULATION DENSITIES OF COMMON LOON.

| Locality | Dates | Time | No. observed | Remarks |
|---|--------------------------|-----------------------|------------------|-------------|
| Moar Bay including Sheppard I. | June 27- July 14 | 35 hrs. in open areas | 29 (.8 per hr.) | ♂ collected |
| Paint Hills Is. | Aug. 31- Sept. 1 | 11½ “ “ “ “ | 5 (.4 “ “) | |
| Pte. au Huard | July 17 | 3 “ “ “ “ | 16 (5.3 “ “) | |
| Walrus Pen. | Aug. 27-28 | 4 “ “ “ “ | 2 (.5 “ “) | |
| Stromness Har. | July 20 | 6 “ “ “ “ | 2 (.3 “ “) | |
| Paul Bay | July 22- Aug. 3 | 15 “ “ “ “ | 8 (.5 “ “) | ♂ “ |
| Kakachischuan Pt. | Aug. 1, 17, 18 | 21 “ “ “ “ | 5 (.2 “ “) | |
| Roggan River | Aug. 12-15 | 22 “ “ “ “ | 9 (.4 “ “) | |
| Pte. au Huard to Stromness Har. | Aug. 17-18 | 12 hrs. travelling | 14 (1.2 “ “) | ♀ “ |
| Paul Bay to Kakachischuan Pt. . | Aug. 1 | 2 “ “ | 3 (1.5 “ “) | |
| Paul Bay to Cape Jones and return | Aug. 7, 8, 11, 16, 18 | 25½ “ “ | 38 (1.5 “ “) | |
| Paul Bay to Stromness Har. | Aug. 25 | 2½ “ “ | 2 (.8 “ “) | |
| Walrus Pen. to Paint Hills Is. | Aug. 29 | 11 “ “ | 5 (.5 “ “) | |

loons are seldom fat and the two specimens collected had no moulted primaries and no exceptional fat.

The measurements of 3 specimens were: ♂ taken July 10, wing chord 351 mm., culmen 86 mm., testis (20 x 6) mm.; ♂ taken July 30, wing chord 353 mm., culmen 78 mm., testis (13 x 4) mm.; ♀ taken July 17, wing chord 332 mm., culmen 83 mm., largest ovum 2.5 mm. Although none of these specimens may actually have had a nest, it seems probable that they belonged to the Quebec population.

Pacific Loon, *Gavia arctica pacifica* (Lawrence).

The Pacific Loon probably breeds on Long Island and possibly on some of the barren islands in the centre of James Bay. On the east James Bay coast we saw it only near Salmon River, where we saw four flying separately over the sea on August 11.

***Red-throated Loon**, *Gavia stellata* (Pontopidan).

Spreadborough’s observation (Macoun & Macoun 1909 p. 2) that Holboell’s Grebe is common in the northern part of James Bay

* Sight records uncorroborated by specimens.

almost certainly refers to the Red-throated Loon which is sometimes fairly numerous on the west James Bay coast (Manning 1951) and has been recorded on the Twin Islands (Manning MS). There is no definite record for the east coast, however.

***Horned Grebe**, *Colymbus auritus* Linnaeus.

Bell (1882 p. 49) collected a Horned Grebe at Fort George, presumably in 1877. This species appears to be fairly common near the large rivers of the west James Bay and southern Hudson Bay coast (Manning 1951), so an occasional record for the present region may be expected.

American Bittern, *Botaurus lentiginosus* (Montagu).

According to Bell (1882 p. 51) the American Bittern was found on both sides of Hudson [James?] Bay. On August 12, we obtained a single very fat male from a sedge marsh at the edge of the spruce at the Roggan River.

***Whistling Swan**, *Cygnus columbianus* (Ord).

According to Mr. Luttit, who has spent about 70 years at Fort George and Great Whale River, a few swans used to be seen on this coast, but they are now extremely

rare, and none have been seen in recent years. Barnston (1861 p. 338) says, "Towards Eastmain James's Fort, in James's Bay, a considerable number of swans hatch; ..." Bell (1884 p. 55DD) says that the Trumpeter Swan nested on the islands off the Eastmain coast. However, since he records it also on Nottingham² and Marble islands, he has probably confused the two species. Nevertheless, it is not possible to be certain that the nesting swan of the James Bay region was not the Trumpeter Swan, *Cygnus buccinator* Richardson.

Ungava Canada Goose, *Branta canadensis interior* Todd.

The Canada Goose is an abundant migrant on this coast. It nests on some of the islands in James Bay (Low 1896b p. 324L; Coates 1948) and probably on the inland marshes to the eastward. Spreadborough (Macoun & Macoun 1909 p. 125) reported that it bred on both James Bay coasts, but whether he had actual evidence of nesting birds is not certain. Speaking more particularly of the west coast, Hanson and Smith (1950 p. 99) say, "Field observations and information obtained from Indian hunters indicate that few if any geese nest within 10 miles of the shore of James Bay ..." Perhaps this is because of hunting pressure. According to local information, when the migrants first arrive on this coast in the fall they spend much of their time feeding on the berries which grow in such profusion on the barren islands along the coast. When these have been eaten they move to the mud flats and marshes at the head of the bays. Between Kakachischuan Point and Cape Jones, large quantities of eel grass grow in some of the shallow bays, and this also is probably an important food item.

We saw the first Canada Geese on July 27, when a flock of about 25 landed on one of the islands between our camp at Paul Bay and Kakachischuan Point. On August 1, another 25 were seen flying over the same region. On August 18, 12 were seen from our canoe near the northern end of Paul Bay, and between August 19 and 24, we saw 30 from our Paul Bay camp, either flying over or feeding on the tide flats. Between August 27 and 28, about 80 Canada Geese were seen at Walrus Peninsula, and between August 29 and September 2, we

counted over 150 at the Paint Hills Islands, where they were feeding on the crowberries which grow there in great quantity.

American Brant, *Branta bernicla hrota* (Müller).

Prior to very recent years, Brant used to arrive at Eastmain in small numbers about May 1 coming from the south along the coast, and departing for the north about the end of May. About the middle of May others used to arrive at Fort George from the east, that is, descending the Fort George River, and without stopping flew on in a northerly or westerly direction. In the spring of 1935, however, Brant were much scarcer in James Bay, only two flocks being seen at Eastmain and none at Fort George. The main fall flights of James Bay brant are past Cape Henrietta Maria, Akimiski and Charlton Islands, but a small flight follows the more direct course past Fort George, and often stops near Eastmain for two or three weeks. This summary of the migrations of the American Brant in the northern half of the east James Bay coast is derived entirely from Lewis (1937), who obtained his information for this area from J. W. Anderson of the Hudson's Bay Company.

Lesser Snow Goose, *Chen hyperborea hyperborea* (Pallas).

Blue Goose, *Chen caerulescens* (Linnaeus).

Both the Snow Goose and the Blue Goose migrate along the east James Bay coast in spring and fall. However, they are probably less common there than on the west coast. According to Owen Griffith (Saunders 1917 p. 335), Blue Geese outnumber the Snow Geese on the east James Bay coast. The same authority says that in spring almost every flock of waxies and some geese stop to breed in a big bay about 3 miles north of Fort George.

Our only record north of Long Point was near the Paint Hills Islands on September 1, when we saw a single adult Snow Goose amongst a flock of about 10 dark coloured geese which may have been juveniles of the snow species, Blue Geese, or even Canada Geese. Undoubtedly we left this area before the main migration, but on September 9, we found both snow Geese and Blue Geese fairly plentiful at Ship Sands in the mouth of the Moose River. Soper (1942 p. 150) says that they were exceptionally numerous at Fort George in 1936. Possibly both species

² On p. 30 he refers to Whistling Swans on Nottingham Island.

Table 3. POPULATION DENSITIES OF BLACK DUCK.

| Locality | Dates | Time | No. observed | Remarks |
|---|-----------------|-----------------------|------------------|--------------|
| Moar Bay, including Sheppard Island | June 27 | 35 hrs. in open areas | 27 (.8 per hr.) | |
| Paint Hills Is. | Aug. 30-Sept. 1 | 11½ “ “ “ “ | 55 (5.0 “ “) | |
| Pointe au Huard | July 17 | 4 “ “ “ “ | 3 (.7 “ “) | |
| Walrus Peninsula | Aug. 28 | 4 “ “ “ “ | 15 (3.8 “ “) | |
| Stromness Har. | July 20 | 6 “ “ “ “ | 1 (.2 “ “) | |
| Paul Bay | July 27,31 | 15 “ “ “ “ | 6 (.4 “ “) | ♀ collected |
| | Aug. 23,24 | 17 “ “ “ “ | 31 (1.8 “ “) | 2♂♂ collect. |
| Kakachischuan Point | Aug. 17-18 | 11 “ “ “ “ | 185 (16.8 “ “) | |
| Roggan River | Aug. 12-13 | 22 “ “ “ “ | 134 (6.1 “ “) | ♂ collected |
| Paul Bay to Seal River | Aug. 7 | 9 hrs. travelling | 500 (44.4 “ “) | |
| Seal R. to C. Jones | Aug. 8 | 4 “ “ | 150 (37.5 “ “) | |
| C. Jones to Roggan R. | Aug. 11 | 6 “ “ | 80 (13.3 “ “) | |
| Roggan R. to Kakachischuan Pt. | Aug. 16 | 5 “ “ | 300 (60.0 “ “) | |
| Kakachischuan Pt. to Paul Bay | Aug. 18 | 1½ “ “ | 10 (6.7 “ “) | |
| Stromness Har. to Walrus Jt. | Aug. 27 | 3 “ “ | 1 (.3 “ “) | |
| Walrus Pt. to Paint Hills Is. | Aug. 29 | 11 “ “ | 200 (18.2 “ “) | |
| Paint Hills Is. to Moar Bay | Sept. 2 | 2 “ “ | 25 (12.5 “ “) | |

occasionally breed on the Twin Islands (Macoun 1900 p. 114) and at Cape Henrietta Maria (Manning MS), but there is no evidence that they ever nest on the Cape Jones barrens.

***Common Mallard, *Anas platyrhynchos platyrhynchos* Linnaeus.**

The Mallard is rare in this region. On August 27, we flushed three ducks which were almost certainly Mallards, accompanied by a Black Duck, from the shore of Walrus Peninsula. They were probably stragglers from southern or western James Bay, and therefore referable to *A.p.platyrhynchos*.

Black Duck, *Anas rubripes* Brewster.

Black Ducks were not very plentiful along the southern part of the coast before the beginning of August. Later they were the commonest duck, particularly amongst the small, rocky islands north of Paul Bay. We frequently saw them on these islands near the high tide line where they were probably feeding on the eel grass which had been washed up. They also appeared to feed on the barren ground berries, and at the Roggan River we sometimes saw small flocks feeding in the little lakes on the barrens.

Spreadborough (Macoun & Macoun 1909, p. 80) reported that Black Ducks bred in great numbers on both sides of James Bay. We found a few nesting by the small lakes and in the marshes near the shore, but the greater part of the breeding population is probably scattered through the hinterland. Two of the adult Black Ducks seen at Pointe au Huard were females. One of these had about 7 half-grown young with well feathered wings (flightless young are not included in Table 3); the other had a nest with 8 eggs nearly ready to hatch. One seen on July 31 at the edge of the large shallow lake just south of the Piagochiwi River had at least one half-grown young.

American Pintail, *Anas acuta tzitzihua* Vieillot.

At Fort George, Bell (1882 p. 50) obtained a duck which he calls "The long-tail (*Dafilia acuta*, Linn.)" and which in spite of the confusion of names was probably a Pintail rather than an Old-squaw as suggested by Rae (1888 p. 128). Spreadborough (Macoun & Macoun 1909 p. 89) found Pintails breeding on both sides of James Bay. We saw no evidence of their nesting in the Moar Bay region, and all of the 25 counted were in

small groups, 16 of them being seen on the small marsh near our camp between June 27 and 29. On August 12, at the Roggan River, we saw a female and 4 young (one collected) almost able to fly. Two others flew over on August 14. On August 27, we saw 4 Pintails from the canoe when we were between Stromness Harbour and Walrus Peninsula.

Green-winged Teal, *Anas carolinensis* Gmelin.

Spreadborough (Macoun & Macoun 1909 p. 85) found Green-winged Teal common and breeding on both sides of James Bay. We saw two on the small marsh at Moar Bay on July 8, and a female incubating 8 eggs was collected at Paul Bay on July 22. On August 12, a female and 9 young probably not more than a week old were seen in a marsh near the edge of the spruce at the Roggan River. On August 26 at Paul Bay, two juvenile females were collected from a group of 4 Green-winged Teal, and a juvenile male was obtained at Stromness Harbour on August 26. Eight were seen from the canoe between Walrus Peninsula and the Paint Hills Islands on August 29.

Baldpate, *Mareca americana* (Gmelin).

During our stay at Moar Bay (June 26 to July 15), 15 adult Baldpates were recorded. On July 5, a female and 10 downy young were seen on a small, shallow inlet near our camp, and on July 8, we collected her and 6 of the young, which were probably under a week old. On July 27, a male and female (female collected) were seen on a large lake 2 miles northwest of our Paul Bay camp. Four or 5 ducklings 10 days to two weeks old may have belonged to this female. Two other Baldpates were seen at Paul Bay on July 31 on another large lake just south of Piagochiwi River. On August 24, on a third large lake 2 miles north of our camp, one of 3 young Baldpates not quite able to fly was collected. These three lakes were visited only on the days mentioned. On August 29, 8 Baldpates were seen from the canoe between Walrus Peninsula and the Paint Hills Islands.

Ring-necked Duck, *Aythya collaris* (Donovan).

On June 27 at Moar Bay, 4 Ring-necked Ducks were seen and one collected. Two others were seen there on June 29, and 4 on July 6. On August 1, two were seen at Kakachischuan Point, and 6, probably of this species, at Paul Bay on August 24. Fifteen

ducks seen between Paul Bay and Cape Jones on August 7 and 8 were also believed to be of this species.

Greater Scaup Duck, *Aythya marila nearctica* Stejneger.

Spreadborough (Macoun & Macoun 1909 p. 94) reported a few breeding on James Bay and in the interior of Labrador in 1896, but it is doubtful if he always distinguished between this and the Lesser Scaup Duck.

