21, October, 1946.

N.J. Ogilvie, Esq.,
Dominion Geodesist,
Geodetic Service of Canada,
O t t a w a, Ont.

Sir:

I have the honour to submit herewith my report for the summer of 1946, bound in two volumes. Volume I contains the narrative and a description of the country and fauna, together with a map of the Ottawa Islands, and one of the Sleeper and Marcopeet islands, both made from photographs taken while flying over these islands. Volume II contains the technical description, photographs and sketch maps of the fixations established.

As I have made no attempt to duplicate in the descriptive report the photographs of stations given in the technical report, both volumes should be used together to obtain a complete picture of the country.

As these reports have been written and compiled in the short period since my release from the field on September 12, the sections which deal with the birds and mammals are only of a preliminary nature, and subject to alteration when the collections have been studied in detail. They are inserted here for the sake of completeness, and in order to give a general picture of the fauna.

The weather conditions this summer, as judged by rain, wind and fog, were rather better than those we experienced on the east coast of Hudson Bay in 1944, but the ice was unusually heavy and late in dispersing, and this occasioned long delays in the early part of the season, and necessitated several changes of plans which adversely affected our chances of hiring satisfactory boats. Had we been in possession of our own boat, I am confident we could have completed twice the number of stations, particularly as it would have been possible to work up to the beginning of November and then sail down to Moose Factory, instead of having to abandon work on September 2.

Faithfully yours,

T. H. Manning.

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T.H. Manning

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## SECTION A

### Narrative with Notes on Ice Conditions

On the 6th June we left Ottawa in the Canso to make a reconnaissance of the ice conditions about Lake Bienville. The first night was spent at Chicoutimi and the next day we flew over Lake Bienville and returned to Ottawa in the evening. Lake St. John was completely free of ice and Lake Albanel was nearly so, but there was still a considerable amount of ice on Lake Mistassini. Some hills north of Mistassini were still snow covered, and even the small lakes were frozen, but further on the lower land conditions improved. North of the George River, however, there was practically no sign of open water. It was decided that the earliest practicable date for landing at or near Lake Bienville would be June 15.

Owing to bad weather, the first landing at Lake Bienville was not made until the 21st June. At this time ice still covered most of the main part of the lake. The smaller lakes were mostly clear. When F/L Carr took us to the first point on the 26th June, a large mass of ice still occupied the centre of Lake Bienville. We completed our observation on the night of the 28th-29th June, but were not picked up until the 4th July, as all the planes were searching for one of the Norsemen which had become lost.

Since all the points accessible from Lake Bienville had been completed, arrangements were made for the Canso to take us to photograph the Ottawa and Sleeper Islands, including three points fixed but not photographed in 1944. Just before we started on the 9th July we learned that the ice had gone out from Port Harrison and that the Canso could land there. Lake Bienville was now completely clear of ice, but the main expanse of Clearwater was unbroken, there being far more ice in it than there was on the 29th June 1944. There was also more ice in Lake Minto than there had been in that year. As we neared the coast we could just see Richmond Gulf in the distance, and I believe that it was clear of ice. We struck the coast at the Nastapoka River, and after photographing the 1944 point at the mouth of the Kikkerteluk River, flew over

Harrison. The ice was solidly packed against the Nastapoka and Hopewell islands, but the channel inside was largely open, and I have no doubt that a Peterhead boat could have gone from the Nastapoka River to Port Harrison with only slight delays. Harrison Harbour was clear except for a few small pieces, but there was considerable ice blocking the channel inside the islands a few miles north of Harrison. It may be remarked parenthetically that in spite of strong winds from all directions, no ice capable of endangering an anchored plane or preventing a take-off came into the harbour while we were at Harrison, and the natives said that this was always the case. Presumably there is enough current from the river to keep it out.

From Harrison we flew to the charted position of the Two Brothers islands, but could not find them. We then photographed an island at the south end of the Ottawa Islands which it was proposed to fix when ice conditions permitted, and Gilmour Island at the north end where a fix had been done in 1944. I also took a series of photographs of the islands between these two points. After completing the photography of Gilmour Island in rather bad weather, we returned to Port Harrison, where the Canso disembarked us and our load. The ice between Port Harrison and the Ottawa Islands was very heavy and closely packed, some floes being a mile or so across, and it was quite clear that there was no likelihood of our being able to get out there within two weeks. As there was too little transport for the four parties who were inland, and as the Canso might not be free later to bring us to the coast, it seemed wise to remain at Harrison, especially as prior to leaving Ottawa arrangements had been made with the Hudson's Bay Company for the hire of a Peterhead boat at Harrison beginning the 15th July, and it was necessary to observe this agreement.

Arrangements were made for the Canso to pick up us in a few days to complete the photography of the Ottawa Islands and have another look for the Two Brothers and for any other islands that might be outside the Sleeper Islands. In the meantime, a radiogram was sent to Captain Waters, master of the R.M.S. "Nascopic", asking for the position of the Two Brothers. His reply gave the position

latitude 58° 35', longitude 79° 15'. In spite of low cloud, the Canso duly arrived at 0830 hours, on the 17th September. By the time we were in the air, it was a perfect day, and we flew to Lat. 58° 35', Long. 79° 15', but again there was no sign of the islands. The strong north wind of a few days previous had cleared the ice for about 15 miles off Cape Dufferin, and a narrowing lead ran north-west past Elsie Island. There were patches of low cloud over the Ottawa Islands, but conditions were better than on the previous flights and the photographs were retaken. Farmer Island could be seen clearly from the Ottawa Islands, and we flew over it to photograph the 1944 points. The Marcopeet Islands were photographed in the distance on our way to the Sleeper Islands. We flew south along the west side of the Sleepers photographing them, and at the same time keeping a close watch for any islands to the west.

