Canadian Wildlife Service
Artic Ecology Map Series
Critical Wildlife areas

Descriptive report

Port Brabant

PORT BRABANT
(Sheets 107- SW and SE)

The Port Brabant map sheet (scale 1:500,000) encompasses an area of some 28,000 square miles from the Anderson River on the east to the Mackenzie Delta on the west. It is bounded on the north by the Beaufort Sea, and stretches south to 68° North latitude.

The Port Brabant sheet represents one of the most ecologically diverse regions in the Canadian Arctic. It includes communities of the northern Boreal Forest, the tundra and the transititional taiga zone between the two. The Mackenzie River Delta provides a unique ecological unit as do the Richardson Mountains which reach nearly 4,000 feet in altitude at the extreme southwest corner of the map sheet. A diversity of bird and animal life utilize this region in addition to numerous marine mammals and anadromous fishes, which are found in the coastal and inland waters on the northern portions of the sheet.

Not only does the land area within this map sheet contain a diversity of ecological communities, but it also harbours one of the larger human populations in the Arctic at present. Recently, the area has been very active industrially with the now historic oil strike by Imperial Oil Limited being located at Atkinson Point on the

Tuktoyaktuk Peninsula. Currently, intensive oil and mineral exploration is continuing within the map sheet boundaries.

The following text provides more detailed information on each of the key wildlife areas that are outlined on the map:

UNIT NUMBER	DESCRIPTION
1	King & Common Eider - 1,000,000± in migration. Old Squaw Scoters total 600,000± during molt. Scaup This offshore area to a depth of 7 to 10 fathoms is used extensively by the species above, as a molting area and as a staging area during migration. Date of use is June 25 through October 1st. Unit number 2 is included within the boundaries of this unit on the map. (Barry)
2	Pacific Black Brant - 250 breeding pairs White-Fronted Geese - nesting, no count This area should be considered critical. Brant and White-Fronted Geese molt here as well as nest. Used May 25th through August 15th. Important Archeological sites occur along this coast. (Barry)
3	The northern end of the Tuktoyaktuk Peninsula is a summer range for the Reindeer Herd used from mid June to September 15th. Forage consists mainly of sedges, grasses and lichens. This area along with Richards Island is considered to be permanent summer range for this herd. (Nowosad)

UNIT NUMBER	DESCRIPTION
4	White-Fronted Geese - 1,500 individuals. Molting area. Pacific Black Brant - 700 individuals. Molting area. Whistling Swans - 250 individuals. Molting area. This area considered critical. Used July 1st through August 15th. (Barry)
5	Approximately five Grizzly Bear dens are located in a pingo encompassed by this unit. (Lambert)
6	Molting area for Scaup and Scoters. This area is used extensively by the species above, as a molting area and as a staging area during migration. Date of use is June 25th through October 1st. This unit includes Units 8 and 9 in the Liverpool Bay area. (Barry)
7	This unit contains mainly large populations of Sea Herring although some anadromous fish move into this area in the spring. Throughout the fisheries designated Area 1 in the Delta, available fisheries include 100,000 pounds of Capelin (including the Herschel Island population) and 1.7 million pounds of Marine Herring, large populations of which occur in this unit.
8	Pacific Black Brant - 200 breeding pairs. Used for both nesting and molting. White-Fronted Geese - 20,000 breeding and molting. Whistling Swan - 75 breeding pairs, 300 individuals including molt. Canada Geese - 100 breeding pairs, 20,000 individuals during molt.