We collected the Greater Scaup Duck only at Moar Bay and Pointe au Huard and therefore all sight records from other places are here given under the smaller species. It seems probable however, that some of these may have been Greater Scaup Ducks. At Moar Bay, the Lesser Scaup Duck was thought to be the commoner of the two species, and of the total of 115 scaup ducks counted there between June 27 and July 14, probably only about 40 were Greater Scaup Ducks. We found no nests of the Greater Scaup Duck, but a female of a pair collected on July 8 had an almost full-sized yolk still attached on the ovary, and the female of another pair collected on July 14 had an egg in the oviduct and one empty follicle in the ovary. At Pointe au Huard, a single male (collected) and a pair (♀ collected) were seen on July 17. The female had a yolk in her oviduct and three empty follicles.

Lesser Scaup Duck, *Aythya affinis* (Eyton).

The Lesser Scaup Duck appeared to be the commonest nesting duck in the Moar Bay region, and almost every little lake was occupied by a pair of this or the larger species. Since Greater Scaup Ducks were collected and identified with certainty only at Moar Bay and Pointe au Huard, sight records of scaup ducks north of there have been tentatively referred to the smaller species. About 75 Lesser Scaup Ducks were seen at Moar Bay between June 27 and July 14, and 15 between there and Stromness Harbour during the next two days. Scaup ducks were not seen on any of the smaller lakes on the mainland at Paul Bay (perhaps they were too shut in by trees), but on July 25, a group of 6 females and two males were on one of the larger lakes, and a group of about 15 was flushed from another large lake on July 31. On July 27, a pair was collected from a small lake on a barren island west of our Paul Bay camp. After that date, the only scaup ducks identified were 3 seen on the way into Paul Bay on August 18, and

6 on a fairly large lake near there on August 24. On June 28, we collected a female with a yolk in her oviduct and two empty follicles. Next day another was obtained with two nearly full-sized yolks and several collapsed ones still attached to the ovary.

American Golden-eye, *Bucephala clangula americana* (Bonaparte).

At Moar Bay on July 6, 6 American Golden-eyes were seen on a lake close to the shore, and on July 11, 14 were flushed from a shallow, landlocked bay. We saw 30 at sea on August 17 between Pointe au Huard and Dead Duck Bay; 4 were seen on one of the larger lakes at Paul Bay on July 27; 15 on another lake on July 31, and 3 on a similar lake on August 24. While travelling between Cape Jones and Kakachischuan Point on August 11 and 16, we counted 15 apparently flightless Golden-eyes on the sea. A male was collected near Walrus Peninsula on August 27, 3 others were seen there on August 27 and 28, and 15 between there and the Paint Hills Islands on August 29. Both the male golden-eye in eclipse plumage collected on August 27 and the female obtained near Cape Hope on September 2 are referable to *B. clangula americana* on the bill

characters given by Brooks (1920). However, a Barrow's Golden-eye has been collected on the east Hudson coast just north of Port Harrison (Manning 1949), and it is possible that some of those seen in east James Bay may have been of that species.

***Old-squaw, *Clangula hyemalis* (Linnaeus).**

Spreadborough (Macoun & Macoun 1909 p. 102) saw a pair of Old-squaws off Cape Jones in June, 1896; Lewis and Peters (1941 p. 113) saw one near Caroline Shoals in south-east James Bay on September 29, 1940; and they are known to nest at Cape Henrietta Maria (Manning 1951), Bear Island (Manning 1950) and Grey Goose Island (Coates 1948). We found them numerous in Long Island Sound between August 8 and 11, but did not definitely identify any south of Cape Jones, although there can be no doubt that they frequently occur there and a few probably nest.

Hudson Bay Eider, *Somateria mollissima sedentaria* Snyder.

Thirty of the Hudson Bay Eiders seen on July 17, and all those seen on August 27, were males. The latter were in one flock. The Hudson Bay Eider is common in Long

Table 4. POPULATION DENSITIES OF HUDSON BAY EIDER.

| Locality | Dates | Time | No. observed |
|--------------------------------------|---------|-------------------|-------------------|
| Pte. au Huard to Dead Duck B. | July 17 | 6 hrs. travelling | 35 (5.8 per hr.) |
| Kakachischuan Pt. to Seal River | Aug. 7 | 7 " " | 5 (.7 " ") |
| Seal River to Cape Jones | Aug. 8 | 4 " " | 7 (1.8 " ") |
| Stromness Har. to Walrus Pen. | Aug. 27 | 3 " " | 100 (33.3 " ") |
| Walrus Pen. to Paint Hills Is. | Aug. 29 | 11 " " | 3 (.3 " ") |

Table 5. POPULATION DENSITIES OF WHITE-WINGED SCOTER.

| Locality | Dates | Time | No. observed |
|---|------------|---------------------|-------------------|
| Kakachischuan Point | Aug. 17-18 | On salt water lake | 60 |
| Moar Bay to Pte. au Huard | July 16 | 2.5 hrs. travelling | 40 (16.0 per hr.) |
| Pte. au Huard to Dead Duck B. | July 17 | 6 " " | 20 (3.3 " ") |
| Dead Duck Bay to Stromness Har. | July 18 | 6 " " | 10 (1.7 " ") |
| Paul Bay to Kakachischuan Pt. and return | Aug. 1 | 2 " " | 5 (2.5 " ") |
| Paul Bay to Seal River | Aug. 7 | 9 " " | 10 (1.1 " ") |
| Seal River to Cape Jones | Aug. 8 | 4 " " | 12 (3.0 " ") |
| Cape Jones to Roggan River | Aug. 11 | 6 " " | 15 (2.5 " ") |
| Walrus Pen. to Paint Hills Is. | Aug. 29 | 11 " " | 8 (7.3 " ") |



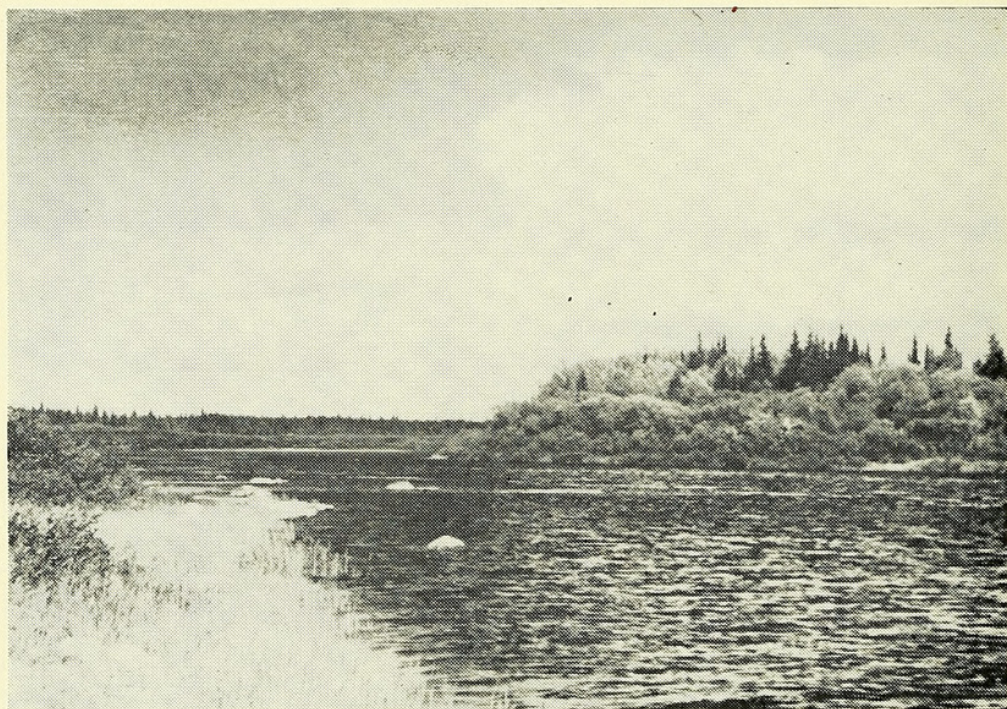
White spruce bordered by alder at the shallow bay where the Moar Bay camp was situated. July 10, 1950.



Sheppard Island. July 4, 1950.



At the mouth of the Poplar River. Willow thickets form a border between an open marshy area and the white spruce. July 6, 1950.



Looking up the Poplar River to the first poplar stand. July 6, 1950.

Table 6. POPULATION DENSITIES OF SURF SCOTER.

| Locality | Dates | Time | No. observed | Remarks |
|---|---------|---------------------|------------------|-----------------|
| Moar Bay | July 2 | On lake | 20 | 4 ♀ ♀ collected |
| Moar Bay to Pte. au Huard | July 16 | 2.5 hrs. travelling | 20 (8.0 per hr.) | |
| Pte. au Huard to Dead Duck Bay | July 17 | 6 " " | 20 (3.3 " ") | |
| Dead Duck Bay to Stromness Har. | July 18 | 6 " " | 10 (1.7 " ") | |
| Paul Bay to Seal River | Aug. 7 | 9 " " | 8 (0.9 " ") | |
| Seal River to Cape Jones | Aug. 8 | 4 " " | 8 (2.0 " ") | |

Island Sound, and nests on several of the islands in James Bay, including Solomons Temple (Manning 1950), but in 1950 none appeared to be nesting on the east James Bay coast or its island fringe. In June, 1896, Spreadborough (Macoun & Macoun 1909 p. 109) found this species common from a short distance north of Moose Factory to Richmond Gulf.

***King Eider**, *Somateria spectabilis* (Linnaeus).

A King Eider was taken in James Bay, presumably on the south or east coast, by Low in June 1896 (Macoun & Macoun 1909 p. 112). King Eiders nest at Cape Henrietta Maria in west James Bay.

White-winged Scoter, *Melanitta deglandi deglandi* (Bonaparte).

Spreadborough (Macoun & Macoun 1909 p. 115) found the White-winged Scoter abundant from Moose Factory to Richmond Gulf in June 1896.

Surf Scoter, *Melanitta perspicillata* (Linnaeus).

The 20 Surf Scoters seen at Moar Bay were in a mixed flock of both sexes feeding on a large lake which was visited only on July 2. Their stomachs contained frog and fish spawn. Nearly all the scoters of all species seen at sea prior to our return south of Long Point were males. Obviously not all the dark-winged scoters seen from the canoe could be separated specifically, and on a few of our trips where only American Scoters are recorded, some may have been Surf Scoters although none were definitely identified.

Table 7. POPULATION DENSITIES OF AMERICAN SCOTER.

| Locality | Dates | Time | No. observed |
|---|---------|---------------------|-------------------|
| Moar Bay | July 11 | From canoe. | 20 |
| Stromness I. | Aug. 25 | On sea | 1 |
| Moar Bay to Pte. au Huard | July 16 | 2.5 hrs. travelling | 20 (8.0 per hr.) |
| Pte. au Huard to Dead Duck Bay | July 17 | 6 " " | 20 (3.3 " ") |
| Dead Duck Bay to Stromness Har. | July 18 | 6 " " | 10 (1.7 " ") |
| Paul Bay to Kakachischuan Pt. | | | |
| and return | Aug. 1 | 2 " " | 15 (7.5 " ") |
| Paul Bay to Seal River | Aug. 7 | 9 " " | 8 (0.9 " ") |
| Seal River to Cape Jones | Aug. 8 | 4 " " | 8 (2.0 " ") |
| Cape Jones to Roggan River | Aug. 11 | 6 " " | 10 (1.7 " ") |
| Roggan River to Kakachischuan Pt. | Aug. 16 | 5 " " | 100 (20.0 " ") |
| Paul Bay to Stromness Har. | Aug. 25 | 2.5 " " | 10 (4.0 " ") |
| Stromness Har. to Walrus Pen. .. | Aug. 27 | 3 " " | 4 (1.3 " ") |

American Scoter, *Oidemia nigra americana*
Swainson.

This appears to be the commonest scoter along this coast.

Ruddy Duck, *Oxyura jamaicensis rubida
(Wilson).

Macoun and Macoun (1909 p. 119) record that Spreadborough saw a female with 4 young about a week old on June 21, 1896, in 'northern Labrador'. Actually on that date Spreadborough was at Fort George (Low 1896a). There appear to be no other records for James Bay, and this, together with his observation that it breeds sparingly from Richmond Gulf to Ungava probably resulted from misidentifications.

Hooded Merganser, *Lophodytes cucullatus*
(Linnaeus).

On July 26, two Hooded Merganser were seen on a small lake at Paul Bay. One of these, a female and probably non-breeding bird, was collected. This is probably the normal northern limit for the species in this area, and Spreadborough's record of a pair at Clearwater Lake (Manning 1949) must be accepted reservedly.

American Merganser, *Mergus merganser americanus* Cassin.

Red-breasted Merganser, *Mergus serrator serrator* Linnaeus

A comparatively small number of the mergansers seen on the wing were identified specifically with certainty. The Red-breasted Merganser was probably the commoner, but a few American Mergansers were identified over most of the region. At Moar Bay a male American Merganser was collected on July 3, a male Red-breasted Merganser on July 2, and a female Red-breasted Merganser on July 8 and September 2. At Stromness Island, a male American Merganser and 6 of her 8 downy young were collected on July 9. The stomachs of the latter contained insects.

American Goshawk, *Accipiter gentilis atricapillus* (Wilson).

On August 24, an immature goshawk was seen at different times and in different areas at Paul Bay. On August 26, Macpherson collected an immature male which had been eating a recently killed Pigeon Hawk.

American Rough-legged Hawk, *Buteo lagopus s.johannis* (Gmelin).

