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Aerial Surveys in Western Ontario, Northern Manitoba, and Saskatchewan, and the Districts of Mackenzie and Keewatin, 1962

By

E. G. Wellein, D. G. Colls, and R. D. Harris.

In the past it has been extremely difficult to find time during the breeding ground survey to visit and explore the more inaccessible areas in the Provinces and the Districts. It was not possible to make the routine surveys on the areas of high waterfowl population densities and have time left to do the exploration necessary to extend our knowledge of breeding conditions and population densities in the far north. For this reason another aircraft, a Piper cub, was used this spring on the routine survey in southern Manitoba and Saskatchewan. This released the Grumman widgeon for use in the more inaccessible areas.

The purpose of the surveys was to obtain quantitative data on waterfowl breeding population densities and distribution in inaccessible areas in the Provinces and the far north, and to obtain other general information which would strengthen our knowledge of breeding conditions in these areas.

Personnel who participated in the survey work are as follows:

- R. D. Harris (Canadian Wildlife Service) acted as observer on the survey work in western Ontario.
- A. S. Hawkins (U. S. Fish and Wildlife Service) observer in northern Saskatchewan and the District of Mackenzie.
- D. G. Colls (Canadian Wildlife Service) observer, northern Manitoba and the District of Keewatin.
- E. G. Wellein (U. S. Fish and Wildlife Service) pilot observer, all areas.

Western Ontario

Waterfowl transects were flown in western Ontario May 19-22, with R. D. Harris, Canadian Wildlife Service, acting as observer. An

attempt was made to start this survey on May 10, but the aircraft was forced down by engine failure at Lac du Bonnet. As a result, time did not permit as extensive a survey in this area as had been originally planned. All together 652 miles of transect were flown. The results are summarized below:

Table I

<u>Route</u>	<u>Sq. Mi.</u> <u>Surveyed</u>	<u>Ducks</u>	<u>Mal.</u>	<u>Black Scaup</u>	<u>Gold.</u> <u>eye</u>	<u>Merg.</u>	
Manitoba Line - Sioux Lookout	35	63	3	22	1	23	
Sioux Lookout - Armstrong	34	38	11	2	7	12	
Armstrong via Osnaburg - Pickle Lake	27	15	1	1	4	5	
Pickle Lake via Wright Lake - Red Lake	41	76	7	16	29	22	
Red Lake - Bell Lake	13	8	9		5	1	
Ball Lake - Manitoba Line	13	38	14		4	12	
Total	163	238	45	19	67	75	
Ducks seen per sq. mile:	1.46						
Percent by species*:			21	9	32	2	36

*: 211 of the 238 ducks were identified by species, but some of the "scaup" may have been ringnecks.

The average density of 1.5 ducks per sq. mile closely approximates the average for the pre-cambrian type in Manitoba.

No comparable data are available for 1951.

Northern Saskatchewan and District of Mackenzie

This portion of the northern exploratory flights was conducted with Observer A. S. Hawkins between May 28 and 31. A course was followed from Prince Albert to Fort McMurray, northeast to Livingstone Lake, northwest to Lake Athabaska, westward to Richardson Lake and thence northward to Fort Smith. Where practicable, data was recorded on a 1/4 mile transect basis. When necessary, transects were discontinued to

permit scouting of the better waterfowl habitat. The data obtained on a transect basis showing waterfowl density and species composition are shown below in tables II and III.

Table II
Waterfowl Densities

Transect	Sq.Mi.	Ducks	Geese	Ducks/Sq.Mi.
Delaronde Lake to Ile a la Crosse	25	106	1	4.2
Waterways to Livingstone Lake to Richardson Lake	94	69	7	0.7
Ft. MacMurray to Lac la Ronge	87	432		5.0
Total	206	607	8	2.9

Table III
Species Composition
(Percent)

Species	Delaronde Lake to Ile a la Crosse	Waterways to Livingstone Lake to Richardson Lake	Ft. Murray to Lac la Ronge
Mallard	13.3	4.3	7.4
Widgeon			2.1
Pintail	0.9		
Blue-winged teal	0.9		0.8
Ringneck and Scaup	25.5	68.1	66.2
Redhead			0.5
Canvasback			3.1
Bufflehead, Merganser, Scoter, and Golden-eye	41.5	13.2	11.2
Not identified	17.9	14.4	8.2

A density of 4.2 ducks per square mile was recorded between Lake Delaronde and Ile a la Crosse. The mallard made up 13.3% of the total while the ringneck and scaup accounted for 25.5% of the total. This second figure is an important observation because it substantiates the general

observation that this area may be one of the more important breeding areas for the ringnecked duck.

