CANADIAN SITES DEDICATED AS WETLANDS OF INTERNATIONAL IMPORTANCE

May 24, 1982

Forward

The agreement by 18 countries in 1971 that produced the Convention on the Conservation of Wetlands of International Importance, for brevity known as the Ramsar Convention, was a substantial step forward in securing general acknowledgement of the high value to be placed on wetlands as areas of high biological productivity and consequent human interest. That it took ten years before Canada become a signatory to the Convention was not due to doubts about the value of wetlands. Rather, it reflected a certain complacency in North America to the effect that, if the USA and Canada continued to work closely together in conservation of wildlife and wildlife habitat, there was really little to be gained, and perhaps some independence to be lost, by involvement in wider international undertakings.

Since 1971, it has become increasingly apparent that North Americans must be interested in and concerned with what is happening in the Caribbean and Central and South America and those parts of western Europe and eastern Asia that share North America's birds. There can be little point in taking expensive measures to conserve wetlands in Canada for the benefits associated with their use by waterfowl and other migratory birds if the wetlands that sustain Canadian birds more than half the year are so destroyed or damaged by competing uses of land that the extent and quality of the remaining southern wetlands are insufficient to provide the requisites for

migrants from North America. It is in a spirit of "selfish altruism" that Canada became a signatory of the Ramsar Convention in January 1981 and dedicated the Cap Tourmente NWA to the "List". Canada, with the co-operation of the provincial and territorial governments, now expands its list of designated wetlands from one to 15.

The majority of the sites in this list are northern ones and most of those are very large. Their size is made necessary by the relatively low density of birds in cold places at high latitudes where biological productivity is kept down by low inputs of solar energy and over wide areas, by low precipitation too.

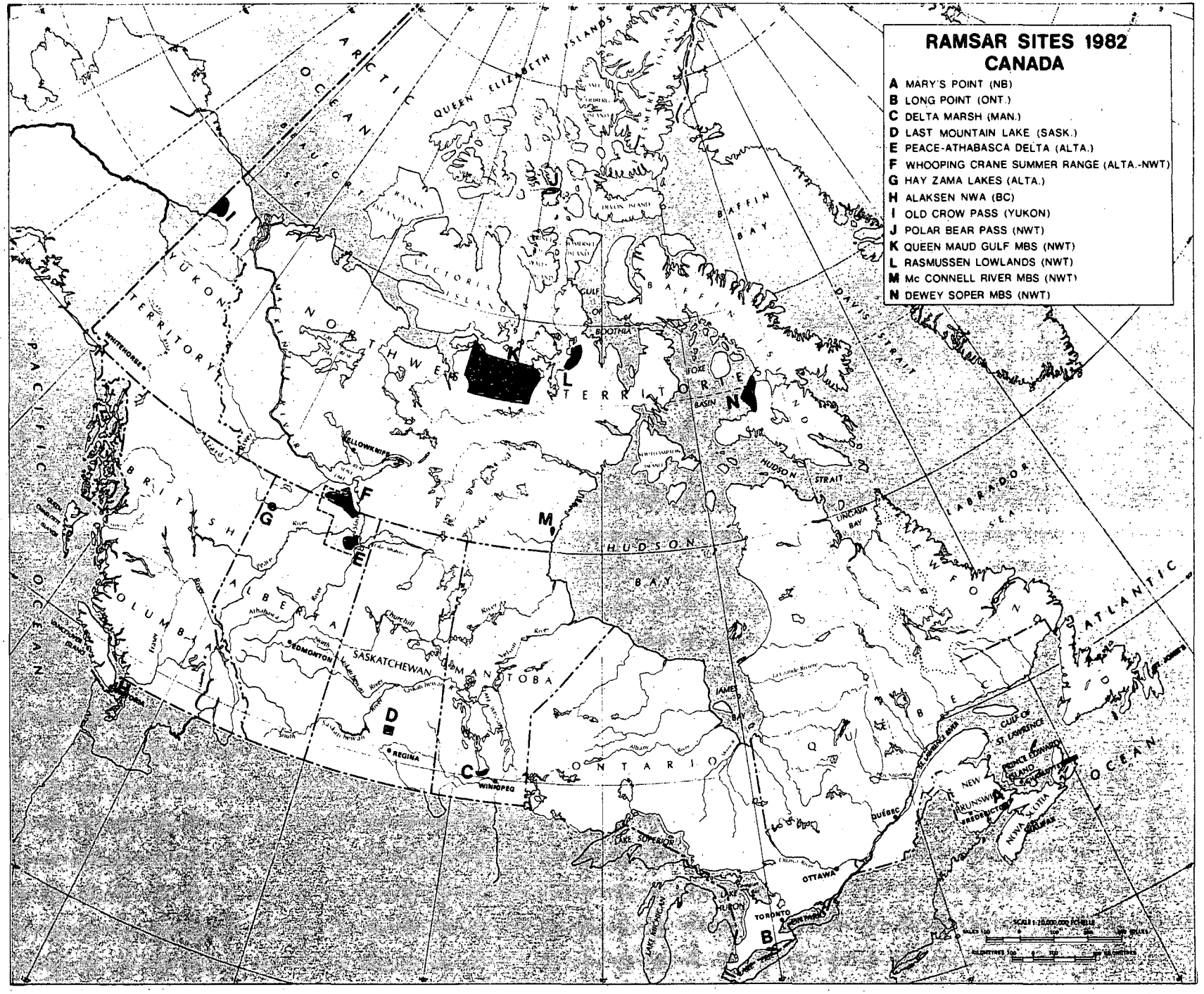
Some of the designated sites seem free of imminent threat from the activities of extractive industries or other man-made hazards. Nevertheless, it is worthwhile to proclaim their importance internationally as one way of ensuring that, should unexpected development put these places in jeopardy, they are treated with their importance as wetlands in mind. Other sites, most notably Mary's Point, at the upper end of the Bay of Fundy, are potentially liable to massive change, probably for the worse, by a projected development - a tidal power scheme in that case. Designation in such a case is not necessarily an attempt to hold back all change, but a way of ensuring that the potential hazards of development are examined thoroughly and possible remedies are fully explored before the event, rather than having to be improvised at the construction stage of development, as has happened elsewhere.