Although mice of all species except possibly *Peromyscus maniculatus* were unusually scarce in the area, the Rough-legged Hawk was the commonest hawk on the east James Bay coast in 1950. Its abundance may have been due to a sudden decline in lemming numbers on the Ungava barrens sometime after the summer of 1949. We saw no

Table 8. POPULATION DENSITIES OF AMERICAN MERGANSER AND RED-BREASTED MERGANSER.

| Locality | Dates | Time | No. observed |
|---|---------------------|-------------------|------------------|
| Moar Bay, including Sheppard I. | June 27- July 14 | 85 hrs. observing | 64 |
| | Sept. 2 | 4 " " | 10 |
| Paul Bay | July 22- Aug. 2 | 63 " " | 21 |
| Pte. au Huard to Dead Duck Bay | July 17 | 6 hrs. travelling | 15 (2.5 per hr.) |
| Dead Duck Bay to Stromness Har. | July 18 | 6 " " | 6 (1.0 " ") |
| Stromness Har. to Paul Bay | July 21 | 2 " " | 2 (1.0 " ") |
| Paul Bay to Kakachischuan Pt. and return | Aug. 1 | 2 " " | 6 (3.0 " ") |
| Paul Bay to Stromness Har. and return | Aug. 4, 5 | 4 " " | 15 (3.7 " ") |
| Paul Bay to Seal River | Aug. 7 | 9 " " | 50 (5.6 " ") |
| Seal R. to Cape Jones | Aug. 8 | 4 " " | 15 (3.7 " ") |
| Cape Jones to Roggan R. | Aug. 11 | 6 " " | 15 (2.5 " ") |
| Roggan River to Kakachischuan Pt. | Aug. 16 | 5 " " | 10 (2.0 " ") |
| Stromness Har. to Walrus Pen. | Aug. 27 | 3 " " | 1 (0.3 " ") |
| Walrus Pen. to Paint Hills Is. | Aug. 29 | 11 " " | 4 (0.4 " ") |

evidence that any of these hawks were breeding, although there were suitable cliffs on the Paint Hills Islands and near our Paul Bay camp. At the latter place a previous year's nest probably belonging to this species of hawk was found. At Long Island, two cliffs where Rough-legged Hawks had nested in 1949 were this year unoccupied. Most of the Rough-legged Hawks we saw during the summer were circling high over grass and willow marshes. Twenty-six Rough-legged Hawks were counted at Moar Bay between June 27 and July 13, and 25 (probably not more than 6 to 8 individuals recounted at different times during the day) at the Poplar River on July 6. The greater abundance of hawks at the latter place was doubtless due to the larger areas of open marsh. On the Paint Hills Islands we saw one Rough-legged Hawk on July 16, and one on August 31; on Stromness Island one on July 20, and another on August 26; 15 at Paul Bay between July 21 and August 5, and 2 between August 22 and 23; 2 at Kakachischuan Point on August 1, and one at the Roggan River on August 12.

Osprey, *Pandion haliaetus carolinensis* (Gmelin).
In 1950 the Osprey was the second commonest hawk along the east James Bay coast, and it is rather surprising that Spreadborough (Macoun & Macoun 1909 p. 287) should have seen no Ospreys north of Moose Factory. Every day one or more (once 4 together) flew over our camp at Moar Bay, and on several occasions they were successful in obtaining fish from the shallow, muddy inlet. They were seen less frequently at Paul Bay. If all those we saw from our camps had been counted, the numbers observed at these two places would have been more than double the figures given in Table 9 for those recorded on timed walks.

Duck Hawk, *Falco peregrinus anatum* Bonaparte.
The skeleton of a Duck Hawk was obtained at Moar Bay from one of the traps which the Indians set on the points and islands along this coast for hawks and owls. One Duck Hawk was seen at the Paint Hills Islands on July 16, and one on August 31. Two were seen together at the Roggan River on August 13.

Eastern Pigeon Hawk, *Falco columbarius columbarius* Linnaeus.
A freshly killed female Pigeon Hawk was found and collected on Stromness Island on August 26. It had been partially eaten by an American Goshawk which was also collected.

Hudsonian Spruce Grouse, *Canachites canadensis canadensis* (Linnaeus).
Between June 29 and July 14, we saw 23 adult Spruce Grouse at Moar Bay, of which almost half were on the island just west of our camp. Most of the females had eggs or young, and about 6 broods were actually seen. On June 29, a female was collected which had an egg in the oviduct and 3 empty follicles. The downies collected on July 5 were probably only 3 or 4 days old, while 4 obtained on July 13, and one from another brood on July 24, were developing wing feathers. The crops of two adult males and 3 females collected at Moar Bay contained cranberries, spruce shoots, horsetail tips, willow and alder leaves, *Vaccinium* shoots and plant buds. The crops of the downies collected on July 5 contained caterpillars. One female Spruce Grouse was seen at Pointe au Huard on July 17, and on July 24, two were collected together at Paul Bay. They were accompanied by several half grown flying young.

Table 9. POPULATION DENSITIES OF OSPREY.

| Locality | Dates | Time | | No. observed | | | | Remarks |
|--------------------------------------|---------------------|------|----------------|------------------|--|--|--|---------------|
| Moar Bay, including Sheppard I. | June 30- July 10 | 85 | hrs. observing | 20 (0.2 per hr.) | | | | |
| Poplar River | July 6 | 12 | " " | 2 (0.2 " ") | | | | |
| Paul Bay | July 21- Aug. 3 | 63 | " " | 5 (0.1 " ") | | | | |
| | Aug. 22 | 27 | " " | 3 (0.1 " ") | | | | |
| Paint Hills Is. | Aug. 30-31 | 17½ | " " | 2 (0.1 " ") | | | | 1 ♂ collected |
| Roggan River | Aug. 13-15 | 28 | " " | 3 (0.1 " ") | | | | |

Table 10. POPULATION DENSITIES OF UNGAVA WILLOW PTARMIGAN.

| Locality | Dates | Time | No. observed | Remarks |
|------------------------|---------------------------------|-------------------|----------------------|---------------------------|
| Moar Bay | July 1-11 | 3 hrs. in habitat | Pair with nest | ♀ collected |
| Sheppard I. | July 4, 8, 13, 14 | 14 " " " | 24 ad. (1.7 per hr.) | 2 ♂ ♂, 2 ♀ ♀ collected |
| Island A | July 8 | 2 " " " | One adult | |
| Paint Hills Is. | July 16, Aug. 30- Sept. 1 | 14½ " " " | 19 ad. (1.3 per hr.) | 4 ♂ ♂ collect. |
| Pte. au Huard | July 17 | 2½ " " " | 3 " (1.2 " ") | 2 ♂ ♂ collect. |
| Walrus Pen. | Aug. 28 | 2½ " " " | 6 " (1.4 " ") | |
| Stromness I. | July 18-20 Aug. 26 | 14 " " " | 14 " (1.0 " ") | ♂ collected |
| Kakachischuan Pt. | Aug, 1, 7, 17, 18 | 21 " " " | 150 " (7.0 " ") | 4 ♂ ♂, 4 ♀ ♀ collected |
| Roggan River | Aug. 12-15 | 18 " " " | 120 " (6.7 " ") | 4 ♂ ♂, 4 ♀ ♀ collected |

Two specimens from Lake Albnel were considered by Godfrey (1949) to be nearer *C.c.canadensis* than *C.c.canace*. Three of our birds from Moar Bay and one from Spit Island 30 miles to the south are slightly greyer and less brown than the Lake Albnel specimens, while one from Moar Bay and 3 from Paul Bay are strikingly grey. These last 4 specimens average as grey as the Yukon birds referred to *C.c.osgoodi* by Rand (1948), but differ from them in that the grey feather edging of the east James Bay birds is much purer — that is to say, less tinged with brown. However, in the absence of female specimens from other parts of Ungava, they are tentatively referred to *C.c.canadensis*.

Ungava Willow Ptarmigan, *Lagopus lagopus ungavus* Riley.

On June 26, we saw 3 Willow Ptarmigan on a small, barren island between Long Point and the Factory River, but it is doubtful if the summer range of this species extends much south of there even on the islands, and on the mainland they probably do not nest south of Long Point.

In 1896, Spreadborough first observed this species a short distance north of Fort George on June 23. On the same date Low's other assistant, A. Young, found a nest with 13 eggs pretty far advanced in incubation. North of there a few were seen every day on the islands until Richmond Gulf was reached (Macoun & Macoun 1909 p. 225).

Macoun (1900 p. 206) lists 4 Willow Ptarmigan taken by Bell at Fort George.

On July 1, a pair (♀ collected) with a nest containing 9 slightly incubated eggs was seen on the barren point near our Moar Bay camp. On the barren or sparsely treed areas of Sheppard Island, Willow Ptarmigan were fairly numerous, and their ecological range occasionally overlapped that of the Spruce Grouse. One of the females collected there on July 4 had a brood of 6 downies (about 2 days old) which were collected; the other had an incubating patch, but no apparent nest or young. One other brood was seen on Sheppard Island on July 13, and a single downy, about 6 days old, was collected from it. On July 18, a brood of 8 small flying young was seen with their parents on Stromness Island, and at the Roggan River, a brood of about 8 slightly larger young was seen. On August 12, 14, and 15, the female parent and two juveniles were collected from it. On August 31, a brood of 7 young (2 ♂ ♂ collected) about two-thirds grown was seen on the Paint Hills Islands. Most of the female ptarmigan seen at Moar Bay had young, but farther north young ptarmigan were extremely scarce. It is possible that this is normal and results from a coastward movement of adults that have nested inland and lost their eggs or young. It is more probable, however, that exceptionally few broods were successfully raised in 1950. This might be due, at least in part, to predation by Rough-legged Hawks, which,

having been deprived of their normal food by the scarcity of mice and lemmings, concentrated on the downy flightless ptarmigan. We obtained no direct evidence to support this suggestion.

The measurements of our adult specimens were: Bill from anterior end of nostril to tip, 14♂♂, 12.2mm. (11mm.-13mm.); 11♀♀, 11.4mm. (10.5mm.-12.5mm.). Width at gape, 16♂♂, 14.9mm. (14mm.-16.2mm.), 11♀♀, 14.2mm. (13.8mm.-15mm.). These measurements average slightly larger than those obtained by Ridgway and Friedmann (1946) and Manning (1949) from specimens taken farther north on the Labrador Peninsula.

Rock Ptarmigan, *Lagopus mutus rupestris* (Gmelin).

Rock Ptarmigan do not nest in this area, but according to local information, they are numerous during the winter on the high nearby barren country 150 to 200 miles inland. They also winter on the coast, but are never as numerous there as the Willow Ptarmigan.

Northern Sharp-tailed Grouse, *Pedioecetes phasianellus phasianellus* (Linnaeus).

According to local information, Sharp-tailed Grouse are quite numerous in some years in the Fort George region, especially towards spring, while at the Factory River they were said to be very scarce on the coast, but fairly common inland. Spreadborough (Macoun & Macoun 1909 p. 230) was told that they were common at Fort George in the winter. According to Townsend and Allan (1907 p. 363). Low took a set of eggs at Fort George on May 20, 1889. They are not now in the National Museum, nor are they recorded by Macoun (1900). Low was not at Fort George on that date, but they might have been collected by Miles Spence. A Northern Sharp-tailed Grouse in the National Museum collection was taken by Spreadborough in 1896 somewhere on the coast, probably at Fort George, although on the date given on the label (June 18), Spreadborough was not north of the Paint Hills (Low 1896a).

On August 23, we collected a female from a patch of low scrub on a small, treeless point at Paul Bay.

***Yellow Rail**, *Coturnicops noveboracensis noveboracensis* (Gmelin).

Bell (1882 p. 51) procured a Yellow Rail at Fort George. It is locally common on the

southern and eastern shores of James Bay (Todd 1943) and also occurs on the southern Hudson Bay Coast.

Semipalmated Plover, *Charadrius hiaticula semipalmatus* Bonaparte.

A few Semipalmated Plovers breed on the barren points and islands along this coast, while in spring and fall it may be a fairly common migrant on the tide flats and coastal marshes. Macoun & Macoun (1909 p. 207) record that Spreadborough found it common in 1896 from Moose Factory along the James Bay coast and northward to Richmond Gulf. A set of 4 eggs from a nest found by Low on June 18 when he was between Factory River and the Paint Hills (Low 1896a) is now in the National Museum.

Between June 27 and July 1, a loose feeding group of about 15 Semipalmated Plovers was often seen on the little bare mud flat in the marsh near our Moar Bay camp or on the nearby tide flats. These were presumably non-breeding birds. Two collected from the group on July 1 were very fat females (largest ovum, 5mm. and 3mm. respectively). After July 1, only 14 Semipalmated Plovers were seen at Moar Bay. Three of these were on Sheppard Island and 3 on Island A. One seen on July 4 on the barren point near our Moar May camp may have had a nest. On July 17, we saw 3 Semipalmated Plovers on Pointe au Huard and one on Stromness Island on July 20. On August 1, we saw 8 on Kakachischuan Point, and at Paul Bay 12 between July 21 and August 6. The latter were mostly single birds feeding on the tide flats, but one seen on the ridge behind our camp appeared to have a nest or young. Eight were seen at Walrus Peninsula on August 28.

Black-bellied Plover, *Squatarola squatarola* (Linnaeus).

The whistle of high-flying plovers was occasionally heard at the Roggan River between August 12 and 15. On August 17, a single female Black-bellied Plover was collected at Kakachischuan Point. One was heard at Stromness Harbour on August 26, and one seen at the Paint Hills Islands on August 30 and 31.

Ruddy Turnstone, *Arenaria interpres morinella* (Linnaeus).

On August 17, 12 Turnstones were seen on Kakachischuan Point in groups of 4. Possibly the same group was seen three times.

Wilson's Snipe, *Capella gallinago delicata*
(Ord).

Wilson's Snipe nests in the marshes along this coast within and near the tree line, but is absent from the barren islands and probably from the Cape Jones barrens. It was seen by Bell (1882 p. 51) at Fort George.

At Moar Bay we saw Wilson's Snipe only on the small marsh at the head of the bay near our camp, although two similar but larger marshes were examined on July 6 and 11 respectively. Possibly they were attracted to the little marsh by the small patch of bare mud in the centre. On June 27, 15 snipe were counted in this marsh. All appeared to be resident and about 6 pairs probably nested. The largest ovum of a female collected on June 27 was 4mm.; another female taken on June 28 had an egg in its oviduct. On July 7, two downies a day or two old, both from the same brood and probably the only ones remaining from it, were collected. There were still about the same number of snipe in the marsh when it was last visited on July 10. We again walked through it on September 2, and 3 adult Wilson's Snipe (one ♂, 2 ♀♀ collected) were seen. On July 17, a Wilson's Snipe was seen at Pointe au Huard, and another on July 25 in a small marsh half a mile up the Piagochiwi River. On July 31, 5 (one adult female and one juvenile collected) were seen during an hour's walk in the marsh on the south side of this river, and one was seen in a marsh about 2 miles up the Roggan River on August 13.