From the southern end of the Sleepers we turned west for Churchill which we reached about 1630 hours. The ice between Port Harrison and the Ottawa Islands was more broken than on our previous flight, and there were further leads of open water some miles in extent on the east side of the Ottawas and about the Marcopeet and Sleeper Islands, but these were negligible in extent compared with the solid pack which covered the remainder of the area in sight right to the southern end of the Belcher Islands. The solidest ice was seen about 30 miles west of the Sleepers and continued for a hundred miles. This ice was broken into pans several miles across, but the pans had never moved from the position in which they had been during the winter, and old winter contraction cracks and pressure ridges c could be seen running from pan to pan without interruption as far as field glasses could follow them. The solid pack continued without a break until we were about 150 miles from Churchill; then the pieces rapidly became smaller, and after some miles of loose ice strings, we were over clear water. Ice conditions had not changed materially before our flight back to Port Harrison a later, but the open water about Cape Dufferin was filled with loose ice.

Our course back to Port Harrison took us directly over the small island south of Farmer Island. It proved to be smaller even that it had appeared to be at sea level; just a rounded rock summit.

A few miles east of this is a smaller or rock or shoal. It was again fine weather on this flight, permitting us to see the Sleeper, Ottawa and Farmer Islands at one time, but we could not see the Twp Brothers. Another radiogram to Captain Waters elicited the reply the reply that the Two Brothers were in Lat.58° 05', Long. 80° 06'. Doubtless there had been an error in the transmission of the first message. Anyway, we planned to go to this area after fixing the southern end of the Ottawa Islands, and in the meantime, I sent a message to base asking the Canso to keep a look-out for the Two Brothers when in that area.

With ice-covered seas it is not always easy to distinguish between an island and a distant patch of open water. Nevertheless I would be absolutely certain that there were no islands outside the Sleeper Islands were it not for our failure to see the Two Brothers. Since the position which Captain Smellie gives for the Sleeper Islands coincides very clearly with the position of Farmer Island, and since there are definitely no other islands within 15 miles of Farmer Island, it seems certain that they must be the ones he refers to, and since either Farmer Islands or the Marcopeets may be assumed to be the North Sleepers of some charts, there is no evidence for additional islands. It is surprising to find that the Port Harrison Eskimos know the Two Brothers only as islands which one or two of them have seen from the "Nascopie". No one could remember any Harrison boat ever having been ot to them. In view of Captain Water's radiograms, there is of course no doubt of the existence of the Two Brothers. It is, however, possible that they may be two small islands at the south end of the Ottawa Islands, and which we considered to be part of that chain.

Our Peterhead boat had arrived at Harrison and been loaded with most of our gear before our trip to Churchill, so we determined to leave on the 20th July and move up to McCormack Island where we could watch for a chance to get through the ice in the direction of the Two Brothers or the Ottawa Islands. We reached McCormack Island the same evening after a perfect day, but the ice had moved in against the outside of the island and it was apparent that we could do nothing but wait.

While we were at McCormack Island, there was a considerable amount of south and southeast wind, sometimes nearly reaching gale force. This wind brought the ice around the north end of an island into Bear Track Bay, blocking for a while any attempt to go further north. Nonetheless, we saw ice moving rapidly north on the outside of McCormack Island, and it seemed reasonable to hope there would soon be a break. Like us, the Eskimos were getting tired of this long delay, and on the 29th July we moved to Inner Island (near Commodore Island) where they hoped to get some white whales. On the 31st July, we went out to Elsie Island where a 200-foot hill makes a good place from which to spy. There was only scattered ice to the east of Elsie, but in the southwest and west there was heavy pack. To the northwest there was a wide lead running to the horizon, which, had we had our own boat, I should like to have investigated, but the Eskimos were very unwilling to venture out. There was considerable, though apparently looser ice, towards the north.

On the a strong southerly wind brought considerable ice inside Elsie Island, and we decided that if the island parties had not done point 12 (just south of Cape Smith), it would be advisable for us to do that point and the other northern points and return to the Ottawas at the end of the season. We had, of course, considered this before, but we had no information regarding ice conditions further north, and owing to the southerly winds it seemed likely that we should be blocked by ice before reaching Cape Smith, and certainly that the route out to the Ottawas would clear before that to Mansel Island. This supposition later proved to be quite wrong. Unfortunately radio communication was not good, and a message sent to Camp on was not answered until August 6.

As point 12 had not been done, we left on the morning of August 7. Much of the day was foggy, and we had to move forward through some loose ice. We stopped for the night in a very good harbour at an island near Cape Gertrude. Going north from there next day, the ice rapidly became thinner, and in most places there were several miles of open water between the edge of the pack and the coast. We reached point 12 about 1930 hours, and were able to observe late that night.

August 9 was spent in doing the ground survey, and the following day we left for Cape Smith where we had arranged to pick up a pilot. Originally we had arranged to meet another boat from Wolstenholme at Cape Smith, but with bade ice conditions, the difficulty of setting a rendezvous date was obvious, and our Harrison crew were persuaded to continue with us to Wolstenholme on condition we picked up a pilot. The post manager at Cape Smith had not received our radio message saying when we expected to arrive, but by a fortunate chance the pilot was at the post, so we lost only one d day although it was one of our rare fine ones. Had we been able to go straight to the next point it might have saved several delays later.