The other coastal sites in the south - Cap Tourmente NWA, Long Point NWA and Alaksen NWA - are also continually at risk from the hazards of pollution, by oil or other waterborne wastes, discharged perhaps far from the NWA. But inability to claim total freedom from man-made environmental damage does not diminish their importance, as sites where the public can be given the chance to appreciate the full range of wetland values, in addition to providing homes for large numbers and a great variety of migratory birds and other estuarine animals and plants.

Though there may not be many more large northern areas to be designated as Ramsar sites, at least until Native land claims and associated jurisdictional questions have been settled, CWS looks forward to the addition of more provincially-nominated and -controlled sites, as well as to more sites on federal Crown land. With the largest coastline of any country in the world, 243,000 km (excluding the shores of the Great Lakes), and 15 percent of the world's fresh water, Canada has a massive heritage of wetlands which it would be folly to imperil.

First List of Canadian Wetlands Designated as of International Importance

Site	Status	Approx. area (ha)
Mary's Point NWA, New Brunswick	National Wildlife Area	1,200
Cap Tourmente NWA, Quebec	National Wildlife Area	2,200
Long Point NWA, Ontario	National Wildlife Area	13,730
Delta Marsh, Manitoba	Provincial Crown land	23,000
Last Mountain Lake, Saskatchewan	Migratory Bird Sanctuary and Wildlife Area	15,600
Whooping Crane Summer Range, Alberta and NWT	In and adjacent to Wood Buffalo National Park	1,689,500
Peace-Athabaska Delta, Alberta	Within Wood Buffalo National Park	321,300
Hay-Zama Lakes, Alberta	Alberta Fish and Wildlife Crown Reservation	321,300
Alaksen NWA, British Columbia	National Wildlife Area	520
Old Crow Flats, Yukon Territory	Federal Crown land	617,000
Polar Bear Pass NWA, Bathurst Island, NWT	Federal Crown land	296,000
Queen Maud Gulf MBS, Keewatin and Mackenzie, NWT	Migratory Bird Sanctuary	6,200,000
Rasmussen Lowlands, Keewatin, NWT	Federal Crown land	300,000
McConnell River MBS, Keewatin, NWT	Migratory Bird Sanctuary	32,800
Dewey Soper MBS, Franklin, NWT	Migratory Bird Sanctuary	815,900
	Total - 15 sites	10,650,050


RAMSAR SITES 1982
CANADA
A MARY'S POINT (NB)
B LONG POINT (ONT.)
C DELTA MARSH (MAN.)
D LAST MOUNTAIN LAKE (SASK.)
E PEACE-ATHABASCA DELTA (ALTA.)
F WHOOPING CRANE SUMMER RANGE (ALTA.-NWT)
G HAY ZAMA LAKES (ALTA.)
H ALAKSEN NWA (BC)
I OLD CROW PASS (YUKON)
J POLAR BEAR PASS (NWT)
K QUEEN MAUD GULF MBS (NWT)
L RASMUSSEN LOWLANDS (NWT)
M Mc CONNELL RIVER MBS (NWT)
N DEWEY SOPER MBS (NWT)
ARCTIC OCEAN
BEAUFORT SEA
QUEEN ELIZABETH ISLANDS
BAFFIN BAY
DAVIS STRAIT
YUKON TERRITORY
NORTHWEST TERRITORIES
WHITEHORSE
YELLOWKNIFE
GULF OF BOOTHIA
FOXE BASIN
HUDSON STRAIT
HUDSON BAY
LABRADOR SEA
NEWFOUNDLAND
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUÉBEC
EDMONTON
REGINA
WINNIPEG
JAMES BAY
GULF OF ST LAWRENCE
PRINCE EDWARD ISLAND
NEW BRUNSWICK
FREDERICTON
NOVA SCOTIA
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE HURON
LAKE MICHIGAN
OTTAWA
TORONTO
SCALE 1:20,000,000 FOR 1 IN.
MILES 100 0 100 200 300 MILES
KILOMETRES 100 0 100 200 300 KILOMETRES