UNIT NUMBER	DESCRIPTION
8 (Continued)	Used May 25th through August 15th. These birds move back and forth with birds from Unit 6. At times all are found in either Unit 6 or 8. (Barry)
9	This area should be considered critical. It represents the concentration point for those waterfowl described in Unit 8.
10	This boundary (dotted line) encloses the Mackenzie Reindeer Grazing Reserve, established in 1934, to develop a commercial Reindeer industry in the Arctic.
11	The Mason River valley is primarily a molting area although approximately 200 pairs of White-Fronted Geese nest within this unit. Molting populations include: White-Fronted Geese - 2,500 Canada Geese - 1,500 Whistling Swans - 200 Snow Geese - 750 Bird populations usually move along the shore into this area from the Anderson River Migratory Bird Sanctuary from July 1st through August 15th. Numerous ducks of a variety of species are also found in this unit. (Barry) Peregrine Falcons have been known to nest in this unit and both Sabine and Glaucous Gulls nest in the river delta. (Barry 1967)
12	Pacific Black Brant - 1,000 breeding pairs, 3,000 individuals during molt. White-Fronted Geese - 1,000 breeding pairs, 5,000 individuals during molt. Whistling Swan - 300 breeding pairs, 900+ individuals during molt. Canada Geese - 25 breeding pairs, 0-400 during molt.

UNIT NUMBER	DESCRIPTION
12 (continued)	Miscellaneous Ducks Eskimo Curlew - Observed by Dr. T. W. Barry 1961, 1962, 1964. Shorebirds - Numerous Glaucous Gulls - 150 breeding pairs. This area is considered extremely critical. Used May 25th through August 15th with some use for fall staging through September 15th. The boundary of this unit forms the Anderson River Migratory Bird Sanctuary. Included within this boundary is the northernmost portion of Unit 14. Gyrfalcons nest on cliffs at Husky Bend (south end of the Sanctuary) and Peregrine Falcons nest on the south bluffs of the Anderson River. (Fyfe 1969) Two Whooping Cranes were observed in the Anderson River Delta in 1949. (Barry 1967)
13	Caribou summering in this area are probably those that utilize Unit 15 immediately to the south and east during the winter. No data on numbers or precise distribution is available. Reports from pilots indicate that caribou are continuous in summer from the Anderson River to the Hornaday River. Possibly there is a calving area in the area shown on this map or somewhat to the east in this unit. (Hawley)
14	White-Fronted Geese - Spring staging Whistling Swans - Spring staging Canada Geese - Some nesting on river islands. Used May 15th through June 10th. White-Fronted Geese and swans are found along this river to the tree line during spring migration. Grizzly Bears are found along the river valley. (Barry, Yorath)

UNIT NUMBER	DESCRIPTION
15	Barren-Ground Caribou have utilized this area annually for several years. Numbers vary from about 1,500 to 10,000 or (reportedly) 20,000 animals. They may be a segment of the Great Bear Herd which numbers near 50,000 animals. Many animals are known to summer in Unit 13 and between Paulatuk and Horton River while reports by Kelsall and Thomas indicate the animals of the main herd summer much further east. Unit 15 may be utilized from October through March. However, after January 1st, they will be located in the timbered area south of 69°. In some years the animals may leave the entire area by mid-January on a continuing southward trek. (Hawley)
16	Whistling Swan - 40 breeding pair, 100 individuals during molt. Scoters and Scaup - 3,000 - 4,000. Molting and staging area (fewer nest). Canvasback - 5,000. Molting area, some staging. This area is used July 15th through September 1st.
17	The Anderson Forks unit is a prime marten area, perhaps the best in Canada. (Bryant, Williams, Stevens) Some beaver occur here and extend north and east as far as Simpson and Tadenet Lakes.
18	An Eskimo Curlew was observed in this area in July 1968. This is additional to Barry's observations. (Yorath)
19	No char or Lake Trout have been recorded from the upper reaches of the Kugaluk although numerous Northern Pike occur in the outlet to the sea. (Hunter)