Hudsonian Curlew, *Numenius phaeopus hudsonicus* Latham.

Two Hudsonian Curlews were seen at Moar Bay on July 14, 6 flew over our canoe just south of Dead Duck Bay on July 17, and 4 near Stromness Harbour on August 21. During 18 hours walking between August 12 and 15, 48 Hudsonian Curlews were seen on the barrens near the Roggan River. These were mostly in small flocks. Two single curlews were seen at Kakachischuan Point on August 17, and 44 in singles and small flocks at the Paint Hills Islands during 11½ hours walking on the barrens between August 30 and September 1.

Spotted Sandpiper, *Actitis macularia* (Linnaeus).

Spotted Sandpipers doubtless nest throughout the wooded hinterland wherever there are

suitable lakes and rivers. Near the coast they are particularly numerous at the river mouths and frequently occur along the wooded shore line. Occasionally they visit the barren islands.

Forty-eight Spotted Sandpipers (♂ collected) were seen at Moar Bay between June 27 and July 14. This number includes 16 seen along the Poplar River on July 6, and 5 along the shore of Sheppard Island. Most of the others were flushed while walking along the shore of the small bay near our camp. On July 2, a nest was found with 4 eggs which had not hatched when the nest was last visited on July 11. At Paul Bay, 26 Spotted Sandpipers were seen between July 22 and August 6, and 15 between August 19 and 22. Most of these were flushed from the edge of the alder (where they were probably nesting) or seen feeding near the high tide line. On July 23, two partially downy young were collected. These had sufficient wing feathers just to flutter from the ground. When pursued they entered the water and dived, using their wings for swimming under the water. A slightly younger downy from another brood was seen at Paul Bay on July 26. On August 13, we saw 10 Spotted Sandpipers from our canoe during 2 hours spent on the Roggan River.

Eastern Solitary Sandpiper, *Tringa solitaria solitaria* Wilson.

On June 20, an apparent pair (♂, testis, 4 x 3mm., ♀, largest ovum, 1mm.) was collected from the small marsh near our camp at Moar Bay. They did not appear to be nesting. On July 1, another pair was seen in the marsh. They showed considerable agitation and may have had a nest, although they had not been seen there before. The male was collected (testis 5mm. x 3mm.) and the female was not again seen. On July 7, a single male (testis 2mm.) was collected at the same marsh. Two Solitary Sandpipers were seen on the ridge behind our camp at Paul Bay on July 21. It was thought they might have a nest or young, but were not seen there again. A pair, possibly the same, accompanied by at least two juvenile flying young, was seen in a small marsh a mile distant, on July 25. The juveniles and male parent (testis, 2mm. x 1mm.) were collected.

Table 11. POPULATION DENSITIES OF GREATER YELLOW-LEGS.

| Locality | Dates | Time | No. observed | Remarks |
|------------------------|------------|----------------|-------------------|--------------------|
| Walrus Pen. | Aug. 28 | 4 hrs. in open | 25 (6.3 per hr.) | ♂ collected |
| Paint Hills Is. | Aug. 31 | 11½ " " " | 1 (0.1 " ") | |
| Stromness Har. | Aug. 26 | 5 " " " | 1 (0.2 " ") | |
| Paul Bay | July 31 | 15 " " " | 5 (0.3 " ") | |
| | Aug. 20-24 | 7 " " " | 160 (22.9 " ") | ♀ juv., ♂ collect. |
| Kakachischuan Pt. | Aug. 1 | 10 " " " | 19 (1.9 " ") | |
| | Aug. 17-18 | 11 " " " | 34 (3.1 " ") | |
| Roggan River | Aug. 12-15 | 22 " " " | 90 (4.1 " ") | |

The wing chord of adult specimens measured, ♂♂ 124.5 mm. (121.5mm. — 126.5mm.); ♀, 125mm. The outer primaries of all specimens are immaculate.

Wandering Tatler, *Heteroscelus incanus
(Gmelin).

Bell (1882 p. 51) says, "...I obtained a specimen of the wandering tatler (*Heteroscelus brevipes*, Vieill.), supposed to be a western species, on the Eastmain coast..." This was almost certainly based on a misidentification (Cf. Townsend & Allen 1907 p. 362).

Greater Yellow-legs, *Totanus melanoleucas*
(Gmelin).

We saw no Greater Yellow-legs at Moar Bay, indicating that this species is either more northern than the Lesser Yellow-legs or else nests inland and only arrives on the coast towards the beginning of August. Eight yellow-legs seen at Paul Bay between July 24 and 28 were not identified specifically. Most of those seen at the Roggan River were on the barrens. They could not be approached sufficiently closely to tell whether they were adults or juveniles. About two-thirds of the Paul Bay and later records were juveniles. One hundred and fifty of the 160 seen at Paul Bay were together near the mouth of a small brook a mile north of our camp. This brook was visited only on August 24.

Lesser Yellow-legs, *Totanus flavipes*
(Gmelin).

The Lesser Yellow-legs appears to be a fairly common nesting bird in the Moar Bay region. Macoun (1900 p. 173) lists a set of eggs not now in the National Museum taken in June, 1888 at Fort George by Miles Spence.

On June 27, there were 15 Lesser Yellow-legs (♂ collected testis, 3mm.) on the small marsh near our camp at Moar Bay. Next day this number had been increased to about 40 by migrant flocks, but by June 29, the total was down to 6. There appeared to be three nesting pairs which remained in the vicinity until my last visit on July 10. On that date they had moved from their usual places and the eggs had therefore presumably been hatched. On July 11, two yellow-legs were seen during an hour's walk in a larger marsh at Moar Bay, but none were observed on July 6 in the marshes about the Poplar River. One was seen on the island at Moar Bay on July 13. Eight yellow-legs were seen at Paul Bay between July 24 and 28, but were not identified specifically. Between July 12 and 14, 3 Lesser Yellow-legs were seen at the Roggan River. One of these, a juvenile female, was collected. It was very tame, but twice when I approached, it quickly swam out 2 or 3 yards from the shore on a lake by which it was feeding. The water there was about 2 feet deep, and the bird's feet could not possibly have been on the bottom. On August 28, 2 Lesser Yellow-legs (one collected) were seen at Walrus Peninsula amongst a flock of Greater Yellow-legs.

Purple Sandpiper, *Erolia maritima* (Brünnich).

Fifteen Purple Sandpipers were seen in small flocks at the Roggan River on August 15.

Pectoral Sandpiper, *Erolia melanotos* (Vieillot).

On August 15, a Pectoral Sandpiper was collected from a flock of 6 on the coastal barrens at the Roggan River.

White-rumped Sandpiper, *Erolia fuscicollis*
(Vieillot).

The White-rumped Sandpiper was first recorded at the Roggan River, where 41 were seen on the tide flats between August 12 and 15. Five hundred (4 ♂♂ collected) were seen at Kakachischuan Point between August 17 and 18, and 12 on Walrus Peninsula on August 28.

Least Sandpiper, *Erolia minutilla* (Vieillot).

Seven Least Sandpipers were seen in the small marsh near our camp at Moar Bay on June 27, and 10 on June 29, when a male (testis, 5mm.) and a female (largest ovum, 1mm.) were collected. After June 29, their numbers decreased, and only one was seen on July 10. I doubt if any nested there, although at first two or three appeared as if they might have nests. Two Least Sandpipers were seen during an hour's walk in another marsh on July 11, but none in the marshes inland up the Poplar River on July 6. One was seen at Paul Bay on July 24, 3 at the Roggan River between August 14 and 15, and one on the Paint Hills Islands on August 30.

Semipalmated Sandpiper, *Ereunetes pusillus*
(Linnaeus).

A female Semipalmated Sandpiper was collected at Fort George by Drexler on June 30 (Sharpe 1896 p. 518). Between August 14 and 15, we saw 10 (♂, ♀, collected) at Kakachischuan Point, 8 at Paul Bay on August 24, and one at the Paint Hills Islands on August 30. All were migrants feeding near the shore.

Sanderling *Crocethia alba* (Pallas).

Eight Sanderlings (♀ collected) were seen at the edge of the Paul Bay tide flats on August 24, and 4 at Walrus Peninsula on August 28.

Northern Phalarope, *Lobipes lobatus* (Linnaeus).

On July 8, 7 Northern Phalaropes (♂ collected) were seen feeding on a little lake on Island A.

Parasitic Jaeger, *Stercorarius parasiticus*
(Linnaeus).

Bell (1882 p. 50) obtained a specimen of the Parasitic Jaeger at Fort George.

Glaucous Gull, *Larus hyperboreus hyperboreus Gunnerus.

Under museum specimens, Macoun (1900 p. 34) lists a set of 3 Glaucous Gull eggs from James Bay. This is presumably the set (now two) in the National Museum taken by Spreadborough on June 18, 1896 when he was between Factory River and the Paint Hills (Low 1896a). The two eggs measure 73mm. x 49mm. and 76mm. x 50mm. respectively. While the possibility that they belong to this species cannot be definitely ruled out, one egg is extremely small for that of the Glaucous Gull, and their measurements are much closer to those of the Herring Gull as given by Bent (1947). Moreover, both Low (1896b p. 323) and Spreadborough (Macoun & Macoun 1909 p. 36) appear to have confused the Herring and Glaucous gulls in this region (Cf. Manning 1949). The set of 3 eggs from an island near Great Whale River which Macoun (1900 p. 34) also lists under Glaucous Gull measure 75mm. x 51mm., 73mm. x 50mm., 73 mm. x 50 mm., and are also probably those of the Herring Gull.

Herring Gull, *Larus argentatus smithsonianus*
Coues.

All the Herring Gulls recorded in Table 12 were in one's, two's, or occasionally three's except a flock of 15 (twice seen) at a small island in Paul Bay on July 6. Most of the Herring Gulls seen were in adult plumage or so near adult that they could not be distinguished in the distance. In spite of the numerous small islands which might be expected to be excellent nesting grounds, we found no evidence of nesting except for an old nest on Island A in Moar Bay where a pair appeared to resent our intrusion. The two specimens collected at Moar Bay were adults. The female obtained at Paul Bay was an immature, probably two years old.

Ring-billed Gull, *Larus delawarensis Ord.

Bent (1947 p. 139) mentions Fort George as within the breeding range of the Ring-billed Gull. This is probably an error since there is no other definite record for James Bay (Manning MS) or for Lake Mistassini (Godfrey 1949).

Common Tern, *Sterna hirundo Linnaeus.

Spreadborough (Macoun & Macoun 1909 p. 53) reported the Common Tern common from Moose Factory to Richmond Gulf in 1896. However, since he does not mention the Arctic Tern in this area, it seems very likely that some, and perhaps most of the terns he

Table 12. POPULATION DENSITIES OF HERRING GULL.

| Locality | Dates | Time | | No. observed | Remarks |
|---|-----------------------|--------|-----------------|-------------------|-----------------|
| Moar Bay, including Sheppard I. | June 27- July 14 | 35 | hrs. in open | 42 (1.2 per hr.) | 2 ♂ ♂ collected |
| Paint Hills Is. | July 16 | 3 | " " " | 4 (1.3 " ") | |
| Pointe au Huard | July 17 | 3 | " " " | 2 (0.7 " ") | |
| Walrus Peninsula | Aug. 27 | 4 | " " " | 2 (0.5 " ") | |
| Stromness I. | July 18-19 Aug. 26 | 6 5 | " " " | 7 (0.6 " ") | |
| Paul Bay | July 21- Aug 6 | 15 | " " " | 35 (1.6 " ") | ♀ collected |
| Kakachischuan Pt. | Aug. 1 | 10 | " " " | 8 (0.8 " ") | |
| Roggan River | Aug. 13 | 22 | " " " | 14 (0.6 " ") | |
| Moar Bay camp to Poplar River and return | July 6 | 3 | hrs. travelling | 35 (11.7 " ") | |
| Pointe au Huard to Dead Duck Bay | July 17 | 6 | " " | 20 (3.3 " ") | |
| Dead Duck Bay to Stromness Har. | July 18 | 6 | " " | 6 (1.0 " ") | |
| Paul Bay to Kakachischuan and return | Aug. 1 | 2 | " " | 4 (2.0 " ") | |
| Paul Bay to Seal River .. | Aug. 7 | 9 | " " | 15 (1.7 " ") | |
| Seal River to Cape Jones | Aug. 8 | 4 | " " | 5 (1.2 " ") | |
| Cape Jones to Roggan River | Aug. 11 | 6 | " " | 15 (2.5 " ") | |
| Roggan River to Kakachischuan Pt. | Aug. 16 | 5 | " " | 15 (3.0 " ") | |
| Kakachischuan Pt. to Paul Bay | Aug. 18 | 1½ | " " | 4 (2.7 " ") | |
| Stromness Har. to Walrus Peninsula | Aug. 27 | 3 | " " | 2 (0.7 " ") | |
| Walrus Peninsula to Paint Hills Is. | Aug. 29 | 11 | " " | 30 (2.7 " ") | |
| Paint Hills Is. to Moar B. | Sept. 2 | 2 | " " | 5 (2.5 " ") | |

saw were actually that species, which appears to be the more numerous in James Bay, particularly towards the northern portion. (See Arctic Tern below).

Arctic Tern, *Sterna paradisaea* Pontopiddan.