Migratory Bird Sanctuaries in Canada

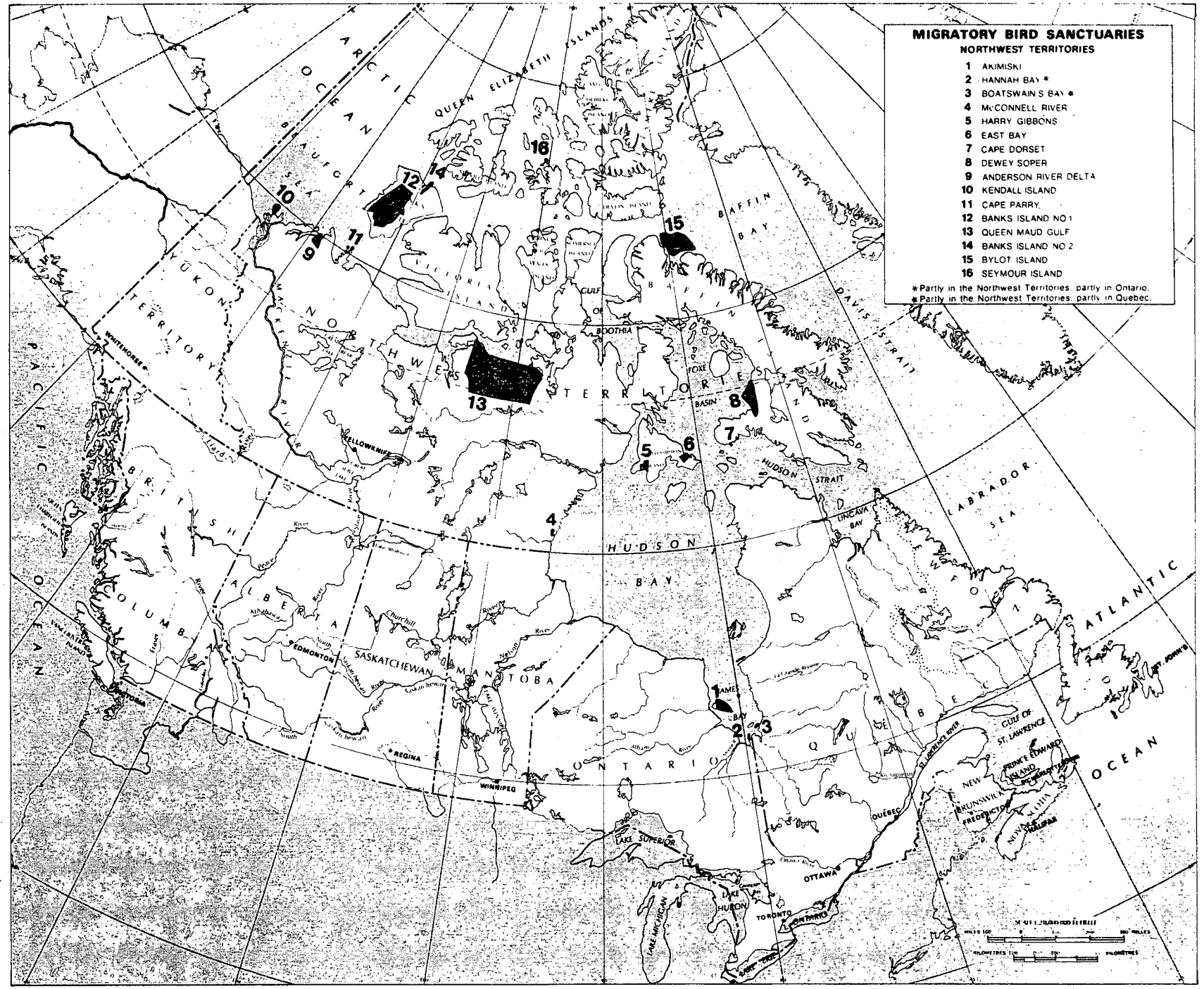
South of 60°N

Site	Name	Year Established	Area Sq. Km	Location	Purpose for Establishment
1	Akimiski Island	1941	3,367	NWT	Goose staging
2	Hanna Bay	1939	39	NWT-Ont.	Goose staging
3	Boatswain Bay	1939	1,787	NWT-Que.	Goose staging

North of 60°N

4	McConnell River *	1959	329	NWT	Lesser Snow Goose nesting
5	Harry Gibbons	1959	1,489	NWT	Lesser Snow Goose nesting
6	East Bay	1959	1,166	NWT	Lesser Snow Goose nesting
7	Cape Dorset	1957	259	NWT	Common Eider Duck nesting
8	Dewey Soper	1957	8,159	NWT	Lesser Snow Goose nesting
9	Anderson River Delta	1961	1,083	NWT	Goose nesting, rare species
10	Kendall Island	1961	606	NWT	Lesser Snow Goose nesting, Goose staging
11	Cape Parry	1961	3	NWT	Seabird nesting
12	Banks Island No. 1	1961	20,519	NWT	Lesser Snow Goose nesting
13	Queen Maud Gulf *	1961	62,782	NWT	Goose nesting
14	Banks Island No. 2	1961	142	NWT	Lesser Snow Goose moulting
15	Bylot Island	1965	10,878	NWT	Greater Snow Goose nesting
16	Seymour Island	1975	8	NWT	Seabird nesting, rare species