UNIT NUMBER	DESCRIPTION
20	Whistling Swan - 25 breeding pairs, 300 individuals molting. White-Fronted Geese - 4,000 individuals. Molting area. Canada Geese - 100 breeding pairs, 1,000 individuals molting. (Barry)
21	This unit contains the most critical area of winter range for the Reindeer Herd, and is utilized from December 1st to April 1st. (Nowosad) This area may be of limited value, however since there is a danger of over-utilization of the range within five years. (Inglis) The caribou in the delineated area migrate southward from Unit 23. Over 600 have been seen in small scattered groups, and over 2,400 have been seen on another occasion. The identity of those caribou is open to question. The apparently small migration and occurrence in small groups suggests they may be Woodland Caribou but that behavior may be a result of the topography of this area. Since they summer north of tree line, winter within the boreal forest and tend to bed down in open spaces and on frozen lakes they are considered Barren-Ground Caribou. There is a possibility however that they may be escaped Reindeer. These animals are important for their proximity to the Reindeer Herd as well as their occurrence and number in a localized area. (Hawley)
22	Lakes within this unit, particularly Sitidgi, Husky and Campbell Lakes provide an important Lake Trout supply for the people of Inuvik and Tuktoyaktuk. Some outfitting for sport fishing takes place in these areas. (Stevens, Barry) While the entire sheet contains populations of Lake Trout, Grayling and Whitefish, the area delineated by this unit is particularly productive. Sitidgi Lake has a minimum capability of 38,000 pounds, and the entire unit has a standing crop of Whitefish in the order of 100,000 pounds. (Hunter)

UNIT NUMBER	DESCRIPTION
23	Caribou summer in this unit in limited numbers but no intensive survey of the area has been made in the summer. (Hawley) This unit encompasses a permanent fawning ground for the Reindeer Herd. This is a critical area since fawning must take place here prior to northern movement to summer ranges. In general, the Tuktoyaktuk Peninsula is too exposed for calving. (Nowosad)
24	The lower portion of Jackfish Creek and Rengleng River contains resident Grizzly Bear populations year round. Den sites have been reported but not pinpointed. No investigation of abundance has been made although fresh tracks are common throughout the area in summer. This unit extends to the Arctic Red River sheet to the south. (Hawley)
25	The Mackenzie Delta is a well documented important muskrat area. The habitat is not highly productive for muskrat, but adequate habitat is abundant. The 3,500± square miles of Delta delimited is fairly uniform habitat although habitat quality gradually varies from north to south and east to west. The muskrats live in shallow lakes which are generally not very productive except in localized areas. Rapid population increases drastically deplete food supplies and quickly fill available niches suitable for year round survival. Populations fluctuations are rapid and spectacular. Some lakes have varied from 27 muskrats per acre to 0.3 muskrats per acre. An aerial survey in 1968 resulted in an estimate of about 3,000,000 muskrats on the Delta. This survey however is subject to question due to many uncontrolled variables in the survey technique. Harvests in the Delta vary from 35,000 to 280,000 muskrat per year.

UNIT NUMBER	DESCRIPTION
25 (continued)	The Mackenzie Delta has at present (1970) an estimated population of about 400 colonies of beaver which is a considerable decline from the population of 1,600 colonies estimated in 1965 when harvests were intensified by more liberal seasons. The number of beaver per colony is about 4 to 6 although data are limited. Although some areas of good poplar habitat occur on the Delta, the major beaver habitat consists of a thin fringe of willow and alder around shallow, sparsely vegetated lakes. Populations are maintained by the great quantity rather than the high quality of the habitat. Beaver harvests have been between 1,400 and 700 in the last five years. Beaver habitat can be divided into four areas on the basis of quality and density by separating the Delta north to south at 68° 15' and east to west at 134° 45'. The rating from best to worst would be southeast, northeast, southwest, and northwest. Mink on the Mackenzie Delta are high quality and rate a special classification on the fur market. Harvests are quite variable (30 mink to 3,500 mink annually) but have been stable at around 1,000 animals per year recently. Population fluctuations are not likely to be so extreme but no information on total numbers on the Delta is available. The Delta is not extremely good habitat for mink but adequate habitat is available in quantity. Age and sex ratios indicate that the populations are lightly harvested. (Hawley) The Mackenzie Delta is the source of important muskrat trapping utilized by all communities along the Delta and river. Up to one million muskrat have been taken in one year and a harvest of 400 to 500 thousand is not unusual. The upper two-thirds of the Delta is the most productive habitat for muskrat. (Stevens)