We had received a radio message on the 9th saying that point 6, the farthest east along Hudson Strait, had been done by the inland parties, but that point 10 still remained for us to do. We hoped that our Harrison crew would be willing to take us past Wolstenholme to point 10 and then bring us back to Cape Smith, but they were unwilling to do this, so the following message was sent to Wolstenholme:

> EXPECT TO ARRIVE AT WOLSTENHOLME WITHIN ONE OR TWO WEEKS STOP IF YOU CAN MAKE THE PRELIMINIARY ARRANGEMENTS WE SHALL PICK THE BOAT UP AT IVUGIVIK.

and on the 12th, we received the reply:

> BOAT WILL BE WAITING YOU AT WOLSTENHOLME POST FROM THE 20TH ONWARDS STOP THIS IS THE BEST ARRANGEMENT WE CAN MAKE.

Mr. Heslop, the Hudson's Bay Company's post manager at Cape Smith, also agreed to try to arrange for a povungnituk boat to meet us at Cape Smith for the Ottawa Islands work, and if he failed to do that, he thought he could get a local boat to work with us until September 20, when they have to go to Nottingham Island for the annual walrus hunt.

There was a little scattered ice about the entrance to Korak Bay, but none could be seen from an altitude of 50 feet at Cape Smith. We had considered going straight to Mansel Island from Cape Smith, but there was a strong wind from the northward when we left at 0530 hours, so we went inside Smith Island. At the east end we climbed a 500-foot hill for a spy. The wind had died and we could see only very scattered ice in the firection of Mansel Island, but it was then getting rather late, so we headed for point 13 on the mainland.

We arrived at 1730 hours and obtained a position the same night, but the weather held us there until the 15th.

We left for Mansel Island at 0630 hours, but a few miles from land were stopped by ice brought in by the recent southwest gale. It did not appear very heavy, but the Eskimos were unwilling even to look at it, so we started north along the coast. As we progressed the ice got looser and the channel between the ice and the shore widened. There was also an obvious water sky on the other side of the ice. When we got near Peck Inlet, the Eskimos suggested spending the night there and trying to cross in the morning, but it was still quite early and they were eventually persuaded to try the ice for an hour with the understanding we would come back if open water could not be seen at the end of this time. We had gone only a short way when another Peterhead was seen ahead, and a little later the open water with Mansel Island on the other side came into view. We anchored for the night outside the mouth of a small brook about 30 miles from the south end of Mansel Island. There is an anchorage inside the brook, but Peterhead boats can enter only near high tide. There is no shelter from the east outside the brook.

Next day we found a fairly sheltered, though shallow harbour about 2 miles up the west coast of Mansel Island. We got our first fix at point 15 on the night of the 18th-19th August, and left a signal out by which our crew would know we had finished and were ready to move. At 0400 hours we were wakened by one of the crew as there was a considerable sea coming into the harbour and they were afraid the boat would be bumping on the bottom at low tide. All our gear had to be carried several hundred yards to a more sheltered spot and then taken out to the Peterhead in small diagy loads. It was raining as well as blowing by this time, but the Eskimos kept everything carefully covered and no damage was done. Once around the south point of the island we were in sheltered water until we got near the north end. We arrived at an excellent small boat harbour by the old Hudson's Bay Company's post and the unfinished radio station at about 1600 EST.

We completed our observation on the night of the 21st-22nd August and made a quick trip to Wolstenholme post, arriving about

1600 hours. After hurrying so as to be able to change boats that evening, it was disappointing to find that the boat promised us for the 20th had gone out on another job two days before. The post manager told us it had gone for one day only, but had probably got stuck in the ice which we had seen off Ivugivik. It returned that evening, but too late to load. We had now done four points in two weeks and travelled about miles in the same period. Had the Harrison boat been willing to stay with us, we had good reason to believe there would have been no difficulty in doing point 10 as well as the points on Mill, Ottawa and Two Brothers Islands. The crew, however, had now been away over five weeks, and were anxious about their walrus hunt. With the Wolstenholme boat our troubles began.

McCormack, the post manager at Wolstenholme, had kindly agreed to have the gasoline ready to load on the high tide at 0400 hours, but the Wolstenholme boat did not move until 0500 hours. Then, instead of loading, they came into the river and anchored, stating that it was blowing too hard to try to leave, and we might as well wait for the next tide before loading. I pointed out that it was an off-shore wind, but this made no difference to them. They did not want to go. They agreed, however, to load the gasoline, and we got our other gear transferred. Since the Wolstenholme boat was only a 35-foot craft instead of the usual 40-foot, we were rather cramped, and as F/O Drake had asked us to meet the Canso at Harrison (which fitted well with our new plans) we sent everything we could spare back on our Harrison boat.

Unlike the Harrison boat, which was newly painted and spotlessly clean, that from Wolstenholme was old and dirty, and the fo'castle exceedingly filthy and smelly; there was no covered water barrel, and the Eskimos, who had bad coughs, sprayed the water liberally when spitting, an especially unhealthy habit with the high tuberculosis rate that exists among them. There was only a very old 16-h.p. Acadia engine in this boat against the 40-h.p. engine in the Harrison boat. By 1900 hours on the 24th, the wind had quite died, but our new crew said there was no harbour at Sugluk, so it was too late to start, and as the post manager concurred, there was

nothing we could do except arrange to start at 0300 hours next day. Actually there is one very good harbour, at least one fair anchorage and a number of coves where there is good shelter from all but a straight in-shore wind.