In Table 13 it has been assumed that all the terns seen were Arctic Terns. Unfortunately none were collected, and the bases for the assumption are our small collections on the west side of James Bay and

Table 13. POPULATION DENSITIES OF ARCTIC TERN.

| Locality | Dates | Time | | No. observed |
|------------------------------------|---------------------|------|-----------------|-------------------|
| Moar Bay, including Sheppard I. .. | June 27- July 14 | 35 | hrs. in open | 85 (2.4 per hr.) |
| Stromness I. | July 19-20 | 6 | hrs. travelling | 4 (0.7 " ") |
| Moar Bay N. to Pte. au Huard | July 16 | 2.5 | " " | 15 (6.0 " ") |
| Pte. au Huard to Dead Duck Bay .. | July 17 | 6 | " " | 15 (2.5 " ") |
| Dead Duck Bay to Stromness Har. | July 18 | 6 | " " | 10 (1.7 " ") |
| Paul Bay to Seal River | Aug. 7 | 9 | " " | 200 (22.2 " ") |
| Seal River to Cape Jones | Aug. 8 | 4 | " " | 50 (12.5 " ") |

Table 14. POPULATION DENSITIES OF NEARCTIC MANDT'S GUILLEMOT.

| Locality | Dates | Time | No. observed |
|--|------------|-------------------|------------------|
| Short canoe trips at Paul Bay | July 6-11 | 6 hrs. travelling | 8 (1.3 per hr.) |
| Moar Bay to Pointe au Huard | July 15-16 | 4 " " | 10 (2.5 " ") |
| Pte. au Huard to Dead Duck Bay | July 17 | 6 " " | 200 (33.3 " ") |
| Dead Duck Bay to Stromness Har. | July 18 | 6 " " | 50 (8.3 " ") |
| Paul Bay to Stromness Har. and return | Aug. 4-5 | 4 " " | 1 (2.5 " ") |
| Paul Bay to Seal River | Aug. 7 | 9 " " | 30 (3.3 " ") |
| Seal River to Cape Jones | Aug. 8 | 4 " " | 30 (7.5 " ") |
| Cape Jones to Roggan River | Aug. 11 | 6 " " | 60 (10.0 " ") |
| Roggan River to Kakachischuan Pt. ... | Aug. 16 | 5 " " | 50 (10.0 " ") |
| Walrus Pen. to Paint Hills Is. | Aug. 29 | 11 " " | 10 (9.1 " ") |

on Grey Goose Island in 1947 (Manning 1951, MS) and on Gasket Shoal and Sunday Island in 1949 (Manning MS). Probably a few of the terns recorded at Moar Bay were Common Terns, but it is unlikely that they normally go much north of this. No terns' nests were found, nor were any young birds seen, but it seems probable that they nest at least in some years on the low, drift islands about the Seal River. It will be noted that although terns were numerous there on August 7 and 8, they had left before our return on August 11, while on the latter date, 400 were seen near the small islands and shoals on the south side of Long Island Sound.

Nearctic Mandt's Guillemot, *Cepphus grylle ultimus* Salomonsen.

The small, rocky, boulder-covered islands along this coast should provide excellent nesting places for guillemots, but we did not examine any of the islands about which they appeared most numerous.

Packard (1891 p. 441) records that Drexler obtained specimens at Fort George on July 17, 1861, and an adult female listed in the British Museum catalogue (Sharpe & Ogilvie-Grant 1898 p. 585) as from Fort George, British Columbia, July 15 (C. Drexler), was also probably taken at the Fort George on east James Bay. Stejneger (1884 p. 222) gives the exposed culmen length of a male and female taken by Drexler at St. [Fort] George on July 19 as 28mm. and 27mm., respectively which place them within the range of *C.g.ultimus* (Cf. Salomonsen 1944 p. 94). Seventeen specimens from Sunday Island and Bare Island are also referred to this race (Manning MSb).

*Passenger Pigeon, *Ectopistes migratorius* Linnaeus.

According to Low (1896b p. 325L), this now extinct species was very rare in the Labrador Peninsula, but eggs were obtained at Fort George in 1887. A white egg measuring 40.5mm. x 32mm. with "Fire Hawk, 18 May, 1887, at G. Pond" pencilled on it is now in the National Museum. An accompanying label states that it is a Passenger Pigeon's egg taken at Fort George by Miles Spence. Presumably this is one of those referred to by Low.

Snowy Owl, *Nyctea scandiaca* (Linnaeus).

According to local information, the Snowy Owl is sometimes very numerous on this coast in the spring and fall. It is for this species in particular that the Indians set steel traps on the top of upright logs on the barren points and islands.

American Hawk Owl, *Surnia ulula caparoch* (Müller).

On July 8, an owl thought to be of this species was seen on Island A. On July 16, a male (testis 5mm. x 2mm.) was collected on the Paint Hills Islands. It was flushed from a lone white spruce below the rocky hill. The stomach contained the remains of a small passerine bird.

Short-eared Owl, *Asio flammeus flammeus* (Pontopiddan).

Between June 28 and July 14, 9 Short-eared Owls were seen at Moar Bay. On July 2, a male (testis, 7mm.) and a female (largest ovum, 1mm.) were collected. The stomach of the male contained the remains of a small rodent; that of the female, only fur. Both were very thin.

Richardson's Owl, *Aegolius funereus richardsoni* (Bonaparte).

A male Richardson's Owl (testis, 4mm.) was collected in a dense stand of white spruce at Paul Bay on July 25.

Northern Flicker, *Colaptes auratus luteus* Bangs.

The Yellow-shafted Flicker is moderately common in the spruce woods along this coast and probably throughout the inland region. Spreadborough (Macoun & Macoun 1909 p. 346) observed a few as far north as Fort George in June 1896.

Between June 29 and July 14, 23 adult Yellow-shafted Flickers (♂, ♀, collected) were seen at Moar Bay. On July 8, a nest was found in a hole in a dead spruce on Sheppard Island, and on July 11, we collected 3 of the 6 nestlings which were then almost ready to fly. Their stomachs contained ants and ant pupae. At Paul Bay, we saw two flickers on July 23, one on July 24, one on August 3, and one on August 20. Three were seen in the spruce woods at the Roggan River on August 13, 8 (one juvenile male collected) were seen together at Walrus Peninsula on August 27, and one was flushed from an isolated spruce on the Paint Hills Islands on August 30.

The measurements of our specimens were: adult ♂, wing chord, 156mm., tail, 101mm., tarsus, 29mm., total culmen, 35mm. Adult ♀, wing chord, 152mm., tail, 92mm., tarsus, 27mm., total culmen, 35mm. Juvenile ♂, wing chord, 153mm., tail, 100mm., tarsus, 27.5mm., total culmen, 33mm. Even after allowance has been made for the worn plumage of the adults and incomplete growth of the juvenile, these measurements agree better with those given by Ridgway for *C.a.luteus* than those for *C.a.borealis*. They

are intermediate between two larger and one smaller specimen obtained by Godfrey (1949) from the Lake Mistassini region almost a degree farther south. This suggests that the size range in the Labrador Peninsula population is large, and strengthens Rand's objection (1944a) to the recognition of *C.a.borealis*.

American Three-toed Woodpecker, *Picoides tridactylus bacatus* Bangs

The American Three-toed Woodpecker was seen only at Moar Bay, where a female (largest ovum, 0.5mm.) was collected on June 30, and a male (testis, 4mm.) on July 1. Another female (largest ovum, 1.3mm.) was collected on July 3. Wing chord measurements: ♂, 112mm., ♀♀ 110mm., 114mm.

Eastern Kingbird, *Tyrannus tyrannus* (Linnaeus).

On July 1, a male Eastern Kingbird (testis, 10mm. x 7mm.) was collected in the little marsh near our camp at Moar Bay.

Alder Flycatcher, *Empidonax traillii traillii* (Audubon).

A female Alder Flycatcher (wing chord, 65.5mm.) was collected in the willow and alder thickets at the mouth of the Piagochiwi River on July 24.

Northern Horned Lark, *Eremophila alpestris alpestris* (Linnaeus).

Horned Larks undoubtedly nest on the barren islands and points at least as far south as Moar Bay. South of there nearly all the coastal islands are wooded. Spreadborough (Macoun & Macoun 1909 p. 391) found Horned Larks common and breeding on the rocky islands of the east James Bay coast, and under 'museum specimens' Macoun (1903 p. 362) lists a set of three eggs collected by

Table 15. POPULATION DENSITIES OF NORTHERN HORNED LARK.

| Locality | Dates | Time | No. observed | Remarks |
|---------------------------------|------------|-------------------|---------------------|---------------|
| Small island at N. end Moar Bay | July 15 | | Total population, 4 | ♂ ♀ collected |
| Paint Hills Is. | July 16, | 3 hrs. on barrens | 6 (=15 per sq. mi.) | ♂ ♀ " |
| | Aug. 29-30 | 11½ " " " | 15 (=10 " " ") | ♂ " |
| Pointe au Huard | July 17 | 2½ " " " | 1 (= 3 " " ") | |
| Kakachischuan Pt. ... | Aug. 1 | 10 " " " | 8 (= 6 " " ") | 2 ♂ ♂, ♀ " |
| | Aug. 17-18 | 11 " " " | 50 (=35 " " ") | |
| Roggan River | Aug. 12-15 | 18 " " " | 10 (= 4 " " ") | ♀ " |

Table 16. POPULATION DENSITIES OF LABRADOR JAY.

| Locality | Dates | Time | No. observed | Remarks |
|---|---------------------|---------------------------|--------------------------------|--------------------------------|
| Moar Bay, including Sheppard Is. and Poplar River | June 27- July 14 | 51 hrs. in or near spruce | 66 (=10 per sq.mi. of habitat) | 6 ♂♂, 2 ♀♀ 1 sex ? collect. |
| Moar Bay | Sept. 2 | 3 " " " | 2 (= 5 " " ") | |
| Walrus Pen. | Aug. 27-28 | 9 hrs. in spruce | 12 (=10 " " ") | ♂ " |
| Stromness I. | July 20 | 3 hrs. in or near spruce | 1 (= 3 " " ") | |
| Paul Bay | July 22- Aug. 6 | 31 hrs. in spruce | 10 (= 3 " " ") | 3 ♂♂, 2 ♀♀ " |
| | Aug. 18-24 | 17½ " " " | 13 (= 6 " " ") | 4 ♂♂, 2 ♀♀ " |
| Roggan River | Aug. 31 | 3 " " " " | 1 (= 3 " " ") | |

Spreadborough on an island in James Bay on July 18, 1896. On that date Spreadborough was between Factory River and the Paint Hills (Low 1896a). This set of eggs is not now in the National Museum.

It will be seen from the table that we saw no Horned Larks at the south end of Moar Bay, although we examined some suitable terrain on Sheppard Island and Island A. Flying juveniles were first seen at Kakachischuan Point on August 1, and thereafter juveniles made up about a third of the numbers given in Table 15.

Tree Swallow, *Iridoprocne bicolor* (Vieillot).
On July 6, 5 Tree Swallows were seen flying over or near the mouth of the Poplar River.

Bank Swallow, *Riparia riparia riparia* (Linnaeus).

On August 13, 3 Bank Swallows were seen near the abandoned Hudson's Bay Company's post at the Roggan River, and an old nest was dug out of one of the several holes in the sandy cut bank of the river.

Spreadborough (Macoun & Macoun 1909 p. 580) says that this species was not common, but a few were seen in 1896 throughout the trip from Moose Factory across Ungava to the forks of the Koksoak River above Chimo. However, there may be a confusion here between this species and the Tree Swallow, since Spreadborough does not mention the latter north of Moose Factory, whereas Low (1896b p. 327L) reported that it was common in the interior of the Labrador Peninsula. At Lake Mistassini the Tree Swallow is the common swallow, and only one Bank Swallow was seen by Godfrey's party (Godfrey 1949).

Labrador Jay, *Perisoreus canadensis nigricapillus* Ridgway.

This species is a plentiful resident of the spruce forests of the coast and hinterland of this area. In 1896, Spreadborough (Macoun & Macoun 1909 p. 407) found them common throughout his journey from Moosonee to Ungava Bay. At Moar Bay we frequently saw some in the alder and willow at the spruce edge as well as around our camp. The latter, however, have not been included in the figures in the table. Juveniles comprised a little over half the total birds recorded in the table. Several jays were caught in fox and mouse traps, both at Moar and Paul bays.

Thirteen of our east James Bay specimens are in fresh fall plumage. These have been compared with two specimens of *P.c.nigricapillus* collected by D. F. Coates at Goose Bay, Labrador, on October 15, 1950, and 5 collected at Fort Chimo, Ungava Bay, by Hildebrand (1950) in March and April, 1948, as well as 6 comparable July and August specimens of *P.c.canadensis* from the Lake Mistassini region (Godfrey 1949), two from Swastika, central Ontario, taken September 15, 1950, one from the Mattawan River, P.Q., taken October 4, 1950, two from the Ottawa region, October 9, 1941, and November 6, 1933, and two from Gilmour, southern Ontario, October 4, 1941. Fresh typical *P.c.nigricapillus* as exemplified by the Chimo and Goose Bay specimens show a bluer, more slaty tinge on the dorsal surface, and are darker and more slaty below than the specimens of *P.c.canadensis* examined (Cf. Austin 1932). Our east James Bay material is somewhat intermediate, but clearly closer to *P.c.nigricapillus*.

Northern Raven, *Corvus corax principalis* Ridgway.

During our first few days at Moar Bay, two Ravens were frequently seen singly or together. These were probably a pair which were nesting near by. On July 2, 6, probably two adults and 4 young, were seen together. Some Ravens, most likely members of this family, were seen nearly every day after this, and on July 14, two juvenile males were collected. On July 6, a total of 10 Ravens were seen at different times near the mouth of the Poplar River. Between July 19 and 20, 3 flew over Stromness Island, and we saw 3 more on walks at Paul Bay between July 22 and 24. On July 27, we twice passed a small, barren rocky island 1½ miles from our Paul Bay camp. There were 3 Ravens on this island in the morning and 10 in the evening. When we again passed on August 1, there were 15, but we could find nothing there to attract them. On August 1, we also saw 5 on Kakachischuan Point. Seven Ravens were seen on August 7 and 8 between Paul Bay and Cape Jones; one at the Roggan River on August 12 and 13; 6 at Paul Bay between August 22 and 23; one at Walrus Peninsula on August 28; and one between there and the Paint Hills Islands on August 29.

Hudsonian Chickadee, *Parus hudsonicus hudsonicus* Forster.

Five Hudsonian Chickadees were seen together (two juvenals collected) at Paul Bay on July 22, and another on July 26. Between August 27 and 28, 4 Hudsonian Chickadees (two ♀ post-juvenals collected) were seen at Walrus Peninsula.

Red-breasted Nuthatch, *Sitta canadensis* Linnaeus.