UNIT NUMBER	DESCRIPTION
25 (continued)	The Mackenzie Delta is an important migratory route and spawning area for anadromous fishes of which Arctic Char and Whitefish (several species) are the principal species. Spawning generally takes place far up the river channels since the lower reaches are too turbid for spawning. Whitefish spawn in lakes adjacent to the Delta. The Delta contains approximately one million acres of water with a standing crop (all species) of approximately 30 pounds per acre. For all species of anadromous fishes, the total standing crop for the entire Delta is in the order of 25 to 50 million pounds, exclusive of Marine Herring and Capelin. At an expected 10% annual increment the suggested harvest rate is 2½ to 3 pounds per acre. (Hunter) The Peel Channel along the west side of the river is one of the important char routes and spawning areas. (Hunter) Char utilize the West Channel of the Mackenzie for migration en route to up-stream spawning areas. (Barry)
26	Lesser Snow Geese - 75,000 White-Fronted Geese - 20,000 Whistling Swan - 12,000 Miscellaneous Ducks This area is used for spring staging from May 1st through to June 10th. The main channel of the Mackenzie River acts as a major staging area for the species listed. Unit 27 is included within this unit. (Barry)
27	Whistling Swans - 1,000+ individuals. Molting area. Used by non-breeding birds July 15th through to September 1st.

UNIT NUMBER	DESCRIPTION
28	A major post spawning run of Lake Herring takes place along the Peel Channel. Most spawning takes place from September 1st to mid-November. The fish remain in fresh water until spring then migrate downriver to the sea. The Peel Channel has good runs of anadromous fish which includes Whitefish and Arctic Char as well as Lake Herring. No specific data is available on the destination of fish runs except that they spawn upstream in clear water. (Hunter)
29	The Dall Sheep in the area north of the Rat Pass in the Richardson Mountains seem to be increasing in population despite increased non-selective hunting by residents of the area. In 1964, the population was considered to be about 58 animals from records kept by geologists who flew helicopters extensively throughout the summer. In 1969, over 100 animals were estimated by hunters in one day although they were unable to get exact counts of all groups observed from the ground. No objective, comprehensive surveys or studies have been made of sheep in the area, therefore ranges and numbers have not been documented. Superficial information indicates that this population is discrete and separate from the sheep in the British Mountains and the sheep south of Rat Pass although no physical barrier excludes their mingling. Harvests from the area are not well documented but kills of from 6 to 50 per year have been recorded. Grizzly Bear are commonly encountered in this area and appear to be quite numerous. Geologists working the area extensively remarked that they saw more bear (80+) than sheep (58 known to be different). The major portion of this unit lies on the Herschel map sheet. (Hawley)

UNIT NUMBER	DESCRIPTION
30	This unit is a calving area for part of the Porcupine Caribou Herd utilized en route to the Arctic Coast. (Boxer) Canoe Lake is a sometime wintering area for 5,000± caribou of the Porcupine Herd. (Lambert)
31	Lesser Snow Geese Pacific Black Brant — 130,000 in total White-Fronted Geese — all species combined. This area provides fall staging and some molting. It includes the Kendall Island Migratory Bird Sanctuary and those portions of Richards and Ellice Islands outlined. This whole area is important for waterfowl and any industrial activity in specific locations should be planned in accordance with the information included in Units 31, 34, 35, 37, 38 and 40, which are included within the boundaries of this unit. (Barry)
32	The entire Mackenzie Delta estuary which extends onto the Port Brabant sheet to the east is a summer pupping area for Beluga Whales. Estuaries in general are important pupping areas in the Arctic. Beluga populations generally move through this unit during the summer. (Sergeant)
33	This unit consists of the Kendall Island Migratory Bird Sanctuary. This is a critical area for breeding, staging and molting waterfowl.
34	Whistling Swan - 40 breeding pairs. This area should be considered critical. Used for nesting from May 25th through July 15th. (Barry)