We sent three radigrams from Wolstenholme: one to Cape Smith asking what arrangements had been made for the boat to meet us there, and two F/L Drake and Mr. Woodruff, the first agreeing to rendezvous at Port Harrison and asking for the latest day a plane could pick us up there, and the second asking whether the Canso could transport us from Sugluk to Harrison to pick up the boat for the Ottawa Islands, as this would save us about 10 days.

I woke at 0300 hours next morning, but our crew were still asleep, and as the Eskimos on this boat were unwilling to start before eating a large breakfast, it was 0400 hours before we got off. The Eskimos on this coast seldom go far from home, and our crew had only once been to Cape Weggs, so it was agreed that if we found a camp we would pick up a pilot. They said, however, that if we didn't see any natives, they could manage. Considering the engine, we made good time, and arrived off Sugluk at 1600 hours. There were no Eskimos at the mouth of the Inlet, and our crew wished to go into the post to pick up a pilot, but as this would have been the end of travel for the day as well as taking us several miles out of our way, I persuaded them to go on to Deception Bay where supposedly there was another camp. We arrived at the entrance at about 2000 hours, but there was no camp, so we went up the inlet for a few miles without seeing any tents. Finally, at about 2130 hours, we anchored. When we later flew over Deception Bay, the camp was seen at the extreme head. We left next morning at about 0600 hours, and reached Cape Weggs at 1430 hours. There was no good harbour in the vicinity. In spite of high land and deep water on the points, the bays were all shallow and filled with mud flats and boulders at low tide; but at high tide, about 1800 hours, we were able to find a good sheltered place to beach.

We were observing on August 28 when we received a radio message asking if September 2 would be a suitable date for Canso 9815 to pick us up at Sugluk. Fortunately we were able to get a

message back agreeing to be there. Owing to cloud, it took 6½ hours to complete our observation that night, but it might have been our last chance before September 2; besides, the Eskimos had beached the boat at the extreme head of the bay, and with heap tides coming, there seemed every chance they might not be able to get out until the next spring.

We left next morning as soon as high tide permitted us to get out, and anchored about 0100 hours next morning at the mouth of Sugluk Inlet. The delay was largely due to the fine, calm weather which permitted the Eskimos to stop and hunt. When the weather is bad they do not wish to travel, and when it is good, they always want to stop and hunt. Time means very little to them, especially when they know that they are indispensible, and they do not make enough out of the boat hire for them really to care whether they are hired or not.

As we had received no reply from Cape Smith regarding a boat, we made arrangements with Mr. Trafford at Port Harrison to have a boat waiting on September 2 for the Ottawa Islands work. This boat could only work with us until September 15, but later we were able to arrange for another to take over.

We had been told to be ready to load the Canso in a few minutes, and since it would be difficult to load the plane from the shore at low tide, we held our Peterhead boat and left most of the load on board. Unfortunately the radio at Sugluk was not working very well, and owing to lack of wind, the batteries were low. The distance to Nottingham and Harrison was rather great for our radio and we could transmit successfully only under very good conditions.

The Canso did not burn up on the 2nd, or send us any message. We were unable to get any message to Southampton until September 3. On the 4th we received a reply as follows:

> CANSO 9815HOLDING SOUTHAMPTON THIS DATE AWAITING FAVOURABLE WEATHER TO EMPLANE MANNING PHOTOGRAPH HIS POINTS AND RETURN TO ROCKCLIFFE STOP WHEN WEATHER AND CONDITIONS ARE SUIT ABLE PASS WEATHER TO SOUTHAMPTON VIA NOTTINGHAM.
>
> J.L. Ledbetter, Capt.
> Canso 9815.

From August 28, when we arrived at Sugluk, until September 5, the weather had been moderately fine with some low cloud over the

hills in the morning and evening. About the middle of the day the clouds rose and there were large patches of blue sky. We had often seen Norsemen come in in this weather, and could not understand what would keep a Canso away, so I sent the following message on September 6 to the captain of the Canso:

> AM HOLDING BOAT HERE TO LOAD CARGO ALSO BOAT AT HARRISON FOR OTTAWA ISLAND WORK THE LATTER MUST BE BACK AT HARRISON BY FIFTEENTH SEPTEMBER THEREFORE WISH TO REACH HARRISON EARLIEST OPPORTUNITY EVEN IF WEATHER NOT SUITABLE FOR PHOTOGRAPHY OF POINTS.