Because of the character of the terrain the aircraft was flown at a higher altitude than usual. It was difficult, therefore, to separate the ringnecked duck from the scaup and for that reason these two species were lumped together. Occasional spot checks, however, indicated that a high percentage of these were ringnecked ducks.

The waterfowl density on the transect between Waterways, Livingstone Lake and Richardson Lake was the lowest observed during the trip (0.7 per sq.mi.). On this transect the ringnecked duck and scaup made up 68.1% of the total ducks recorded.

The transect between Ft. McMurray and Lac la Ronge passed through some of the best waterfowl habitat in northern Saskatchewan, and this is reflected in the figure of 5.0 ducks per square mile obtained for the strip. Again scaup and ringnecks accounted for a very high percent (66.2%) of the total.

Superficially, a figure of 5.0 ducks per square mile appears low, yet northern Saskatchewan is a sizable area and the total number of ducks involved at this rate may be large. In addition, it appears to be important as a breeding ground for the ringnecked duck and scaup--two species which contribute materially to the kill, especially in Minnesota, Wisconsin and Michigan. However, the waterfowl habitat is spotty, occurring mostly as bays of large lakes and winding rivers. This type of habitat presents a difficult sampling problem.

Northern Manitoba and District of Keewatin

Dave Colls, Canadian Wildlife Service, acted as observer on this portion of the survey work which involved the country north to

Churchill and Baker Lake and northeastward to, and including, Southampton Island.

This summer was an exceptional year for aerial exploration in the country north of Churchill. A very early spring with unusually high temperatures resulted in an abnormally advanced season. On July 1, 1960, the bay at Eskimo Point was completely covered by heavy ice, which was not expected to break up until after July 15, but this year the bay was completely ice-free on July 7 when we flew over it, and had been so for some time. As a result, refuelling was not the problem it had been in previous years because water landings could be accomplished in most places. Above Tavani the large permanent water areas were still covered by ice except along the shoreline. Open water was present, of course, on the tundra potholes. All snow was gone with the exception of the huge drifts which had built up during the winter on the southeast side of the higher hills.

Data were recorded on a 1/4 mile transect basis from Waboden northward. A direct course was followed from Waboden to Churchill. Northward from Churchill the flight path was confined to the tidal flats until Tavani was reached. From Tavani a direct course was flown across the interior to Baker Lake. For reason of safety the aircraft was flown at an altitude too high to record data between Baker Lake and Southampton Island. The course followed in the survey flights on Southampton Island are shown on the accompanying map.

Data recorded on a transect basis are shown below.

Table IV
Waterfowl Densities

Transect	Sq.Mi.	Ducks	Canada Geese	Ducks/Sq.Mi.
Waboden to Churchill	81	74		0.9
Churchill to Eskimo Point	40	67	80	1.7*
Eskimo Point to Tavani	20	32	4	1.6
Tavani to Baker Lake	40	36	204**	0.9
Cape Kendall to Coral Harbor	30	1		Tr.
Coral Harbor to Duke of York Bay	30	4		0.1
Duke of York Bay to Ell Bay	35	106	1	3.0
Ell Bay to Coral Harbor	22	13		0.6
Coral Harbor to Cape Kendall (via Boas River Delta)	40	0	3	0.0
Total	338	333	292	0.98

* In 1950 between Churchill and Eskimo Point a duck density of 19.8 per square mile was recorded.

** Includes one group of non-breeding adults numbering 150 observed on the Wilson River.

Table V
Species Composition of Waterfowl
North from Churchill to Tavani

Species	Number	Percent
Mallard	5	3.8
Black Duck	16	12.1
Pintail	33	25.0
Greater Scaup	6	4.5
Old Squaw	52	39.4
Eider and Sooter	20	15.2

Pintail, black duck, greater scaup, and mallard were observed only as far north as the Thayne River Delta. Of this group the

pintail was most abundant (49.2%), and the black duck next (23.9%), in abundance. North of the Thaane River, both on the mainland and on Southampton Island, the only ducks observed were old squaws, scoters and eiders.

