

Canadian Wildlife Service
Arctic Ecology Map Series
Critical Wildlife areas

Descriptive report

Koksoak River

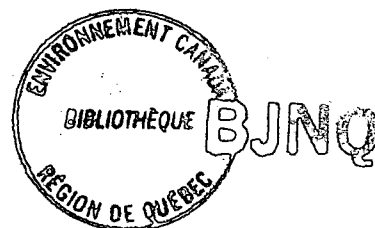
-137-

KOKSOAK RIVER
(Sheet #2146)

The mapped area of the Koksoak sheet encompasses some 91,000 square miles. The north central portion of the map consists of the marine area of Ungava Bay.

The Ungava Peninsula forms the eastern portion of the Canadian Shield. The area within the map area is characterized by a low-lying topography, to the south and west, broken by low to rugged hills, and the Torngat Mountains of northern Labrador to the north east. Five major rivers drain into the Bay, the Koksoak, George, Leaf, Whale, and Payne. The country is generally covered with a network of lakes and rivers. Most of the area is within the transitional zone between sub-Arctic and Arctic climates. The treeline takes an unsteady course across the region. Vegetation type and climate characteristic of Arctic tundra is exhibited north of the Leaf River to the west and covering the rugged highlands of northern Labrador east of the George River, Quebec. Permafrost probably underlies the entire area. The active layer in the Payne River area is between 16" - 20". Hundreds of shallow bays are situated along the coast. They are strongly influenced by tides. Leaf Bay apparently has the world's highest tide experiencing a maximum spring tide of 54 1/2 feet.

The major settlements within this map sheet are located at Payne Bay, Fort Chimo, and George River.



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The sheet contains extremely important populations of a wide range of wildlife species. Included within the unit is important winter and calving range for large herds of Ungava Caribou. The coastal areas provide excellent breeding and staging habitat for large concentrations of waterfowl, particularly Canada Geese, Brant, and Common Eider.

The larger rivers, particularly the Koksoak, Whale and George rivers, provide excellent spawning and rearing habitat for substantial runs of Atlantic Salmon. Anadromous Arctic Char are distributed in the estuaries and lower reaches of most rivers although they are most abundant in rivers north of the treeline, particularly the Payne River. Brook (speckled) Trout (non-anadromous and anadromous forms) are present in most flowing waters south of the treeline, but do best in small streams and tributaries. Lake Trout and Northern Pike (non-anadromous) are present in most lakes.

Beluga Whales are common in summer along western Ungava Bay but concentrate in the estuaries of the larger rivers. Ringed and Bearded Seals are common to abundant throughout much of Ungava Bay.

The coastal areas and many of the river valleys harbor good breeding populations of Gyrfalcons and Peregrine Falcons.

The following is the descriptive text for units mapped on this sheet.

UNIT NUMBER

DESCRIPTION

- 1 Moderate concentrations of Bearded Seal occur in this area throughout the year. They are usually solitary, and are associated with moving pack ice in summer and open water in winter (Mansfield).

Large numbers of Harp Seals pass through this area in the fall on route to their wintering grounds in the Gulf of St. Lawrence and off Newfoundland (Mansfield).
- 2 Dense concentrations of Harp Seals, a migrant from breeding areas in the Gulf of St. Lawrence and off Newfoundland move through the coastal areas in October-November on their return from the Arctic Islands (Mansfield). Fall migrating Harp Seals are netted by the residents of Port Burwell (Bruemmer). Moderate concentrations of Bearded Seal occur in the area, and are usually solitary and associated with the moving pack ice in summer and open water in the winter (Mansfield). The general area is also good Ringed Seal country, the animals being associated with the fast ice during winter and open water during the summer (Mansfield). Ringed, Harp, and Harbour Seal are all taken at Port Burwell. The waters in the Port Burwell area appear richer in Seals than the remainder of Ungava Bay (Evans, 1958).
- 3 This unit outlines some excellent nesting territory for Common Eider (Gillespie, Bruemmer, Jonkel, Currie, 1968). Residents of Port Burwell collect Eider Down along the coast (Bruemmer). The cliffs along the coastline are potential areas for for the establishment of seabird nesting colonies (Jonkel). Peregrine Falcons and Gyrfalcons nest throughout the area (Cooch).
- 4 Gyrfalcons and Peregrine Falcons nest along the coastline (Cooch).