The morning of the 6th was also fine, but the next morning there was a strong in-shore gale with snow flurries. Moreover, we could not make radio contact. The sky cleared about 1200 hours, and at about 1245 hours the Canso arrived and tied up at the buoy. It took about 20 minutes to row out against the wind. The captain of the Canso then suggested that we leave all our gear behind. This I naturally refused to do, and it was agreed to try to repack so as to take 500 lbs. (the maximum load he could take off) of the most important instruments, etc. It proved impossible, however, to repack and load in the 1½ hours allowed, as some of the gear was on shore in the Peterhead; also there seemed little chance of getting it aboard without it becoming soaked and perhaps dropped into the water. The pilot therefore agreed to return for us if that could be done in three days; if not, he would return to Ottawa, and we would have to make other arrangements. A letter from Mr. Woodruff informed me that he and F/O Drake considered it inadvisable to attempt any more points this season, and as the pilot of Canso 9815 refused to land at Harrison even if the weather was fine to pick up our equipment there, the following radiogram was sent to Harrison:

> SHALL NOT REQUIRE PETERHEAD FOR OTTAWA ISLANDS STOP PAY FOR TIME HELD STOP MAY REQUIRE BOAT ABOUT 18 SEPTEMBER FOR TRIP SOUTH STOP WILL COMMUNICATE LATER STOP PLEASE SHIP TO GEODETIC SERVICE OTTAWA BOXES SENT YOU VIA SORALEE AND INFORM ME IF POSSIBILITY EXISTS OF DOING SO THIS YEAR.

September 8 and 9 were both fine at Sugluk, and the weather was passed to Southampton two or three times during the day. In the afternoon of the latter there was not a cloud in the sky over the strait, although some still hung over the hills. But apparently it was not considered good enough by the Canso.

The morning of the 10th was dead calm and no clouds. We

were loading the boat when we heard that the Canso expected to leave at 0900 hours to pick us up. She actually arrived about 1200 hours, by which time the best part of the day was over. We photographed points 10 and 14, and then returned to Southampton Island.

Our sincere thanks are due to Mr. Buhr, the post manager at Sugluk, for his work in sending out our messages and weather schedules. As the radio was not working well, it usually took a long time to get a message through, and in the morning he sent weather nearly every hour. At first he started sending the weather at 0500 hours, but later we found the Canso not interested in weather until 0800 hours. Without his assistance we undoubtedly should have had to go at least as far as Harrison by boat. Mr. Buhr is an ex-R.C.A.F. pilot who had been in Hudson Strait with the Hudson's Bay Company for several years before the war. He considered that it would be quite safe for a plane to come into Sugluk as late as October 15. I am not familiar with that area, and would therefore have given September 30 as a safe date. Port Harrison would probably be a week later: indeed, we were informed that a commercial Norseman would be starting in for Harrison on the 20th September.

Weather reports indicated that conditions for photography would not be good over our points on September 11, so we waited at Southampton Island until the next day. Owing to cloud the three points could only be photographed at 1,000 feet. They were conspicuously placed, however, and identification should not be difficult. We arrived back at Ottawa at 1810 hours on September 18.

During our flight from Cape Weggs to Mansel Island and from there to Coral Harbour and back to south Mansel Island and Kovik River, we saw no sign of ice.

General Notes on the Geology of McCormack Island.

The major glacial striae and fluting on McCormack Island run slightly south of south-west. Other lesser striae run north and south and to some extent in other directions. All the larger boulders on the higher ground above the cliff are of the same basaltic rock as that on which they lie, and there are only a very few small boulders of other rock. But at levels at about 60 feet there are large numbers of granitic rocks and other erratic boulders amongst the raised and modern beaches.

Seven rock specimens were collected from McCormack Island and from Kovik River, but they are still at Port Harrison awaiting shipment.

Driftwood.

The very large amounts of driftwood seen on the King George and other islands in 1944 (see report for that year) encouraged me to carry a wood stove this year. Ample driftwood was found within half a mile of our camp sites at McCormack and Inner Islands to keep a continuous fire on all the colder days during our stay. This made a considerable saving in gasoline, and also greatly added to our comfort. There was also a large amount of fine dry wood at Cape Acadia, although we did not have casue to use the stove there. There was a negligible amount of driftwood at Korak Bay, Kovik River and Cape Weggs, but at the first-named place, perhaps more could have been found outside the bay.

The following new names have been recommended:

| Name | Description | Reason |
|---|---|---|
| Kinglet Lake | Lake at Point 17 | Ruby-crowned kinglets were very numerous there. |
| Inner Island | Island N.E. of Commodore I.,N.W.T. | It is inside the other islands. |
| Waters Island | Nr.S.end Ottawa Islands. | For Capt.J. Waters, Master of R.M.S. "Nascopie" |
| Cape Acadia | S.Cape of Mansel Island. | Mansel Island was mapped by Capt. Anderson in 1914 from C.G.S. "Acadia" |
| Swaffield Harbour | Harbour at N. end Mansel Island. | Mr. Albert T. Swaffield of the Hudson's Bay Company was in charge of the Hudson's Bay Company's post here about 10 years ago. He is, I believe, the only white man to have wintered on Mansel Island. |

SECTION B

Ecological Description of Stations Visited.

Lake Bienville, P.Q. June 24-26, July 4-9.

Our camp at Lake Bienville was on a network of eskers near the north-east end of the lake. This esker country was only 70 percent forested, but surrounding regions away from this dry, sandy country were almost completely covered with spruce amongst which a few tamaracks were scattered. Isolated hilltops 10 or 15 miles distant and

300 to 500 feet high were thickly wooded. I saw no white birch and there was no short scrubby spruce, the trees being either quite absent or fairly well grown. In the treeless areas there were patches of dwarf birch and Labrador tea. Some of the esker tops were sandy and barren, but 80 percent of both the forested and unforested country was covered with a deep carpet of caribou moss which had obviously not been grazed for many years. The lack of normal grazing and trampling appeared to be allowing the lichen to spread beyond its normal habitat into the damper areas of the Labrador tea and sphagnum mosses; certainly it was spread over a wider variety of ground than it was on the west side of Hudson Bay.