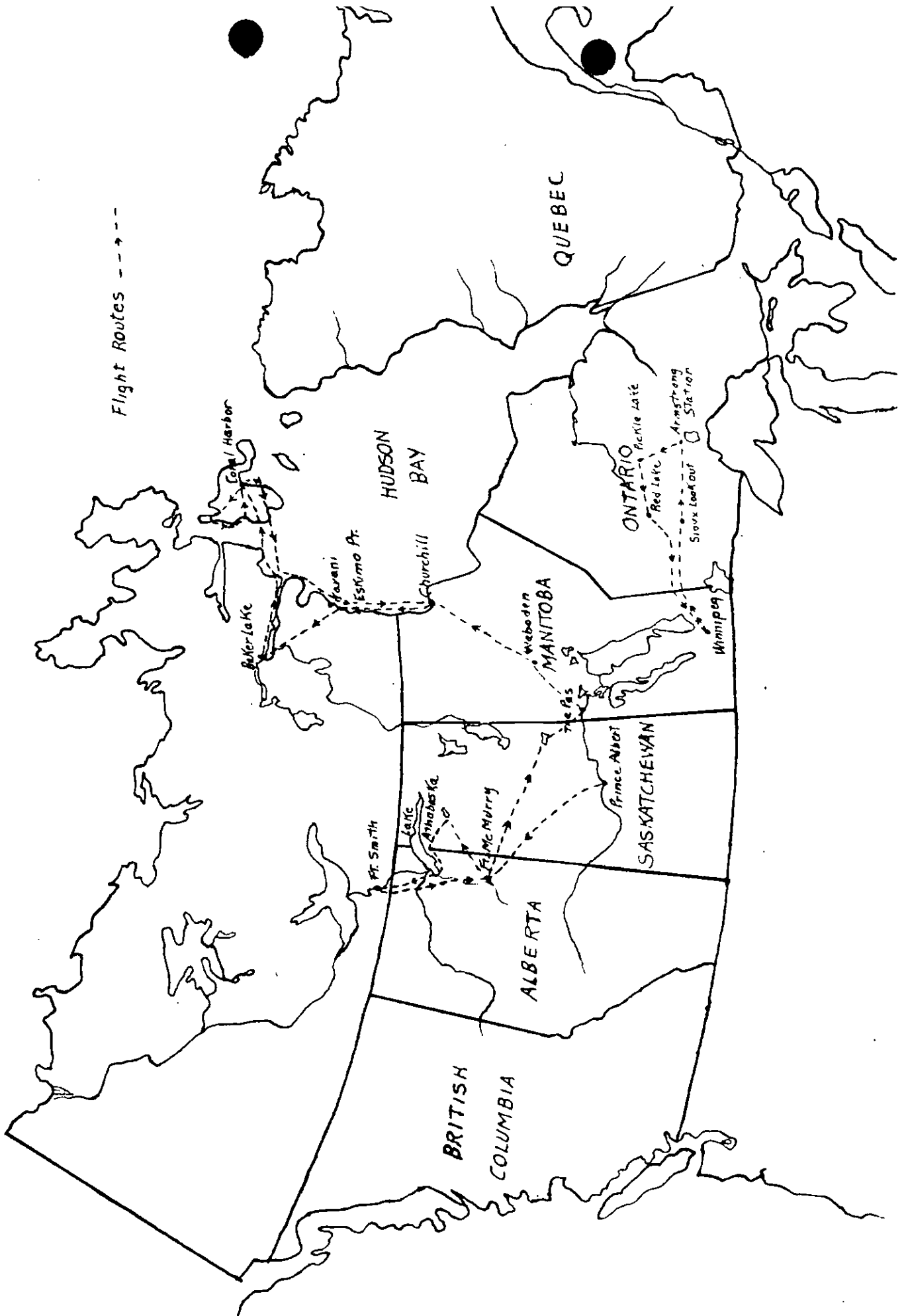
Canada geese were observed breeding in numbers in Thaane River Delta and in the vicinity of Tavani (6 broods were recorded). Two large breeding colonies of snow and blue geese were observed during this survey. One was the colony located in the delta of the McConnell River just below Eskimo Point and estimated to number about 15,000. The second colony was observed in the delta of the Boas River on Southampton Island and the number was estimated at 25,000. In both areas many broods were observed, indicating a successful hatch.

During the course of the survey 51 breeding swans were recorded on Southampton Island. One brood and a nest containing 5 eggs were also observed. Four sandhill cranes were seen between Churchill and Tavani but none were observed north of this point.

Maise Lake, above Tavani, marked the beginning of the caribou herd. From this point north along the Wilson River to a point just west of Gibson Lake caribou were present by the thousands. A total of only 12 wolves were observed attending this herd, and judging by the number of calves present, production had been good.

From the observation and experience obtained on this survey it appears that systematic sampling of this area would be very difficult and hazardous because of ice, weather, and refuelling problems. Certainly only the best equipment should be used. Ducks which contribute to hunters' kill are confined to the coast and occur in comparatively

small numbers only as far north as the Thames River. Although geese occur in large numbers they are no easier to census by present methods here than they are on the wintering grounds.



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