A single female juvenile Red-breasted Nuthatch was collected in the small spruce grove on the Paint Hills Islands.

Black-backed Robin, *Turdus migratorius nigrideus* Aldrich & Nutt.

Robins are fairly common near the edge of the spruce along the coast, but probably less numerous inland. Spreadborough (Macoun & Macoun 1909 p. 749) found them common throughout his journey from Moose Factory to Fort Chimo.

Most of the robins recorded at Moar Bay were seen when they were out feeding in the marshes or other open ground, and their nests were probably in the spruce woods at the edge of the open spaces. Robins were fairly evenly distributed in suitable places in the Moar Bay region, but they were commonest on Sheppard Island, where on July 4, 7 were visible at one time feeding on the barren northeast point. We saw none at the Roggan River, perhaps because their southward movement had started before our arrival on August 11.

Our 9 June and July males from Moar and Paul Bays were compared with 3 June male *T.m.nigrideus* from Newfoundland. Five of the former agree closely with the Newfoundland birds, 3 resembled typical *T.m.migratorius* of the Ottawa region, and one is intermediate. The majority of the Moose estuary and west James Bay males are pale-backed (Manning MS), and the boundary between the two races is probably at the bottom of James Bay between the Moose River and Rupert Bay. However, typically dark-backed individuals have been

Table 17. POPULATION DENSITIES OF BLACK-BACKED ROBIN.

| Locality | Dates | Time | No. observed | Remarks |
|--|------------------|-------------------|----------------------|-------------------------|
| Moar Bay, including Sheppard I. and Poplar River | June 27- July 14 | 97 hrs. observing | 160 (=15 per sq.mi.) | 10 ♂ ♂, 3 ♀ ♀ collected |
| Stromness I. | July 19-20 | 9 " " | 4 (= 4 " " ") | |
| Fort George | Aug. 4 | 6 | 6 | |
| Paul Bay | July 22- Aug. 6 | 63 " " | 45 (= 6 " " ") | ♀ " |
| | Aug. 19-23 | 27 " " | 5 (= 2 " " ") | ♂ " |
| Walrus Pen. | Aug. 27-28 | 13 " " | 10 (= 6 " " ") | |
| Paint Hills Is. | Aug. 31 | 17½ " " | 1 | ♂ " |

collected near the northern extremity of the species range well to the west of Hudson Bay (Manning MS), while pale-backed robins probably occur through much of the western part of the Labrador Peninsula. Our east James Bay robins showed no correlation between dark backs and dark breasts. With one possible exception, our 5 juveniles did not show larger or darker breast spotting than comparable Ottawa specimens.

Eastern Hermit Thrush, *Hylocichla guttata faxoni* Bangs & Penard.

A female Hermit Thrush (largest ovum, 1mm.) was collected at Moar Bay on June 30, and another was seen there on July 4. Three birds, probably of this species, were seen on Stromness Island between July 19 and 20.

Olive-backed Thrush, *Hylocichla ustulata swainsoni* (Tschudi) .

In June, 1896, Spreadborough (Macoun & Macoun 1909 p. 741) found the Olive-backed Thrush along the James Bay coast as far as Fort George, and Baird (1874 p. 21) lists a specimen collected [by Drexler?] at Fort George on July 11, 1860. We saw 3 at the Poplar River on July 8, and a female (largest ovum, 4mm.) was collected.

Eastern Ruby-crowned Kinglet, *Regulus calendula calendula* (Linnaeus).

The Ruby-crowned Kinglet is one of the commonest and most evenly distributed species of the main spruce woods of the region. It is also abundant inland (Godfrey 1949; Manning 1949). It was as common on Sheppard Island as on the mainland, but we saw none amongst small isolated spruce stands such as those on Stromness Island or the Paint Hills Islands. Spreadborough (Macoun & Macoun 1909 p. 729) observed it at Fort George on June 20, 1896.

American Pipit, *Anthus spinoletta rubescens* (Tunstall).

In 1896, Spreadborough (Macoun & Macoun 1909 p. 684) found American Pipits common on the high, rocky islands in east James Bay. This may refer to the Paint Hills Islands which are the only ones near the mainland which can be called high, but it is fairly certain that the American Pipit also nests on some of the lower rocky islands.

The two American Pipits collected at Moar Bay on July 8 may have been nesting on Island A. Pipits were also very likely nesting on Stromness Island. Those seen at the Roggan River, Kakachischuan Point, and

Table 18. POPULATION DENSITIES OF EASTERN RUBY-CROWNED KINGLET.

| Locality | Dates | Time | No. observed | Remarks |
|-------------------------------------|---------------------|--------------------|----------------------|-----------------------|
| Moar Bay including Sheppard I. | June 27- July 14 | 35½ hrs. in spruce | 36 (= 45 per sq.mi.) | 6 ♂ ♂, ♀ collected |
| Paul Bay | July 22-31 | 31 " " " | 13 (= 20 " " ") | ♀ " " |
| | Aug. 19-22 | 17½ " " " | 10 (= 20 " " ") | |
| Walrus Pen. | Aug. 27-28 | 9 " " " | 46 (=100 " " ") | 1 sex ? " " |

Table 19. POPULATION DENSITIES OF AMERICAN PIPIT.

| Locality | Dates | Time | No. observed | Remarks |
|--------------------------------|---------------------|--------------------|--------------|---------------------------|
| Sheppard I. and Island A | July 8, 13, 14 | 12 hrs. on barrens | 10 | 4 ♂ ♂, 2 ♀ ♀ collected |
| Sheppard I. | Sept. 2 | ¼ " " " | 40 | |
| Stromness I. | July 20 | 5 " " " | 7 | ♀ " " |
| Roggan River | Aug. 15 | 18 " " " | 40 | |
| Kakachischuan Pt. | Aug. 17-18 | 11 " " " | 34 | |
| Paint Hills Is. | Aug. 30- Sept. 1 | 11½ " " " | 108 | |

Table 20. POPULATION DENSITIES OF NORTHERN YELLOW WARBLER.

| Locality | Dates | Time | No. observed | Remarks |
|-------------------------------|---------|--------------------|---------------------|-------------|
| Poplar River | July 6 | 6½ hrs. in habitat | 3 (= 15 per sq.mi.) | |
| Stromness Har. | July 19 | 5 " " " | 3 (= 20 " " ") | ♂ collected |
| Paul Bay (near camp) | July 24 | 24 " " " | 1 (= 1 " " ") | ♀ " |
| Paul Bay (pen.) | July 27 | 2 " " " | 6 (= 90 " " ") | 3 ♂ ♂, ♀ " |
| Paul Bay (I.) | | 2 " " " | 13 (=150 " " ") | |
| Kakachischuan Pt. ... | Aug. 1 | 5 " " " | 14 (= 80 " " ") | ♂, ♀ " |
| | Aug. 18 | 5 " " " | 2 (= 20 " " ") | |
| Paul Bay (I.) | Aug. 18 | 1 " " " | 1 (= 30 " " ") | ♀ " |

the Paint Hills Islands were in small flocks, usually near the shore, while the 40 seen on Sheppard Island on September 2 were in one flock.

Tennessee Warbler, *Vermivora peregrina* (Wilson).

Packard (1891 p. 412) records that Drexler obtained specimens at Fort George in June and July, 1860, and Baird (1874 p. 179) lists one collected there on July 11, 1860. On July 6, we saw 6 Tennessee Warblers in the willow thickets near the Poplar River, and a male (testis, 4mm.) was collected.

Orange-crowned Warbler, *Vermivora celata celata* (Say).

On June 28, a male Orange-crowned Warbler was collected at Moar Bay, and between July 27 and August 3, 8 (3 ♂ ♂, ♀ collected) were seen at Paul Bay. The 4 males, probably through chance sampling, average slightly more yellow than a comparable series from Manitoba (Ilford, Douglas, and Shoal Lake). Average wing chord

measurement of the 4 worn males is 60.8mm. (59.5mm.—62.5mm.), and the females, 56.5 mm.

Northern Yellow Warbler, *Dendroica petechia amnicola* Batchelder.

No Yellow Warblers were seen near our Moar Bay camp. and they were scarce or absent in the willow and alder thickets along the river and edge of the mainland spruce at Paul Bay, but in the alder thickets on the islands and on the peninsula 1½ miles west of our camp they were abundant. By August 18, their numbers had considerably decreased.

Spreadborough (Macoun & Macoun 1909 p. 624) found the Yellow Warbler common along the east James Bay coast in June 1896, and on June 23, when between Paul Bay and the Roggan River (Low 1896a) he found a nest containing 4 eggs (nest and 2 eggs now in the National Museum). Drexler obtained a specimen at Fort George on July 12, 1860 (Packard 1891 p. 412).

Table 21. POPULATION DENSITIES OF EASTERN MYRTLE WARBLER.

| Locality | Dates | Time | No. observed | Remarks |
|--|---------------------|-------------------|----------------------|---------------------------|
| Moar Bay, including Sheppard I. and Poplar River | June 27- July 14 | 39 hrs. in spruce | 38 (= 25 per sq.mi.) | 9 ♂ ♂, 4 ♀ ♀ collected |
| Moar Bay | Sept. 2 | At edge of spruce | 6 | 3 sex ? " |
| Paul Bay | July 21- Aug. 3 | 31 hrs. in spruce | 25 (= 25 " " ") | 1 sex ? 4 ♂ ♂, 4 ♀ ♀, |
| | Aug. 20-24 | 17½ " " " | 46 (= 50 " " ") | |
| Walrus Pen. | Aug. 27-28 | 9 " " " | 80 (=150 " " ") | ♀ collected |
| Paint Hills Is. | Aug. 30- Sept. 1 | 6 " " " | 35 (= 90 " " ") | |

Eastern Myrtle Warbler, *Dendroica coronata coronata* (Linnaeus).

The Myrtle Warbler is a common species in the spruce forests of the coastal region and hinterland. Fifteen of the 38 Myrtle Warblers recorded at Moar Bay were seen on June 27 when they were feeding in small groups amongst the small, scattered spruce and tamarack at the head of the little marsh near our camp. None were there the next day, and after that date they were usually seen in the main spruce forests where they were one of the commonest birds, especially in late August and September, when over three-fourths of those seen were juveniles. The first juveniles were seen at Paul Bay on July 25.

The average wing chord measurement of 11 males and 8 female adults is 73mm. (71mm.-77mm.), and 69mm. (66mm.-72mm.) respectively. The males, like those from Lake Mistassini (Godfrey 1949) and the west side of James Bay (Manning MS), have breasts heavily marked with black and are clearly referable to the eastern race.

Blackpoll Warbler, *Dendroica striata* (Forster).

Baird (1874 p. 193) lists a Blackpoll Warbler taken by Drexler at Fort George on July 7, 1860. Spreadborough (Macoun & Macoun 1909 p. 645) observed one there on June 20, 1896, and two more between there and Richmond Gulf.

We collected a male at Stromness Island on July 20, one was seen at Paul Bay on July 22 and 24, and 6 adults were seen on the peninsula 1½ miles to the west of our camp on July 27: a male, a female and a nestling were collected.

Our single female can be matched both by specimens from Newfoundland and from Yukon Territory. The black dorsal streaks of the male are as wide and long and prominent as those on any specimen in a series of eight from Newfoundland. However, this character is not constant in specimens from the intervening region.

Palm Warbler, *Dendroica palmarum palmarum* (Gmelin).

Baird (1874 p. 208) lists a Palm Warbler collected at Fort George in 1861. We obtained one in post-juvinal plumage at Spit Island, 20 miles south of Long Point on September 4. It agrees well with comparable

material from the Moose River estuary (Manning 1951) and from Manitoba and Saskatchewan and is therefore tentatively referred to the western race. However, the only specimen collected by Godfrey (1949) from Mistassini post has the typical yellow plumage of *D.p.hypochrysea*. Godfrey (Godfrey and Wilk 1948) considered his Lake St. John specimens somewhat less yellow than birds from the maritime provinces, and it is possible that the boundary between the two races lies in the region just east of James Bay. Farther south, however, in the Ottawa region, the breeding race is *D.p.hypochrysea* (Rand 1944b).

Grinnell's Water-thrush, *Seiurus noveboracensis notabilis* Ridgway.

Spreadborough (Macoun & Macoun 1909 p. 659) found the water-thrush common at Fort George in 1896, but rare farther north. On July 6, we saw 4 (♂ collected) in the willow thickets near the mouth of the Poplar River. Godfrey (1949) has shown that this supposedly western race breeds across the northern portion of the species range at least as far east as Lake Mistassini.

Yellow-throat *Geothlypis trichas* ssp.

One Yellow-throat was seen at Moar Bay on June 30 and on July 14, and one at Paul Bay on July 23 and 24. Presumably the same race is represented here as in the region of Lake Mistassini and Moose River estuary. Three adult males from the former region and one from the latter agree well in colour with 10 comparable but worn males from the Ottawa region. The upper parts of this group are greyer and average less yellowish than two New Brunswick males, but sufficient material is not available to check the conclusions drawn by Oberholser (1948), who has separated Ontario and Quebec birds under the names *G.t.ontarionicola* and *G.t.quebecicola*.

Wilson's Warbler, *Wilsonia pusilla pusilla* (Wilson).

Baird (1874 p. 241) lists a Wilson's Warbler collected by Drexler at Fort George on September 3, 1860, and Spreadborough (Macoun & Macoun 1909 p. 673) observed one there on June 20, 1896. He saw none north of there.

On July 19, a male Wilson's Warbler was collected on Stromness Island. At Paul Bay, 5 (3 ♂♂, ♀, 1 sex ?) were seen amongst the



The highest hill on the eastern end of Walrus Island. (Paint Hills Islands).
August 30, 1950.



Looking west along the shore past the Paul Bay camp from the northern
side of the Piagochiwi River. August 22, 1950.



Kakachischuan River. August 1, 1950.



Scattered clumps of white spruce about three miles inland on the coastal barrens at the Roggan River. August 14, 1950.