A comparison of the vegetation on the Lake Bienville area with the places we visited on the west side of Hudson Bay in 1945 indicates that its ecological latitude lies between Neck Lake and Sandhill Lake in Manitoba.

When we arrived at Lake Bienville on June 24, the dwarf birch and alder were just commencing to show green, but the tamarack still looked almost dead. When we finally left on July 9, the leaves on every thing except the tamarack were almost fully out, and the bake apple was just commencing to flower. In the continuous forest areas away from esker country, birds scarce.

Country between Lac Bienville and Kinglet Lake.

There were no burns in the vicinity of Lake Bienville, and 80 percent of the country was covered with caribou moss. This percentage would have continued to Kinglet Lake had there been no burns. Just west of Bienville about 200 square miles had been burnt about 20 years ago, and from there on to Kinglet Lake, about 15 persent of the country had been burnt, probably at almost the same time. But these burns were all small, and the damper areas in them had not been rouched.

Kinglet Lake. June 26 - July 4

When we arrived at Kinglet Lake, the vegetation was slightly more advanced than at Lake Bienville. Our camp was on an island separated from the mainland by a shallow channel. The island was covered with old spruce forest in which a few tamarack were scattered. Except in one small marshy area, the fround was clothed with a thick carpet of lichen. Most of the mainland on the north side of the lake

had been burnt. The burnt trees were still standing, and showed little sign of charring. Apparently only the leaves, bark and caribou lichen had been burnt. In the damper places the trees were untouched, as were a few patches of forest dry enough for lichen to grow well. Neither the fallen nor the standing trees showed signs of rot. The burnt ground was largely covered with dwarf birch growing 2 or 3 feet high, but sufficiently widely spaced to interfere little with walking. The vegetation growing on the burn also included a shrub resembling currant, another, dwarf cherry, as well as several other flowering plants which were not seen in the unburnt country. Caribou lichen was beginning to grow on the intervening ground, but in insufficient quantity to be of any value for caribou grazing.

At first I thought this area had been burnt only 5 to 7 years ago, but when I cut down and counted the rings of two young spruce trees (which are beginning to reforest the country), I found that, although they stood about 6 feet high and the trunks measured 1½ inches in diameter at the base, they were 16 and 17 years old respectively. The burn must therefore have been nearly 20 years old at the least.

I saw one area of a few square miles which had been untouched by the above fire, but which had been burnt at least 30 years and probably 40 to 50 years ago. The old burnt tree trunks had all fallen, and were crumbling and rotting, and there was sufficient caribou lichen for moderately poor grazing - nothing like the luxurient moss of the unburnt areas. From the air this latter burn would still have shown clearly, and formerly I should probably have judged it to be only 15 or 20 years old. I now believe it may take something like 80 to 100 years after a burn for lichen to reach the luxurience it showed in the unburnt areas at Kinglet Lake and at Lake Bienville.

The ecological latitude of Kinglet Lake corresponds to that of Neck Lake in Manitoba, but at Kinglet Lake I saw only 2 white birch, They were growing together on a rocky hilltop. The country on the north side of Kinglet Lake is rough and rocky with many small cliffs and other exposures of solid rock (granites and gneisses).

In the annotated list of birds I have indicated the proportion of the different species seen in the burnt and unburnt areas. It remains to mention only that in the burnt birds were scarce in the areas actually burnt and were practically never seen amongst the dwarf birch.

The favorite haunts were the small patches of unburnt spruce and the patches of high alder (10 to 15 feet) which lined some of the little brooks.

Port Harrison. (See also 1944 report).

Along much of the neighbouring coast, rounded, rocky hills rise to about 500 feet. Up the Innuksuak River from the post there is a gap in the hills, and at the mouth of the river a mile-long sandy beach. Dwarf willow grows about 2 feet high in sheltered places, and dwarf birch 6 inches to 1 foot, but the patches are mostly small, and in several places the latter had recently died. When we first arrived on July 9, most of the dwarf birch was completely leafless, and the leaves on some of the willow were half out while others were only just showing green. The residents said the season was at least two weeks behind normal.

Port Harrison to McCormack Island. July 20

Between Port Harrison and McCormack Island we went along Hopewell Channel. This channel averages 2 to 5 miles in width, and separates the basalt-capped Hopewell Island from the mainland and the inner granite-gneiss islands.

Patterson Island is similar to McCormack Island (see below). but lower.

McCormack Island. July 20-29.

Our camp was at the north-east extremity of McCormack Island where a few acres of granite gneiss form a low, boulder-strewn point. To the east the land rises rather steeply to culminate in a 50-foot cliff of columnar basalt, making a total height of about 200 feet, From the top of this hill the surface of the land, which is chiefly bare rock, slopes gradually to the west coast of the island. About a mile and a half south of our camp the island narrows and there is little but bare rocks. I did not walk past this. Of the 3 or 4 square miles examined at the north end, nearly half consisted of the sloping, smooth boulder-strewn rock on which few if any birds nested. The remainder was dry, gravelly ground with short vegetation. A second quarter was marshy, partly tidal, and mostly close to the coast. A third quarter was steep rock screes surmounted by the cliffs, and the remainder (chiefly the extreme north point and the west shore) is either

bare rock or rubble and boulder beach. Except for a single dwarf willow bush that grew about 2 feet high behind a large boulder, the dwarf willow was the creeping variety.