UNIT NUMBER	DESCRIPTION
35	Lesser Snow Geese - Total breeding population- 4,000 White-Fronted Geese - 25 breeding pairs Pacific Black Brant - 25 breeding pairs Whistling Swans - 25 breeding pairs Miscellaneous Ducks This area should be considered extremely critical. Used for nesting from May 25th through July 15th. (Barry)
36	Beluga Whale populations are generally distributed throughout this unit from Mackenzie Bay to Russell Inlet. Both Belugas and Bowhead Whales migrate west through Bering Strait to winter in the Bering Sea. All of the southeast Beaufort Sea area contains Bowhead Whales, numbering in the hundreds during the summer months of May to September. (Mansfield) Concentrations of Belugas numbering in the thousands occur in Mackenzie Bay until mid-August. The bay is a pupping area in late June. (Lambert, Hawley)
37	Whistling Swan - 25 breeding pairs - 120 individuals total count This area should be considered critical. Used for nesting and molting May 25th through July 15th. (Barry)
38	Pacific Black Brant - 250 breeding pairs Gulls (unidentified) - 100 individuals This area should be considered critical. Used for nesting May 25th through July 15th. (Barry)

UNIT NUMBER	DESCRIPTION
39	This unit extends to the Herschel sheet to the west. The following description applies to the unit on the map sheets. The marine area of Amundsen Gulf, Herschel Island and the entire shore of the coast contains large concentrations of Capelin. This species was unknown to the area prior to 1959. On the basis of inshore trolling off the Tuktoyaktuk Peninsula biomass of marine fishes has been determined as 10,000 pounds per square mile. Beyond two miles offshore, productivity falls to approximately 3,000 pounds of biomass per square mile. Similar data are expected for Mackenzie Bay, where major ground fishes occur in shallow areas within the ten fathom contour. (Hunter) Anadromous and fresh water fishes move out to the Mackenzie estuary as early as early July, and return in late August and early September. This holds for all channels of the Mackenzie. Most of the fish are out to sea before July 12th, the approximate break-up date. At Herschel Island they have been found under the sea ice one month before break-up. The area encompassed by this unit contains populations of Whitefish, Inconnu, Lake Herring, Smelt, Ling (Burbot) and Suckers. Lake Trout and Arctic Char occur in small numbers. This unit encompasses Mackenzie and Kugmallit Bays. (Hunter)
40	Whistling Swans - 200 breeding pairs Sandhill Cranes - 75 breeding pairs White-Fronted Geese - 400 breeding pairs, 4,000 total count. This area outlined should be considered critical. Used for breeding and molting May 25th through July 15th. (Barry)

UNIT NUMBER	DESCRIPTION
41	A potential summer range for the Reindeer Herd on Richards Island. Human activity is not critical with reference to summer areas for this herd. (Nowosad)
42	Lesser Snow Geese - 75,000 White-Fronted Geese - 20,000 Whistling Swan - 12,000 Miscellaneous Ducks This area is used for spring staging from May 15th through to June 10th. The main channel of the Mackenzie River acts as a major staging area for the species listed. (Barry)
43	Important area for Beluga Whales - no population data. Used by whales July 1st through August 15th depending on ice conditions. An Eskimo whaling station is located at Kidluit Bay. (Hawley)
44	Kugmallit Bay is a pupping and concentration area for Beluga Whales which number in the thousands. Pupping occurs in late June. (Lambert) Both Kugmallit and Mackenzie Bays are very important concentration areas for Belugas. (Hawley)
45	This unit is used by the Reindeer Herd from April 1st to fall. Some claving occurs here in the spring, and the area is used during the breeding season in the fall. (Nowosad)

UNIT NUMBER	DESCRIPTION
46	The Anderson River is a good area for fisheries, predominantly Whitefish and Lake Herring. It forms the approximate eastern limit of Inconnu range. Spawning areas for anadromous fish occur in peripheral streams. Whitefish spawn in lakes adjacent to the river with stream access. Rearing areas for fry occur in the Anderson itself. (Hunter)

REFERENCES

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