Table 22. POPULATION DENSITIES OF COMMON REDPOLL.

| Locality | Dates | Time | No. observed | Remarks |
|-----------------------|------------|--------------------|---------------------|----------------|
| Paint Hills Is. | Aug. 30 | 15 hrs. in habitat | 6 (= 10 per sq.mi.) | |
| Stromness I. | July 20 | 9 " " " | 10 (= 20 " " ") | ♂, ♀, collect. |
| | Aug. 26 | 6½ " " " | 1 (= 4 " " ") | ♀ " |
| Paul Bay | July 24- | 35 " " " | 21 (= 15 " " ") | 1 sex ? " |
| | Aug. 3 | | | |
| | Aug. 19-24 | 15 " " " | 4 (=0.7 " " ") | |
| Kakachischuan Pt. ... | Aug. 1, 7 | 7 " " " | 27 (= 80 " " ") | 3 ♂ ♂ " |
| | Aug. 17-18 | 5 " " " | 8 (=40 " " ") | |
| Roggan River | Aug. 12 | 20 " " " | 2 (=2.5 " " ") | |

willow and alder between July 22 and 25, and 4 (♂ collected) between August 20 and 24. A fledgling was also collected at Paul Bay on July 22.

Rusty Blackbird, *Euphagus carolinus* (Müller).

On July 6, a Rusty Blackbird was seen amongst the willow at the mouth of the Poplar River, and on July 22, 15 (juvenile ♂ collected) were seen near the small marsh at Paul Bay. One was seen near Fort George settlement on August 4.

Common Redpoll, *Acanthis flammea flammea* (Linnaeus).

Ten of the 18 Redpolls recorded at Paul Bay were seen on the peninsula half a mile west of our camp or on a small island near there. Most of the others were observed on the top of the rocky ridge behind our camp. The apparent scarcity of Redpolls on Kakachischuan Point on August 17 and 18 compared to August 1 may have been due to the gale which was blowing on the former dates and which made small birds difficult to see. Drexler collected an adult female at Fort George (Sharpe 1888 p. 250).

White-winged Crossbill, *Loxia leucoptera leucoptera* Gmelin.

On July 8, two White-winged Crossbills (♀ collected) were seen on Sheppard Island. On July 25, a juvenile was collected at Paul Bay, and the next day another juvenile and an adult male were obtained. Bell (1882 p. 53) obtained a White-winged Crossbill at Fort George.

Churchill Savannah Sparrow, *Passerculus sandwichensis oblitus* Peters & Griscom.

Amongst the scrub on the small barren islands in Moar Bay, the larger barren

islands and peninsulas farther north, and the mainland barrens at the Roggan River, Savannah Sparrows were the commonest birds. On the whole, however, they were less abundant than on the west James Bay Coast. We found them plentiful at the edge of the willow and alder thickets surrounding some of the marshes near the coast, but in the small marshes a mile or so inland they were much scarcer.

Spreadborough (Macoun & Macoun 1909 p. 498) found them tolerably common on the islands and shore of James Bay from Moose Factory to Richmond Gulf, but he saw none inland from there. At Paul Bay in July and early August we saw Savannah Sparrows only on our visit to the partly barren peninsula and small island a mile or two west of our camp and about the marsh surrounding the lake south of the Piagochiwi River. Towards the end of August, they were more generally distributed. At the Roggan River, Savannah Sparrows were most numerous in or near the smaller patches of alder and amongst the low dwarf birch of the barrens. In the taller alder they were outnumbered three to one by the Tree Sparrows. A few Savannahs were seen inland of the Roggan River on August 14. A few juveniles were seen at Kakachischuan Pt. on August 1, and after that they probably accounted for about three-fourths of those recorded in the table.

Our specimens agree well both with topotypical material from Churchill and a large series tentatively referred to this race (Manning 1951) collected along the coast between there and the Moose River. Peters and Griscom (1948) also refer James Bay (Ontario) and Lake St. John specimens to *P.s.oblitus*. Godfrey (1949) refers breeding specimens from Lake Mistassini region and Lake St.

Table 23. POPULATION DENSITIES OF CHURCHILL SAVANNAH SPARROW.

| Locality | Dates | Time | No. observed | Remarks |
|-----------------------|-----------------------|--------------------|----------------------|-------------------------|
| Moar Bay | June 27- July 12 | 31 hrs. in habitat | 55 (= 35 per sq.mi.) | 4 ♂♂, 5 ♀♀ collected |
| Sheppard I. | Sept. 2 | 4 " " " | 15 (= 75 " " ") | 2 ♂♂, 3 ♀♀ collected |
| | July, 4, 8, 13, 14 | 14 " " " | 29 (= 40 " " ") | |
| Island A | July 6 | | Total population: 25 | |
| Poplar River | July 6 | 3 " " " | 17 (=100 per sq.mi.) | 2 ♂♂, ♀ " |
| I. at N. Pt. Moar Bay | July 15 | | Total population: 20 | |
| Paint Hills Is. | July 16 | 1 " " " | 2 (= 40 per sq.mi.) | |
| | Aug. 30- Sept. 1 | 10 " " " | 43 (= 85 " " ") | 3 ♂♂, ♀ " |
| Pte. au Huard | July 17 | 4 " " " | 60 (=300 " " ") | |
| Walrus Pen. | Aug. 27-28 | 4 " " " | 8 (= 40 " " ") | |
| Stromness I. | July 19-20 | 9 " " " | 9 (= 20 " " ") | |
| | Aug. 26 | 6½ " " " | 4 (= 10 " " ") | |
| Paul Bay | July 27-31 | 13 " " " | 16 (= 25 " " ") | 2 ♂♂ " |
| | Aug. 18-24 | 7 " " " | 33 (=100 " " ") | |
| Kakachischuan Pt. .. | Aug, 1, 7, | 10½ " " " | 160 (=300 " " ") | |
| | 17, 18 | 11 " " " | 100 (=200 " " ") | ♀ " |
| Roggan River | Aug. 12-15 | 21 " " " | 128 (=120 " " ") | 2 ♀♀ " |

John (Godfrey & Wilk 1948) to the same race. Breeding birds from Long Island, just north of James Bay, appear darker.

Slate-coloured Junco, *Junco hyemalis hyemalis* (Linnaeus).

The Slate-coloured Junco nests in the dense spruce forests of the coast and hinterland. Spreadborough (Macoun & Macoun 1909 p. 530) saw one June 18, 1896, when between Eastmain and the Paint Hills (Low 1896a), and found a pair breeding at Fort George a few days later.

Between June 27 and 30, Slate-coloured Juncos in small, loose groups were numerous at Moar Bay, especially around the small scattered patches of willow, alder, spruce, and tamarack, at the landward end of the small marsh near our camp. By the beginning of July these had left, and thereafter most of the juncos seen were in the dryer parts of the main spruce woods. On July 2, a nest was found which contained an undeveloped egg and 3 young about two days old. One of these young had apparently left

Table 24. POPULATION DENSITIES OF SLATE-COLOURED JUNCO.

| Locality | Dates | Time | No. observed | Remarks |
|----------------------|----------------------|-------------------------------|----------------------|-------------------------|
| Moar Bay | June 27- July 10 | 25½ hrs. in or near spruce | 86 (= 70 per sq.mi.) | 6 ♂♂, 3 ♀♀ collected |
| | Sept. 2 | 1 " " " | 2 | |
| Sheppard I. | July 4, 8, 13, 14 | 10 " " " | 20 (= 40 " " ") | 2 ♂♂ " |
| Poplar River | July 6 | 3½ " " " | 1 (= 6 " " ") | |
| Paul Bay | July 21- Aug. 3 | 31½ " " " | 26 (= 15 " " ") | ♂ " |
| | Aug. 19-24 | 17½ " " " | 36 (= 40 " " ") | ♂, ♀ " |
| Walrus Pen. | Aug. 27-28 | 9 " " " | 75 (=150 " " ") | |
| Paint Hills Is. | Aug. 30- Sept. 1 | 6 " " " | 35 (= 80 " " ") | |

Table 25. POPULATION DENSITIES OF EASTERN TREE SPARROW.

| Locality | Dates | Time | | No. observed | Remarks |
|----------------------|-------------|------|-----------------|---------------------|-------------|
| Paint Hills Is. | Aug. 30-31 | 12 | hrs. in habitat | 8 (= 15 per sq.mi.) | ♂ collected |
| Pte. au Huard | July 17 | 4 | " " " | 1 (= 5 " " ") | ♂ " |
| Stromness I. | July 19-20 | 9 | " " " | 30 (= 60 " " ") | 5 ♂ ♂, ♀ " |
| | Aug. 26 | 6½ | " " " | 6 (= 20 " " ") | |
| Paul Bay | July 26-29 | 30 | " " " | 11 (= 7 " " ") | |
| | Aug. 23 | 12 | " " " | 3 (= 5 " " ") | |
| Kakachischuan Pt. . | Aug. 1, 7, | 7 | " " " | 54 (=150 " " ") | ♂, ♀ " |
| | Aug. 17, 18 | 6 | " " " | 90 (=300 " " ") | |
| Roggan River | Aug. 12-15 | 21 | " " " | 104 (=100 " " ") | 3 ♂ ♂, ♀ " |

the nest by July 11, when the remaining two were collected.

Eastern Tree Sparrow, *Spizella arborea arborea* (Wilson).

Spreadborough (Macoun & Macoun 1909 p. 519) first observed Tree Sparrows a little north of Fort George where they became common and they were very abundant across Ungava from Richmond Gulf to Fort Chimo.

Although areas of scattered spruce and alder and dwarf birch scrub on the island at Moar Bay appeared to offer a suitable habitat for Tree Sparrows, we saw none during the breeding season south of Pointe au Huard, and it seems likely that they do not regularly nest south of that except perhaps on the Paint Hills Islands. From there northward there are many areas suitable for nesting on the points and islands, and north of the Kapsausis River they probably nest in considerable numbers back along the edge of the tree line and amongst the patches of alder on the barrens. On the barrens they liked the taller patches of alder, and were frequently seen in or near small patches of spruce, but never in the main spruce forest. About a quarter of the Tree Sparrows recorded above on August 1 and 7 on Kakachischuan Peninsula were juveniles, but the actual proportion of juveniles to adults was probably considerably larger since the juveniles kept well hidden in the dense alder. On later dates, at least three-fourths were juveniles, and the apparent increase in numbers at Kakachischuan Point on our last visit was probably due to the increased number of juveniles on the wing as well as to their being less secretive.

The specimens agree closely with a comparable series from east James Bay and

southern Hudson Bay birds. The measurements of the adults are: 6 worn ♂ ♂, wing chord 74.5mm. (74mm.-75mm.), tail 66mm. (65mm.-67mm.); 2 worn ♀ ♀, wing chord 71mm. and 72mm., tail 64mm. and 65mm.; one adult ♂ in fresh fall plumage, wing chord 77mm., tail 70mm.

White-crowned Sparrow, *Zonotrichia leucophrys leucophrys* (Forster).

Spreadborough (Macoun & Macoun 1909, p. 511) first observed this species a short distance north of Fort George where they became common, and on June 23, 1896, when somewhere between Paul Bay and the Roggan River (Low 1896), he obtained a set of three eggs from an island (Macoun 1904 p. 480).

Although there appeared to be suitable habitat on Sheppard Island, we saw no White-crowned Sparrows south of the Paint Hills Islands, where they inhabited isolated scrubby spruce trees. At least two pairs nested near our camp at Paul Bay, but they were commoner on the more barren peninsulas and islands where they frequented the alder as well as scattered spruce. Their scarcity at the Roggan River was surprising, but it can be seen from Table 26 that they were less numerous at Kakachischuan on our second visit, and the majority may have left the Roggan River before we arrived. The first young were observed on Stromness Island on July 20. Two others were seen on Kakachishuan Peninsula on August 1: by that date most of the young White-crowned Sparrows had probably left their nests, but still kept themselves concealed in the dense alder. At the Roggan River and on later dates, over three-fourths of those recorded above were juveniles.

Table 26. POPULATION DENSITIES OF WHITE-CROWNED SPARROW.

| Locality | Dates | Time | No. observed | Remarks |
|-----------------------|------------|-------------------|---------------------|----------------|
| Paint Hills Is. | July 16 | 1 hr. in habitat | 4 (= 60 per sq.mi.) | ♂, ♀ collected |
| | Aug. 30- | 4 hrs. in habitat | 25 (=100 " " ") | 3 ♂ ♂, ♀ " |
| | Sept. 1 | | | |
| Walrus Pen. | Aug. 28 | 3 " " " | 6 (= 30 " " ") | |
| Stromness I. | July 19-20 | 9 " " " | 16 (= 25 " " ") | 3 ♂ ♂, ♀ " |
| | Aug. 26 | 6½ " " " | 2 (= 5 " " ") | |
| Paul Bay | July 21- | 33 " " " | 44 (= 20 " " ") | 3 ♂ ♂, 5 ♀ " |
| | Aug. 5 | | | |
| | Aug. 19 | 12 " " " | 1 (= 1 " " ") | |
| Kakachischuan Pt. ... | Aug. 1 | 5 " " " | 22 (= 60 " " ") | |
| | Aug. 17-18 | 3 " " " | 6 (= 30 " " ") | |
| Roggan River | Aug. 14-15 | 18 " " " | 8 (= 7 " " ") | |

Of our 13 July adults, 3 (2 from Paul Bay and one from Stromness Harbour) have an uninterrupted eye stripe. The colouration of the back, however, differs in no way from the remainder of the series, nor from 3 June (migrant?) *Z.l.leucophrys* from the Moose River estuary and two comparable *Z.l.leucophrys* from Fort Chimo, Ungava Bay. One of the two specimens from the Paint Hills Islands taken in fresh fall plumage has a continuous eye stripe; the other, an interrupted one. Out of 16 specimens obtained farther north in western Ungava in 1944 and 1946, only one from Kinglet Lake had an uninterrupted eye stripe (Manning 1949). The name proposed by Todd for the eastern race has not been accepted for reasons previously given (Manning 1949).

White-throated Sparrow, *Zonotrichia albicollis*
(Gmelin).

The White-throated Sparrow was a common nesting bird both on the mainland and on the island at Moar Bay, but at Paul Bay it was not seen on the outer peninsulas or islands, even though there was considerable dense spruce and alder on the former. In the vicinity of our Paul Bay camp, it occupied much the same habitat as the White-crowned Sparrow, but occasionally it was also seen farther inland up the Piagochiwi River.