* Migratory Bird Sanctuaries designated as Ramsar Sites


MIGRATORY BIRD SANCTUARIES
NORTHWEST TERRITORIES
1 AKIMISKI
2 HANNAH BAY *
3 BOATSWAIN'S BAY *
4 McCONNELL RIVER
5 HARRY GIBBONS
6 EAST BAY
7 CAPE DORSET
8 DEWEY SOPER
9 ANDERSON RIVER DELTA
10 KENDALL ISLAND
11 CAPE PARRY
12 BANKS ISLAND NO 1
13 QUEEN MAUD GULF
14 BANKS ISLAND NO 2
15 BYLOT ISLAND
16 SEYMOUR ISLAND
* Partly in the Northwest Territories, partly in Ontario.
* Partly in the Northwest Territories, partly in Quebec.
ARCTIC OCEAN
BEAUFORT SEA
QUEEN ELIZABETH ISLANDS
BAFFIN BAY
DAVIS STRAIT
YUKON TERRITORY
NORTHWEST TERRITORIES
MACKENZIE RIVER
WHITEHORSE
YELLOWKNIFE
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
NEWFOUNDLAND
LABRADOR SEA
ATLANTIC OCEAN
PACIFIC OCEAN
HUDSON BAY
GULF OF BOOTHIA
FOXE BASIN
HUDSON STRAIT
LINCOLN BAY
JAMES BAY
GULF OF ST. LAWRENCE
ST. LAWRENCE RIVER
PRINCE EDWARD ISLAND
NEW BRUNSWICK
NOVA SCOTIA
EDMONTON
REGINA
WINNIPEG
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
TORONTO
OTTAWA
QUÉBEC
FREDERICTON
HALIFAX
ST. JOHN'S
MILES
KILOMETRES

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: New Brunswick

NAME OF WETLAND AREA: Mary's Point, a unit of the Shepody National Wildlife Area

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b) and 2(c)

GEOGRAPHICAL LOCATION: Mary's Point is situated at the head of the Bay of Fundy, 40 km south of the city of Moncton, New Brunswick, Canada. Coordinates: 45° 44'N, 64° 45'W. Wetland Region BA.

AREA: c. 1200 hectares

ALTITUDE: - 2 to +10 m. ASL.

DEPTH: Not applicable as it is an intertidal area and salt marsh (tidal range up to 12 meters).

WETLAND TYPE(S): 3 and 11. Shallow sea waters, bottom uncovered at low tide; continental coast (including coastal marshes, rocky and sandy shores.)

NATURAL AREA: 1180 ha. MAN-MADE: 20 ha.

ECOLOGY OF WETLAND AREA: The area encompasses a large tidal (Spartina) marsh, expanses of intertidal mud flats, and a peninsula protruding into Shepody Bay. The peninsula, formed of glacial outwash gravel overlying sandstone bedrock, consists of two forested "islands" joined by salt marsh, rock cliffs and intertidal ledges, gravel beaches, and a small ridge of sand dunes.

This wetland supports the largest numbers of mixed species of shorebirds during fall migration in all of North America. Several million Semipalmated Sandpipers (Calidris pusilla) feed and roost at the site during the period late July to late September, along with thousands of Least Sandpipers (Calidris minutilla), Short-billed Dowitcher (Limnodromus griseus), White-rumped Sandpiper (Calidris fuscicollis), Semipalmated Plover (Charadrius semipalmatus), Black-bellied Plover (Pluvialis squatarola), and Red Knot (Calidris canutus).

The extensive intertidal mudflats, in places in excess of $1\frac{1}{2}$ km. in width, occur both to the north and south of the point and consist of fine marine silts that have been built up over time through deposition from the muddy tidal waters. Those intertidal flats support the shorebirds' principal forage species, Corophium volutator, an amphipod, which in North America occurs only in the Bay of Fundy and occurs in densities which are the highest in the world (densities exceeding 60,000/m2 of mud flat have been recorded).

Several species of waterfowl frequent the area during migration, and small numbers of Black Duck (Anas rubripes), Blue-winged Teal (Anas discors), and Ring-necked Duck (Aythya collaris) breed in a 20 ha. freshwater impoundment located adjacent to the 150 ha. salt marsh.

LEGAL PROTECTION STATUS OF WETLAND AREA: The Government of Canada owns 107 ha. which includes the most critical sites used by the large roosting flocks of shorebirds during high tide periods. Most of the 150 ha. of salt marsh remain in private ownership since poor land titles have prevented purchase by the federal government. The remaining 940+ ha. of mud flats are intertidal land with no known ownership.