UNIT NUMBER	DESCRIPTION
5	This unit outlines a potential denning area for Polar Bears. Cubs have been observed along the coast (Jonkel).
6	An excellent Arctic Char stream (Bruemmer).
7	The Korok River supports a substantial Arctic Char fishery. The presence of Atlantic Salmon in the system has not been documented (Le Jeune).
8	The George River is one of the three major Atlantic Salmon rivers that empty into Ungava Bay (Power, Le Jeune). Approximately 275 miles of suitable spawning and rearing habitat are available in the George River, most of it is probably above Indian House Lake. Helen Falls near the confluence of the Ford River, is an obstruction, though not an impassable barrier to fish migrations. The spawning run occurs in August but spawning is not likely to occur before the end of September (Power, 1969). Landlocked populations of Atlantic Salmon occur in the George River system (Le Jeune).
9	The George River herd which winters in the area of Unit #11 utilizes this large plateau for calving the area therefore is of critical importance (Simard).
10	This unit outlines the fall migration route of Ungava Caribou from their summer range to wintering areas. The fall migration routes are widespread and diffuse (Simard).
11	This unit outlines the spring migration route of the George River herd to their calving grounds and summer range (Simard, Banfield).

UNIT NUMBER	DESCRIPTION
12	This small area is extremely important as a crossing point for Caribou. Approximately 20,000 animals pass through during the spring migration to calving grounds (Simard).
13	This unit encompasses a portion of the winter range of the George River herd of Ungava Caribou. The number of animals utilizing the area has been estimated at 25,000 and up to 50,000 (Simard).
14	This unit encloses a calving area near Mina Lake for a group of Caribou which winters to the southeast (Simard).
15	This unit encloses winter range for Caribou (Brassard, Simard, Banfield). The herd utilizing this area has been estimated at 5,000 or more animals (Brassard).
16	A small population of ouananiche (landlocked Atlantic Salmon) is found in Lac Aigneau. Falls on the Aigneau River form an impassable barrier to fish migrations (Power).
17	This unit includes the Koksoak River drainage system, the major Atlantic Salmon River entering Ungava Bay. The river provides at least 300 miles of suitable spawning and rearing habitat for the species (Power). The upstream migration into the Koksoak River does not begin much before the beginning of September. The Koksoak rears the young Salmon for 4 to 8 years, the average smolt being over 5 years old, a feature common to the other major Salmon rivers in Ungava (Power, 1969). Anadromous and inland populations of Brook (speckled) Trout are co-dominant with Atlantic Salmon in the Koksoak. They are widely distributed but may not penetrate as far upstream as the Salmon (Power). Anadromous Arctic Char are abundant in the estuary and lower reaches of the Koksoak. They may not

UNIT NUMBER

DESCRIPTION

spawn in the Koksoak, originating from neighboring streams and rivers (Power).

X
An experimental fishery for Arctic Char and Salmon based at Fort Chimo, was established at the Koksoak estuary in 1961. The annual harvest quota, for both species has been set at 25,000 pounds. Of the total annual catch by weight, approximately 90% is Salmon and 10% Arctic Char. The average Salmon in the catch weighs 8 - 10 pounds (dressed weight). The Arctic Char (applies throughout Ungava) range between 2 - 20 pounds. The maximum expected weight being 15 pounds. The average size to the commercial fishery (after the fishery stabilizes) is approximately 4 1/2 pounds (Le Jeune).

Anadromous Brook Trout attain a maximum size of approximately 5 pounds while non-anadromous forms can be expected to reach a maximum of 3 pounds (Power, 1966).

Moose are extending their range throughout the map sheet. They presently inhabit the Kaniapiskau River valley from the headwaters to the Kaniapiskau - Koksoak confluence (Simard). An undetermined number of Moose inhabit the Erlandson Lake area in the headwaters of Highfall Creek and the False River regions (Brassard).

18 This unit outlines the winter range of the Larch River herd of Ungava Caribou (Banfield and Tener, 1956).

19 The Leaf River spawns and rears appreciable numbers of Atlantic Salmon although it cannot compare to the Koksoak, Whale or George Rivers in this regard (Power, LeJeune). Anadromous Arctic Char are relatively abundant and like the Salmon they are distributed far upriver in the course of spawning and wintering (Power, Le Jeune). The commercial catch from the estuary takes approximately 1% Salmon annually the balance being Arctic Char (Le Jeune).

UNIT NUMBER

DESCRIPTION

The dominant game species present, however, is Brook (speckled) Trout which are probably non-anadromous. Non-anadromous Lake Trout are rare and do not reach a large size (Jessop, Lee, Power, 1970).

The existence of river populations of sea run Atlantic Salmon further west than the Leaf River has not been documented (Power, Le Jeune). The Leaf is the only river in North America ascended by Arctic Char and Atlantic Salmon in appreciable numbers (Jessop, Lee, Power, 1970).

An important nesting area for Golden Eagles occurs in the Leaf Bay-Finger Lake area (Snyder, 1957; Godfrey, 1966).

Leaf Bay and Leaf River are important nesting areas for Peregrine Falcons and Gyrfalcons (Bruemmer).

- 20 The Payne River supports excellent populations of Arctic Char. Arctic Char are distributed up-river for an undetermined distance. The commercial fishery in Payne Bay accounts for approximately 20,000 pounds of Char annually on a sustained yield basis (Le Jeune).