Cox Island.

The rock composing this island is granite gneiss, giving a topography strikingly dissimilar to that of McCormack Island. The highest hill is about 200 feet. Half or more of the island consists of bare, rocky hills, the remainder being divided between dry sand and gravel areas with short vegetation and small marshes. The whole is liberally boulder strewn.

Inner Island. July 29 - August 7.

The topography of this island is similar to that of Cox Island except that the highest hill is under 100 feet and there is no sand. I did not visit the mainland opposite this island, but from the distance the hills appeared to rise about 300 feet with well marked valleys where there would probably be a good growth of dwarf willow or birch. On Inner Island I saw two single dwarf willows about 1½ feet high growing in a well-sheltered place; the remainder only crept along the ground without affording any cover.

Elsie Island.

This is another granite gneiss island of which the highest point is about 220 feet. The south end is low with some sand beaches. The vegetation is much the same as on Inner and Cox Islands, and is not noticeably reduced by the extra distance from the mainland.

Inner Island to Korak Bay. August 7 - 8

Ten to 15 miles north of Inner Island where the coast turns to the north-east; the mainland is lower and some of the small islands are composed of gravel and pebbles instead of solid rock. The country at Mistake Bay and Povungnituk was described in my 1944 report. North of Povungnituk it is similar, though perhaps rather lower.

The whole coast from Inner Island to Korak Bay is liberally lined with low islands. The island off Cape Certrude where I landed for 1½ hours is about three-quarters march land, the remainder being rock, boulder and pebble.

Korak Bay. August 8 - 10.

Our camp was on a rocky point which jutted out 2½ miles west from the head of the bay. To the north of it there were at least two similar and larger points before the Cape Smith Range. These points were the seaward extremities of ridges that ran inland parallel to the Cape Smith Range. Between them were wide, flat, well-sheltered valleys. I walked along our camp ridge and about 1½ miles up the valley to the north of it. In the valley, patches of dwarf willow frequently grew to a height of 3 feet, and dwarf birch to almost a foot. At my farthest point inland, more than half the valley floor was covered with small clumps of willow and birch. Doubtless a little further inland in the valleys near the sheltering Cape Smith Range, the vegetation would be even more luxurient. There were a greater quantity and a variety of flowering plants at Korak Bay than I saw elsewhere on the coast during the summer. The ridge on which our camp was situated and the ridge immediately to the north were about 100 feet high. The south side of Korak Bay especially towards the point is extremely flat and low.

Korak Bay to Peck Inlet.

Smith Island, whose height is given with approximate correctness on the map as 500 to 700 feet, consists chiefly of bare and barren pillow lava, and the whole island closely resembles one of the Ottawa Islands (see 1944 report). Passing through the strait between Smith Island and Cape Smith Range, one is immediately on a low coast with no hills near it over 100 feet, and mostly much less. The coastline between Smith Island and Kovik Bay are entirely lacking in islands. North of Kovik Bay to Peck Inlet the coast is also low, smooth and without islands. Higher land commences at Peck Inlet.

Kovik River. August 11 - 15.

Opposite our camp, which was on the south bank of Kovik River, the water was still fresh and about a third of a mile wide. The hills within walking distance of our camp were under 100 feet. Some were composed of marainie material and others of solid rock. Except for the river, the drainage was poorly marked. About one-tenth of the country was marshland; the remainder, fairly dry and often boulder-strewn. The dwarf birch crept along the ground and only an

occasional single bush of dwarf willow grew more than a foot in height. Bake apple was fairly plentiful.

Mansel Island, with Special Reference to Cape Acadia and Swaffield Harbour.

All land within 5 miles of Cape Acadia is very low and flat, probably nowhere exceeding 20 feet above high tide. It consists of entirely of disintegrated limestone beaches which are usually completely barren, but sometimes have a little grass, dryas and Iceland moss between them. Inland behind our camp there was an area of about 3 square miles with rather more vegetation. About half of this area was fairly dry with short vegetation; the remainder, very wet marsh. The shoreline itself was a dry, bare, disintegrated limestone beach with large heaps of kelp in places.

Going up the east coast, the land soon became higher, and so far as we could see from the boat, even more barren. The highest point appeared to be towards the north-east end where a 100-foot hill is marked on Captain Anderson's chart.

There is about half a square mile of marsh land at the head of Swaffield Harbour, and a few more small patches near the shore to the west. Inland the country rises to 50 or 100 feet, and consists of disintegrated limestone that is entirely barren. Almost all the shore birds were congregated on a three-quarter mile strip of coast where there are large fresh heaps of kelp and a small tidal pool and a little marsh land behind the beach. As at Cape Acadia, all the immediate shoreline consisted of disintegrated limestone except for a few patches of limestone in situ.

When we flew over the south-west part of Mansel Island on September 12, I judged three-quarters of it to be entirely barren. This fraction would probably be increased along the eastern side.

Eric Cove (Wolstenholme post). August 22 - 26.

On either side of Eric Cove, the hills rise steeply to about 1,000 feet, but on the west side there are a hundred yards or so of flat, boulder and pebble beach. At the head of the bay, the shore is sandy and from there a valley runs inland for about 2 miles before dividing and beginning to rise steeply. Nowhere in this valley did I see any dwarf birch or willow more than 2 or 3 inches high, but blueberries and cranberries are rather plentiful, growing close to the ground.