The 107 ha. owned by federal government is administered by the Canadian Wildlife Service of Environment Canada. The area is designated as the Mary's Point Unit of the Shepody National Wildlife Area and is scheduled under the Canada Wildlife Act and controlled by the Wildlife Area Regulations.

OWNERSHIP: Federal Crown land Private: No known titles

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED: The portion of the site that is presently designated as a National Wildlife Area is posted with identification signs. An observation deck is provided overlooking the beach, and information signs are posted advising visitors not to disturb the roosting flocks of shorebirds.

A 20 ha. controlled waterfowl impoundment was constructed by Ducks Unlimited (Canada) in 1979 through the installation of a cross dyke and water control structure at a site adjacent to the salt marsh. Future management of the impoundment may involve vegetation control via tidal flooding and possible maintenance of slightly brackish conditions within the impoundment.

Interpretation signs and other facilities need to be developed, along with employment of a seasonal naturalist to explain the story of this phenomenal migration of shorebirds through the site.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

The recreational use of all-terrain vehicles along the beach occasionally causes disturbance to the roosting flocks, and the numbers of people visiting the site need to be regulated to keep disturbance to a minimum.

The possibility of a major alteration at the site due to the installation of a tidal barrage for power generation is potentially a very grave threat. The Mary's Point area is considered the least economic of the three prime sites being studied for tidal power installation using the large tidal range of the Bay of Fundy. Development at the site may become a reality, though it is unlikely in the next decade.

MAJOR SCIENTIFIC RESEARCH:

Research activities have not been confined to Mary's Point but have been directed toward understanding of the upper Bay of Fundy in general. In particular, shorebird research programs conducted during the period 1974 to 1981 have documented the feeding ecology of the birds and have illustrated the importance of the Mary's Point site for both feeding and roosting.

PRINCIPAL REFERENCE MATERIAL:

Recent studies conducted in the area have not yet been published, the following references confirm Mary's Point as being of outstanding importance to shorebirds.

Harrington, B.A. and R.I.G. Morrison. 1979. Semipalmated Sandpiper Migration in North America. Studies in Avian Biology, No. 2:83-100 Cooper Ornithological Society, Los Angeles, California.

Majka, M. 1978. Wings over Fundy. Vol. 7, No. 3, Nature Canada magazine.

Morrison, R.I.G. 1974 to 1978. Annual Reports of the Maritimes Shorebird Survey, Canadian Wildlife Service, Ottawa.

Morrison, R.I.G. 1976. Use of the Bay of Fundy by Shorebirds. In Proceedings of a workshop of Fundy Tidal Power and the

Environment. G.R. Daborn, editor, Acadia University, Wolfville, Nova Scotia.

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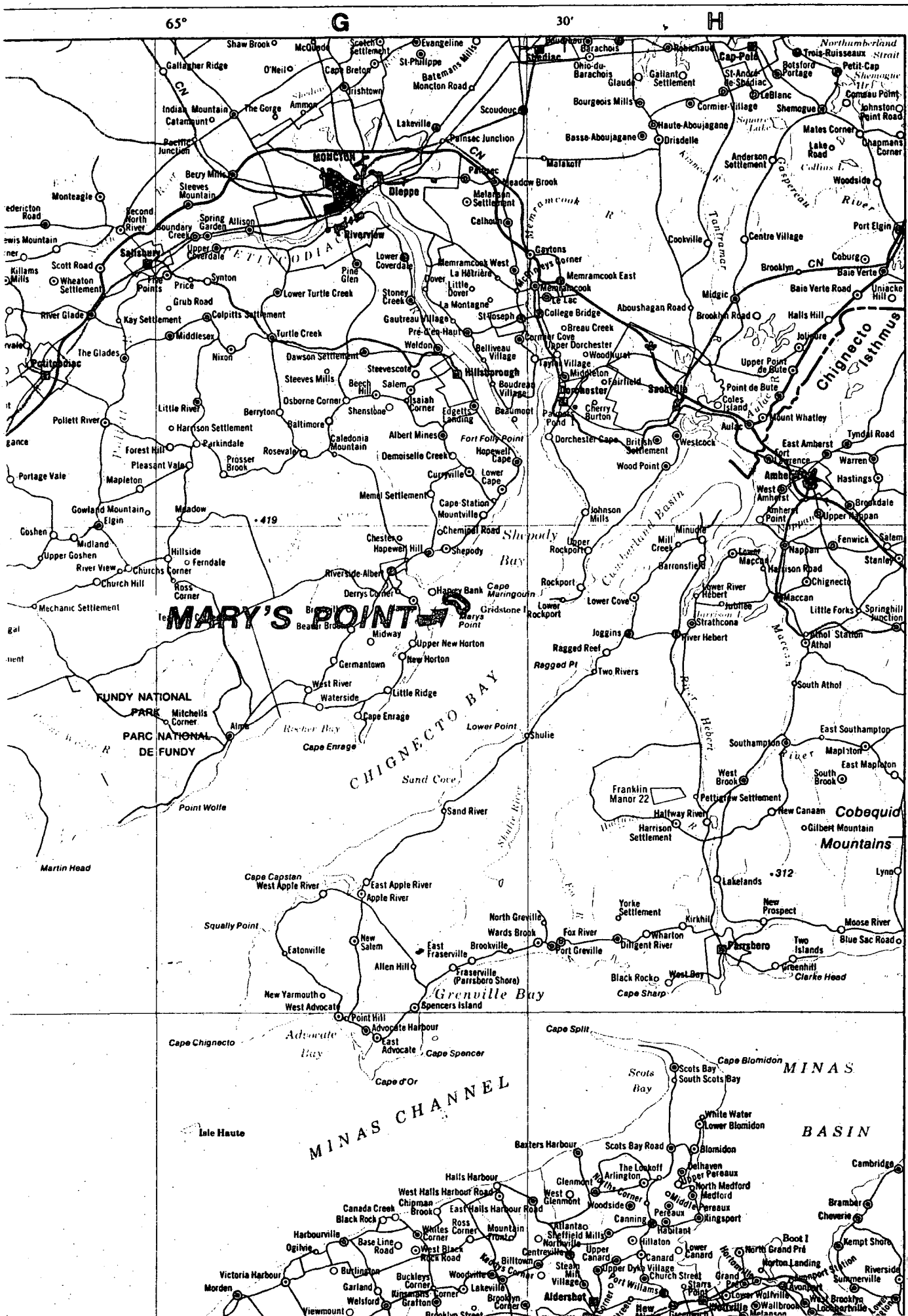
Date: May 24, 1982