Reports of Atlantic Salmon inhabiting the Payne River have not been substantiated. Brook Trout are present, though not in large numbers (Le Jeune).

The Payne River is one of the best breeding areas in Canada for Peregrine Falcons and Gyrfalcons (Bruemmer).

- 21 Common Eider nesting occurs in this area (Heyland).

- 22 Common Eider nesting area (Cooch, Heyland, Currie, 1968). Payne Bay should be considered a critical area for Common Eider since they contribute to the economy of the Payne Bay residents (Cooch). Payne Bay supports high populations of Eider despite the heavy losses incurred on adult birds and eggs. The Bay supports approximately 2,000 nesting females (Currie, 1968).

UNIT NUMBER

DESCRIPTION

- 23 Walrus are rare summer visitors to Ungava Bay, however, a light concentration of animals is associated with Akpatok Island, a "hauling out" area (Mansfield). Walrus pass through Ungava Bay twice annually, in association with the moving pack ice. Organized hunts from Payne Bay took 800 animals annually before 1950 (Currie, 1968). The domestic catch currently numbers less than 10 animals (Mansfield).
- 24 There are two large nesting colonies of Thick-Billed Murre on Akpatok Island. The colony at the southern tip contains approximately 300,000 birds (Tuck, 1960).
- Akpatok Island is very important for Polar Bears (Simard).
- 25 Moderate concentrations of Ringed Seals are found in Ungava Bay throughout the year. They are associated with open water during the summer and fast ice during the winter (Mansfield).
- 26 Common Eider nesting occurs in this area (Gillespie).
- 27 This unit outlines the most concentrated nesting area for the second largest sub-population of breeding Canada Geese in eastern Canada (Heyland).
- The number of Geese inhabiting Ungava Bay (including adults and broods) has been estimated at 82,739 birds, with an overall density of 4.97 birds per square mile. Population density decreases away from the coast (Kaczynski, 1966).
- Beluga Whales are distributed along the entire coast of western Ungava Bay during the summer. Large herds reportedly lag in the Payne and Leaf estuaries in July and August. A few Beluga are killed some distance up the Payne River (Currie, 1968).

UNIT NUMBER

DESCRIPTION

A small population of Harbour Seals is present in Leaf Bay (Mansfield).

This unit includes important breeding areas for Peregrine Falcons and Gyrfalcons (Fyfe, Snyder, 1957; Bruemmer).

28

Common Eider nesting occurs in this area (Gillespie). Gyrfalcons nest on these islands (Jonkel).

29

Atlantic Brant stage in this area in the fall and migrate for some distance down the Koksoak River before embarking on the flight to wintering areas along the coast of the eastern United States. Approximately 5,000 to 10,000 birds enter the region each fall from breeding grounds on Baffin Island and Southampton Island (Barry, Godfrey, 1966).

30

Approximately 10,000 Black Ducks congregate in this area to molt (Cooch). Snow Geese numbering about 10,000 from Baffin Island breeding grounds, stage in this area in the fall (Banfield).

31

Common Eider nesting occurs in this area (Gillespie).

32

Common Eider nesting occurs in this area (Gillespie).

33

This unit outlines an important Canada Goose nesting area. Population densities are not as high as those along the west coast of Ungava Bay (Heyland).

Peregrine Falcons and Gyrfalcons nest in this area (Fyfe, Snyder, 1957).

Beluga Whales range along the coast during summer and concentrate to some extent at the mouth of the Whale River (Power).

34

The Caribou herd which winters in the area of Unit #13 may use this plateau as a calving ground (Simard).

UNIT NUMBER

DESCRIPTION

35 This unit outlines an area of winter range for Ungava Caribou. These animals utilize the calving grounds in Unit #7 (Simard).

36 Of the three major Atlantic Salmon rivers entering Ungava Bay the Whale River is smallest, however it exceeds the George River in productivity. The Whale River supports a substantial run of Salmon and is well supplied with accessible spawning habitat, most of which is situated above the confluence of the Wheeler River (Power).

Arctic Char are abundant in the estuary but do not contribute significantly to fish stocks in the upper river. They probably do not spawn in the Whale River but originate from nearby streams and rivers (Power).

The Atlantic Salmon in the estuary catch average about 9 pounds and the Arctic Char approximately 6 pounds (both figures dressed weight) (Power, 1968). Salmon begin their upstream migration in late August (Power, 1969).

Anadromous Brook (speckled) Trout are common in the Whale River but they do not penetrate upriver to the same extent as the Salmon (Power). Non-anadromous Brook Trout are present in the Whale River which is the case in most systems in Ungava (Dunbar and Hildebrand, 1951). Sea run Brook Trout grow to a weight of 5 pounds while inland populations reach a maximum weight of 3 pounds (Power, 1966).

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