Eastern Fox Sparrow, *Passeralla iliaca iliaca*
(Merrem).

Fox Sparrows were observed most frequently where there was a mixture of alder patches and open or stunted spruce or dry, rocky ground. They were not, however, seen in the patches of tall alder which grew in otherwise barren areas such as Kakachischuan Peninsula. The first juveniles were seen on July 22, and after that date about half of

Table 27. POPULATION DENSITIES OF WHITE-THROATED SPARROW.

| Locality | Dates | Time | No. observed | Remarks |
|--------------------|--------------|--------------------|---------------------|--------------------|
| Moar Bay | June 27- | 56½ hrs. observing | 60 (=15 per sq.mi.) | 2 ♂ ♂, ♀ collected |
| | July 11 | | | |
| | Sept. 2 | 4 " " | 7 (=25 " " ") | |
| Sheppard I. | July, 8, 14, | 28½ " " | 15 (= 8 " " ") | 2 ♂ ♂ " |
| | 15 | | | |
| Poplar River | July 6 | 12 " " | 5 (= 6 " " ") | ♂ " |
| Pte. au Huard | July 17 | 4 " " | 4 (=15 " " ") | ♂ " |
| Stromness I. | July 19-20 | 9 " " | 3 (= 5 " " ") | ♂ " |
| Paul Bay | July 21- | 63 " " | 23 (= 5 " " ") | ♂, ♀ " |
| | Aug. 3 | | | |
| | Aug. 18-22 | 27 " " | 7 (= 4 " " ") | |

Table 28. POPULATION DENSITIES OF EASTERN FOX SPARROW.

| Locality | Dates | Time | No. observed | Remarks |
|--------------------|--------------------|--------------------|--------------------|-------------|
| Moar Bay | June 28- July 3 | 56½ hrs. observing | 3 (= 1 per sq.mi.) | ♂ collected |
| Poplar River | July 6 | 12 " " | 1 (= 1 " " ") | ♀ " |
| Walrus Pen. | Aug. 28 | 13 " " | 2 (= 2 " " ") | " " |
| Stromness I. | July 19 | 9 " " | 1 (= 2 " " ") | ♂ " |
| | Aug. 26 | 6½ " " | 4 (= 9 " " ") | ♂ " |
| Paul Bay | July 22- Aug. 6 | 63 " " | 19 (= 5 " " ") | 6 ♂ ♂ " |
| | Aug. 19 | 27 " " | 1 (= .5 " " ") | " " |

those recorded above were juveniles. Spreadborough (Macoun & Macoun 1909 p. 547) reported that they were common along the coast from the Moose River to Richmond Gulf.

Lincoln's Sparrow, *Melospiza lincolnii lincolnii* Audubon.

At Moar Bay, occasional Lincoln's Sparrows were seen in various habitats, but at Paul Bay they were usually observed half a mile or so inland amongst the willow which surrounded the open grass marshes about the larger lakes. At that distance inland, Savannah Sparrows were comparatively scarce, being only about equal in number to the Lincoln's.

Northern Swamp Sparrow, *Melospiza georgiana ericrypta* Oberholser.

Between June 28 and 29, 7 Swamp Sparrows (♂ collected) were seen on the mainland at Moar Bay, and 5 (♂ collected) on Sheppard Island between July 4 and 8. At Paul Bay one was seen on July 24, and a ♀ collected on July 31.

Lapland Longspur, *Calcarius lapponicus lapponicus* (Linnaeus).

A male in the British Museum collection was taken at Fort George on May 30, 1861

(Sharpe 1888 p. 584). Macpherson saw 8 Lapland Longspurs (♀ collected) on the Paint Hills Islands on September 1.

Eastern Snow Bunting, *Plectrophenax nivalis nivalis* (Linnaeus).

The Snow Bunting is known to residents as a spring and fall migrant. A male in the British Museum collection was taken at Fort George on April 26. (Sharpe 1888 p. 576).

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Table 29. POPULATION DENSITIES OF LINCOLN'S SPARROW.

| Locality | Dates | Time | No. observed | Remarks |
|--------------------|------------|--------------------|--------------------|-----------------|
| Moar Bay | June 28 | 56½ hrs. observing | 5 (= 2 per sq.mi.) | 2 ♂ ♂ collected |
| Sheppard I. | July 8 | 28½ " " | 3 (= 2 " " ") | " " |
| Walrus Pen. | Aug. 28 | 13 " " | 2 (= 3 " " ") | " " |
| Stromness I. | July 19-20 | 9 " " | 4 (= 10 " " ") | 2 ♂ ♂ " |
| Paul Bay | July 24-30 | 63 " " | 14 (= 5 " " ") | 2 ♂ ♂, 2 ♀ ♀ " |
| | Aug. 19-20 | 27 " " | 2 (= 1 " " ") | " " |
| Roggan River | Aug. 13 | 28 " " | 1 (= .5 " " ") | " " |

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ANNUAL MEETING OF THE
OTTAWA FIELD-NATURALISTS' CLUB, 1951

Report of Council

Since the last Annual Meeting, there were four meetings of Council as follows, all held at St. Patrick's College: December 15, 1950, with 21 members present; March 9, 1951, with 20 members present; April 7, 1951, with 19 members present; November 16, 1951, with 22 members present.

Appointments were made for 1951 as follows:

- Editor of the Canadian Field Naturalist — Dr. H. A. Senn.
- Business Manager — Mr. W. J. Cody.
- Chairman of the Publications Committee — Mr. A. E. Porsild.
- Chairman of the Excursions and Lectures Committee — Miss Mary Stuart.
- Chairman of the Reserve Fund Committee — Mr. Hoyes Lloyd.
- Chairman of the Special Lectures Committee — Mr. R. Frith.
- Chairman of the Membership Committee — Dr. V. E. F. Solman.
- Chairman of the Bird Census Committee — Mr. J. S. Tener.
- Chairman of the Library Committee — Mr. A. E. Porsild.
- Chairman of the Macoun Field Club Committee — Mr. W. K. W. Baldwin.

- Chairman of the Geological Excursion Committee — Dr. L. S. Russell.
- Chairman of the Gatineau Park Committee — Dr. H. F. Lewis.
- Representatives, Canadian Section, International Committee for Bird Preservation — Dr. H. F. Lewis, Mr. Hoyes Lloyd.

Report of the Publications Committee

During the period December 1, 1951, to December 1, 1951, six numbers of Volumes 64 and 65 of the Canadian Field-Naturalist were published, with a total of 233 pages. Papers, notes, and reviews were distributed as follows:

| | Papers | Notes | Reviews |
|---|--------|-------|---------|
| Botany | 8 | 1 | 3 |
| Herpetology | 3 | 2 | — |
| Ichthyology | — | 3 | 2 |
| Invertebrate | | | |
| Zoology | 2 | 1 | 1 |
| Mammalogy | 3 | 6 | 5 |
| Mineralogy | 1 | — | — |
| Ornithology | 17 | 21 | 7 |
| Miscellaneous | — | — | 6 |
| Thirteen maps and twenty-four other illustrations were used. | | | |
| The business manager reported sales of back numbers totalling \$713.45, including | | | |

one complete set and two partial sets, the largest sale of back numbers in the history of the Club.

Report of the Excursions and Lectures Committee

Four meetings of the Committee were held during the year to deal with winter programmes, summer excursions, publication of the Newsletter, and management of the Naturalists' Lodge and the three study groups.

Three indoor meetings were held as follows:

February 15 — At a meeting at the National Museum, Mr. J. Martin of Belleville spoke and showed a coloured film on the "Flora and Fauna of Repulse Bay".

April 10 — About 120 members and friends attended the annual dinner at the Central Experimental Farm. Dr. L. S. Russell spoke on "Fossil Hunters I have Known". The Tree, Bird, and Fern study groups and the Macoun Field Club provided interesting displays depicting their activities.

November 8 — At a members' night at the National Museum, Mr. W. J. Cody gave a talk on his summer spent in Alaska, and Mr. J. S. Tener on a survey he conducted on Ellesmere Island. The flora and fauna of both areas were illustrated by coloured slides.

There were eight meetings of the Bird Group, with an average attendance of about 30 members. Four early morning bird walks were held, under the leadership of Miss Mary Stuart and Messrs. A. E. Bourguignon, K. W. Bowles, and R. Frith. The breeding bird census started last year was continued, and a count of mourning doves seen in the area was taken. Miss Ann Banning was named chairman and Miss Betty Gordon, secretary, for the 1951-52 season.

Eight Saturday afternoon excursions were held at the following localities: Taylor's Hill (1); Field-Naturalists' Lodge (3); Central Experimental Farm (2); estate of the Late Rt. Hon. W. L. Mackenzie King, Kingsmere (2). Excellent leadership was provided by the three study groups, and attendance ranged from 20 to 50 persons. On May 24, the second anniversary of the Field-Naturalists' Lodge was celebrated by an all-day outing there, about 55 members attending.

The Fern Group, sponsored by Miss A. W. Anderson, met seven times. The active

membership was 10 persons. Meetings of the Tree Group were held twice a month at the National Museum. During the summer, a survey was made of the native species of trees to be found on the Mackenzie King estate, and some collections were made which are to be mounted for the natural history museum being planned there by the Federal District Commission. The group has also undertaken to compile a list of the shrubs native to the Ottawa district and a field key for their identification.

The Field-Naturalists' Lodge was used extensively during the season. An official representative of the Club was at the Lodge each Sunday afternoon during June to lead informal walks.

Four copies of the Newsletter were issued during the year, totalling 28 pages with 42 articles. Reports of Council, committees, and excursions, and news items concerning members of the Club, were regular features. Assisted by the Newsletter committee, Miss Verna Ross was responsible for the first two issues, and Mrs. J. W. Groves for the last two.

Report of the Special Lectures Committee

Three Audubon Screen Tours completed the 1950-51 series. These were:

January 26 — The Riddle of Migration, by Roger Tory Peterson.

March 31 — Wilderness Mischief, by O. S. Pettingill.

April 21 — Wing Havens, by Alexander Sprunt.

The following lectures of the current season have already been held:

October 15 — Trails for Millions, by Allan D. Cruickshank.

November 24 — Canada North, by Bert Harwell.

Report of the Membership Committee

At a meeting held in February, it was decided that the committee should direct its efforts, as in 1950, toward increasing the local membership. To this end, descriptive leaflets and membership application blanks were arranged, and cards were prepared for use in a mailing list compiled from names of those present at the last screen tour. Leaflets were distributed at the birthday party at the Macoun Field Club on April 28, and with the club notices mailed out in May. Additional leaflets and application blanks were mailed to about 250 persons who

had left their names at the Audubon lecture of April 21.

Report of the Library Committee

Sales of the Club's library, handled by Mr. Bernard Amtmann, have totalled \$369.00. Mr. Amtmann had originally agreed to handled this sale on a 40 per cent commission basis. It appears, however, that he grossly underestimated the difficulty and cost of selling this material, and that the single item of printing and distributing his catalogues alone cost \$200.00. Approval was therefore given to the committee to accept an offer of \$200.00 from Mr. Amtmann in full settlement of this transaction.

Report of the Bird Census Committee

The Christmas Bird Census was taken on December 31, 1950. A total of 33 species and 4,159 individuals was reported, including such unusual species as a winter wren, a meadowlark, and four song sparrows. A report of the census was published in Audubon Field Notes for April, 1951, and in two Ottawa newspapers. The Christmas Bird Census for all Canada was published in the March-April, 1951, issue of The Canadian Field-Naturalist.

Report of the Macoun Field Club Committee

During 1951, the M.F.C. was divided on the basis of age and experience into three groups of about 20 children each. Each group had 21 regular weekly meetings in three series, Winter, Spring, and Autumn. The two younger groups enjoyed seven excursions to points of interest in the Ottawa vicinity, while the High School group concentrated on their project area around the Champlain Bridge, being greatly helped and encouraged in the study of aquatic life through the assistance of Mr. E. Bousfield of the Museum staff.

The third anniversary of the Club was celebrated in April with a special meeting at which 19 members were presented with club badges. The speaker was the Rev. A. E. O. Anderson, and movies taken by the Canadian Wildlife Service were shown. M.F.C. exhibits were on display at the annual dinner of the O.F.N.C. A number of younger members assisted Dr. Douglas Leechman with his Eskimo lecture at the Museum by modelling Eskimo clothing and displaying implements. The first issue of the M.F.C.'s magazine "Ursa Minor — the Little Bear" has been produced, and a second issue is in preparation.

Report of the Geological Excursion Committee

About 30 persons took part in a two day geological excursion in the Ottawa district. On May 25, Dr. Morley Wilson conducted a tour which included stops at the Brucite mine of the Aluminum Company of Canada south of Wakefield, and other points of particular interest. On May 26, Dr. Alice Wilson conducted a tour of the Palaeozoic and Precambrian formations of the Ontario side of the Ottawa River. It is hoped that the outstanding success of this excursion will result in its becoming a regular annual activity of the Club.

Report of the Gatineau Park Committee

The committee has examined the Kingsmere estate on three separate occasions, and has prepared some preliminary recommendations on planting, general management, and the setting aside of about 500 acres in the more remote areas to be retained as a primaeval area.

(Signed)

| | |
|---------------|----------------|
| J. W. GROVES, | H. J. SCOGGAN, |
| Pres. | Sec. |

NOTES AND OBSERVATIONS

The European Starling on Vancouver Island.

— Two European Starlings (*Sturnus vulgaris*) were recorded at Victoria, B.C. on September 6, 1951, following a report by Fenwick Lansdowne of that city. The birds were roosting in a red cedar hedge when first observed, flying from there to the top of a small Garry oak where they remained under observation of the Museum ornithologist for the better part of an hour.

Due to city restrictions on the discharge of firearms, no specimen was collected on this occasion. From the number of reports received at the Museum during the past year it seems likely that the species is now established on Vancouver Island, and that specimen records will follow in short order.

— C. J. GUIGUET, Provincial Museum, Victoria, B.C.



Manning, Thomas Henry and Macpherson, Andrew Hall. 1952. "Birds of the east James Bay coast between Long Point and Cape Jones." *The Canadian field-naturalist* 66(1), 1–37. <https://doi.org/10.5962/p.341386>.

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