65°
G
30'
H
1
46°
2
30'
3
MARY'S POINT
FUNDY NATIONAL PARK
PARC NATIONAL DE FUNDY
CHIGNECTO BAY
MINAS CHANNEL
MINAS BASIN
Cobequid Mountains
Chignecto Isthmus
Tantramar Marsh
Cumberland Basin
MONCTON
Dieppe
Riverview
Salisbury
Petitcodiac
Hillsborough
Dorchester
Sackville
Amherst
Parrsboro
Moncton Road
Trans-Canada Highway
CN
Shepody Bay
Chignecto Bay
Grenville Bay
Advocate Bay
Scots Bay
Sand Cove
Baxter Harbour
Lake Road
Port Elgin
Shaw Brook
McQuade
Scotch Settlement
Evangeline
St-Philippe
Batemans Mills
Gallagher Ridge
O'Neil
Cape Breton
Irishtown
Ammon
The Gorge
Indian Mountain
Catamount
Pacific Junction
Lakeville
Scoudouc
Painsec Junction
Malakoff
Barachois
Robichaud
Cap-Pelé
Ohio-du-Barachois
Glaude
Gallant Settlement
St-Andre-de-Shédiac
LeBlanc
Bourgeois Mills
Cormier-Village
Shemogue
Haute-Aboujagane
Basse-Aboujagane
Drisdelle
Mates Corner
Chapmans Corner
Anderson Settlement
Woodside
Gaspereau River
Collins L.
Kent R.
Memramcook R.
Petitcodiac R.
Petitcodiac River
Monteagle
Second North River
Boundary Creek
Spring Garden
Allison
Sleeves Mountain
Berry Mills
Meadow Brook
Melanson Settlement
Calhoun
Gaytons Corner
Memramcook West
Memramcook East
La Hatrière
Dover
Little Dover
La Montagne
Le Lac
College Bridge
Breau Creek
Corner Cove
Upper Dorchester
Woodhurst
Taylor Village
Middleton
Fairfield
Boudreau Village
Belliveau Village
Weldon
Pré-d'en-Haut
Gautreau Village
St-Joseph
Stoney Creek
Lower Coverdale
Pine Glen
Upper Coverdale
Scott Road
Killams Mills
Wheaton Settlement
Five Points
Price
Synton
Lower Turtle Creek
Grub Road
Colpitts Settlement
Kay Settlement
River Glade
Middlesex
Turtle Creek
The Glades
Petitcodiac
Nixon
Dawson Settlement
Steevescote
Steeves Mills
Beech Hill
Salem
Osborne Corner
Shenstone
Isaiah Corner
Edgetts Landing
Beaumont
Pollett River
Little River
Berryton
Baltimore
Harrison Settlement
Parkindale
Forest Hill
Pleasant Vale
Prosser Brook
Rosevale
Caledonia Mountain
Albert Mines
Fort Folly Point
Demoiselle Creek
Hopewell Cape
Curryville
Lower Cape
Memel Settlement
Cape Station
Mountville
Portage Vale
Mapleton
Gowland Mountain
Elgin
Meadow
Goshen
Midland
Upper Goshen
River View
Church Hill
Churchs Corner
Hillside
Ferndale
Ross Corner
Mechanic Settlement
Chester
Hopewell Hill
Shepody
Chemical Road
Riverside-Albert
Derrys Corner
Happy Bank
Cape Maringouin
Gridstone I.
Mary's Point
Beaver Brook
Midway
Upper New Horton
New Horton
Germantown
West River
Waterside
Little Ridge
Cape Enrage
Alma
Point Wolfe
Martin Head
Lower Point
Shulie
Cape Enrage
Sand River
Shepody River
Johnson Mills
Upper Rockport
Rockport
Lower Rockport
Lower Cove
Mill Creek
Minudie
Barronsfield
Lower Maccan
Nappan
Harrison Road
Chignecto
Upper Nappan
Fenwick
Salem
Stanley
Brookdale
West Amherst
Amherst Point
Amherst
Hastings
Warren
Tyndal Road
East Amherst