Cape Wolstenholme to Cape Weggs. August 25 - 27.

The famous perpendicular, 1,000-foot cliffs end just west of Wolstenholme, but eastwards to Sugluk the coast continues steep with numerous cliffs. For the first 30 miles from Wolstenholme, there is practically no vegetation; then quite suddenly there is grass or moss in all the cracks and crevices, and the shore looks quite green. About the entrance to Sugluk the hills are rather lower and more broken, but there is more steep land between there and Deception Bay. From about 10 miles east of Deception Bay as far as the point immediately before Cape Weggs, the shore is quite low and rises gently to about 150 feet half a mile back from the shore.

Cape Weggs. August 27 - 29.

Cape Weggs is high and rocky. A hill behind our camp, which was about 10 miles south-east of the cape, was estimated to be 600 feet, with other hills in sight up to 1,000 feet. At the points, the hills rise steeply, direct from the water, but the bays are shallow, and at low tide there are wide boulder-strewn mud flats. There are well marked and sometimes very marshy valleys running inland for several miles from the head of the bays, and one of these cuts across to the coast west of Cape Weggs. I did not go more than 2 miles inland. Within this distance from the shore there were isolated clumps of willow growing about 1 foot high, but not sufficiently widespread to afford appreciable cover for birds. I saw no bake apple, and blueberries and cranberries were scarce.

Sugluk. August 30 - September 10.

The majority of the hills appeared to be from 600-800 feet high with some doubtless reaching 1,000 feet. A mile inland the valley where the post is situated splits and climbs steeply, but before this there is an area about a quarter mile square covered with willow growing 1 - 2 feet high. I saw no bake apple, and blueberries and cranberries were less plentiful than at Wolstenholme. The tide goes out from the post by leaving 300 to 400 yards of mud flat. Similar flats appear in the other small bays of the inlet, according to Harry Ford.

## SECTION E: ESKIMO STONE HOUSE RUINS

In 1944, I made enquires at Port Harrison regarding the Thule type house ruins, but the Eskimos did not appear to know of any houses other than the structures of rock usually known as strong tent rings. Because of this, and from the reactions of our Eskimos crew to the houses and strong tent rings on the King George and Marcopeet Islands, I concluded that if there were any Thule type houses on the mainland they were too old to be easily recognizagle*. This year I found that this surmise was incorrect.

Mr. J. Trafford, Hudson's Bay Company's post manager at Port Harrison, told me of two Thule type houses he had recently seen on Patterson Island. These were on dry, grassy ground on the north-east side of that island, and about half a mile from the extreme south point. I judged their age to be about the same as those seen on Kidney Island in 1944. On the smooth, basaltic rock there were many strong tent rings and other conspicuous structures well known to the Eskimos, but as far as I was able to determine, the houses were unknown to the local Eskimos.

From Mr. Carlson of the Baffin Trading Company I learned of another group of house ruins which some Eskimos had recently found at the north end of McCormack Island. This group consisted of at least 6 single-roomed houses of about the same age as those on Patterson Island. They were at a height of 50 feet (aneroid) on top of a dry, grassy rise that sloped down about 300 yards to a bay on the north side of McCormack Island. One of the houses had been slightly disturbed, probably by the Eskimos who found them. I also stumbled on a further group of houses about a mile south of there. This group was also 50 feet above high tide level, and just on the east of the top of a broad, grassy knoll. They were about one-third of a mile from the east and west coast of the island. Four of these houses, one with 3 rooms, one with 2 and two with 1, were close together, and a little way off there were two separate one-roomed houses. These houses appeared very slightly more recent than the other group on McCormack Island. There were a few depressions in the ground which may have been older houses.

* - Manning, T.H. -Ruins of Eskimo Stone Houses on the East Side of Hudson Bay. Am. Antiquity, Vol. 11, No. 3, pp 201-202.

Near the centre of Elsie Island and 300 yards from the east coast, I found a group of 3 houses at an estimated height of 50 feet. They appeared to be about the same size as the second group on McCormack Island, but unlike them they were on gravelly ground, and I think they may have been occupied for only a short time.

About three-quarters of a mile from the Geodetic Service beacon on the south side of the mouth of Kovik River at approximately 40 feet above the river, there are 4 single and 5 double-roomed houses. A few hundred yards further inland towards a lake is a single-roomed house, and quite close to the lake a second but slightly older one. Rather nearer the river than any of the houses are some depressions which may have been houses. About 400 yards further up the river near the top of a rise and still about 40 feet above the river, are 3 single- 3 double- and 1 treble-roomed houses, as well as 2 houses that show as little more than circular depressions, but none the less are quite clearly houses. These two last appear to be at least twice the age of the majority.

All the houses at Kovik not otherwise specified above appeared to be about the same age, and are probably all rather newer than those on McCormack Island, though slightly older than those at House Island. Very large stones were used in the construction of the Kovik houses, and the surrounding ground is well turfed, both signs of long occupation. I discovered the above houses accidentally, but later learned that they were well known to an Eskimo guide we brought with us from Cape Smith.

The above discovery of 3 groups of ruins when only about five places on this coast were visited, indicates that they are fairly numerous.

Mr. Harry Ford, who has a trading store at Sugluk, told me that there is a group of old houses on each end of the island at the entrance to Sugluk Inlet, and I was shown a rectangular-socketed Cape Dorset harpoon head said to have come from the houses on that island.