Fort Lawrence
Westcock
Wood Point
British Settlement
Dorchester Cape
Pointe-du-Chêne
Cherry Burton
Aulac
Coles Island
Point de Bute
Upper Point de Bute
Mount Whatley
Midgic
Brookhouse Road
Halls Hill
Joggins
Ragged Reef
Ragged Pt
Two Rivers
River Hebert
Strathcona
Jubilee
Lower River Hebert
Maccan
Little Forks
Springhill Junction
Athol Station
Athol
South Athol
Southampton
East Southampton
Mapleton
East Mapleton
West Brook
South Brook
Pettigrew Settlement
Franklin Manor 22
Halfway River
Harrison Settlement
New Canaan
Gilbert Mountain
Lakelands
•312
Lynn
Yorke Settlement
Kirkhill
New Prospect
Moose River
Blue Sac Road
Two Islands
Greenhill
Clarke Head
Wharton
Dilligent River
Fox River
Port Greville
North Greville
Wards Brook
Brookville
East Fraserville
Fraserville (Parrsboro Shore)
Allen Hill
Eatonville
New Salem
Squally Point
Black Rock
West Bay
Cape Sharp
Spencers Island
West Advocate
New Yarmouth
Point Hill
Advocate Harbour
East Advocate
Cape Spencer
Cape Chignecto
Cape d'Or
Cape Split
Cape Blomidon
Scots Bay
South Scots Bay
White Water
Lower Blomidon
Blomidon
Scots Bay Road
Isle Haute
Halls Harbour
West Halls Harbour Road
East Halls Harbour Road
Chipman Brook
Canada Creek
Black Rock
Harbourville
Base Line Road
Ogilvie
Victoria Harbour
Morden
Burlington
Garland
Welsford
Viewmount
Buckleys Corner
Kinsmans Corner
Grafton
Woodville
Lakeville
Brooklyn Corner
Billtown
Steam Mill Village
Aldershot
Port Williams
Church Street
Upper Dyke Village
Canard
Upper Canard
Lower Canard
Centreville
Northville
Sheffield Mills
Allantao
Hillaton
Habitant
Canning
Kingsport
Woodside
Middle Pereaux
Pereaux
Upper Pereaux
North Medford
Medford
Delhaven
The Lookoff
Arlington
Glenmont
West Glenmont
North Corner
Cambridge
Bramber
Cheverie
Boot I
North Grand Pré
Horton Landing
Kempt Shore
Riverside Summerville
Avonport
Avonport Station
Wallbrook
Lower Wolfville
Wolfville
Lockerbie
Melanson
Starrs Point
Grand Pré
Hortonville
Morden
Mitchells Corner
Ross Corner
Mountain Front
Whites Corner
Base Line Road
West Black Rock Road
Rocky Corner
Woodside
Chipman Brook
Canada Creek
Black Rock
Harbourville
Ogilvie
Victoria Harbour
Morden
Burlington
Garland
Welsford
Viewmount
Buckleys Corner
Kinsmans Corner
Grafton
Woodville
Lakeville
Brooklyn Corner
Billtown
Steam Mill Village
Aldershot
Port Williams
Church Street
Upper Dyke Village
Canard
Upper Canard
Lower Canard
Centreville
Northville
Sheffield Mills
Allantao
Hillaton
Habitant
Canning
Kingsport
Woodside
Middle Pereaux
Pereaux
Upper Pereaux
North Medford
Medford
Delhaven
The Lookoff
Arlington
Glenmont
West Glenmont
North Corner
Cambridge
Bramber
Cheverie
Boot I
North Grand Pré
Horton Landing
Kempt Shore
Riverside Summerville
Avonport
Avonport Station
Wallbrook
Lower Wolfville
Wolfville
Lockerbie
Melanson
Starrs Point
Grand Pré
Hortonville

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Ontario

NAME OF WETLAND AREA: Long Point

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 2(a), 2(b), 2(c) and 3.

GEOGRAPHICAL LOCATION: Long Point is situated in Lake Erie in the Regional Municipality of Haldimand-Norfolk, with the town of Port Rowan located immediately adjacent to a portion of the wetland. Co-ordinates: 42°35'N 80°15'W. Wetland Region TE.

AREA: 13,730 ha.

ALTITUDE: c. 174 m. average to a sand dune height of 183 m.

DEPTH: Variable.

WETLAND TYPE(S): 9, 11, 23 and 25. Deltas; large island coasts (including coastal marshes, dunes, sandy shores); temporary waters from snow melt and rainfall; and irrigation.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA:

General

Long Point is a long, slender sandspit following an east-west line from the northern shore of Lake Erie and extending 32 km into the deepest part of the lake. The peninsula was formed primarily by easterly longshore currents transporting sand from the eroding cliffs further west. Along the north shore of Long Point, erosion and deposition occur in a westward direction.

In the older landward portion of the Point, major marshes are present. The wetlands at the base of the Point represent an older, more stable successional stage compared to those on the peninsula and include wooded swamp, shrub carr, grassy marsh and cattail marsh. The peninsula itself is a series of alternating ridges which are separated by ponds and swales. Water depth between the ridges is greatly influenced by lake levels. Those wetlands reflect the dynamic effects of Lake Erie.

Long Point is a unique combination of habitats: beach, sand dune, grass-covered ridges, savannahs, woodlands, wet meadows, rush swales, wooded swamp, tamarack-cedar ponds and deep and shallow marshes. This diverse assemblage of habitats possesses a remarkably varied plant and animal life, some species of which are rare or threatened either in Ontario or Canada.

The wetlands and associated sand dune ecosystem are the best remaining examples of their type in the Great Lakes Basin. The whole spectrum of dune and wetland succession is easily discernible along the region's length. Long Point is the last "wild" area in the heartland of the industrialized lower Great Lakes region.

The climate of Long Point is influenced by the moderating effects of Lake Erie. Spring and summer temperatures are lower than the adjacent mainland while fall and winter temperatures are higher. Average summer temperature is 22°C while in winter it is 1°C. Annual precipitation is 86 cm. The thermal moderation caused by the lake combined with the southern geographic location of the Point allows a number of plants and animals to survive at the northern fringe of their range.

Long-term fluctuations in the water levels of Lake Erie occur in irregular cycles with a seasonal fluctuation of about 1-2 m. Strong winds, however, can cause pronounced short-term changes. As the prevailing wind generally follows the axis of the lake, water is pushed to its eastern end. When the storm subsides, the water oscillates back and forth. That action, known as a seiche, could be a contributing factor to the low waterfowl production levels.

Long Point is most famous for its wildlife. Renowned as a staging area for waterfowl in spring and fall, it is one of the most important areas for waterfowl concentrations in Ontario. Waterfowl production,

however, is limited. The marshes and adjacent waters of Long Point Bay can contain at one time during peak migration, 100,000 or 11% of the total population of Redheads (Aythya americana) and at least 14% (43,000) of all Canvasbacks (Aythya valisineria). Whistling Swans (Cygnus columbianus) traditionally use the marshes extensively during spring migration. Approximately 50% of the population east of the Rocky Mountains pass through the area in the spring, although lesser numbers occur in autumn. Puddle ducks and other species of divers use the region in large numbers.

It is of national significance for many other migrating birds as well as a migration route for bats and monarch butterflies (Danaus plexippus). Since the establishment of the Long Point Bird Observatory in 1960, birds of 237 species, or 75% of all species recorded for Ontario, have been observed.

A total of 115 bird species are believed to have nested on Long Point (McCracken et al. 1981). Of these, 98 are confirmed by finding of nests or flightless young; the rest are included on the basis of frequent sightings. They include the Bald Eagle (Haliaeetus leucocephalus) and Piping Plover (Charadrius melodus), both endangered species in Ontario. Other rare species include the King Rail (Rallus elegans) and Forster's Tern (Sterna forsteri). The rare Prothonotary Warbler (Protonotaria citrea) has been found nesting at the Big Creek National Wildlife Area, at the western end of Long Point.

Reptiles and amphibians occur in large numbers including five species considered threatened in Canada. Twenty-six species have been identified. Thirty-one species of mammals have been noted. There are 114 species of fish native to Lake Erie. Many of them utilize the waters in and around Long Point at some time in their life cycle. At least 60 species have been recorded on CWS property alone. A wide variety of invertebrates including the meadow crayfish (Cambarus diogenes), one of Canada's rarest invertebrates, occur.

LEGAL PROTECTION STATUS OF WETLAND AREA:

Government Ownership

Federal	- Canadian Wildlife Service	2,440 ha
	- Department of Transport	30 ha
Provincial	- Ontario Ministry of Natural Resources	820 ha
	- Long Point Region Conservation Authority	220 ha
Navigable Water Inner Bay		7,280 ha
Private Waterfowl Hunt Clubs		2,900 ha
Other Private Ownership		40 ha
		13,730 ha

Lands administered by the Canadian Wildlife Service have been designated as National Wildlife Areas under the Canada Wildlife Act.

Those lands administered by the Ontario Ministry of Natural Resources are either designated as provincial park or controlled through the Public Lands Act. The Long Point Region Conservation Authority owns and administers their property under the Conservation Authorities Act.

The lands owned by the private waterfowl clubs are managed for waterfowl hunting purposes and are not at present considered in danger of loss. Escalating costs, however, could materially affect that status. The CWS and the Nature Conservancy have right of first refusal to those lands still owned by the Long Point Company.

The marshlands and Long Point are zoned as Environmental Protection Areas under the official plan for the Regional Municipality of Haldimand-Norfolk. That designation does not, however, assure perpetual protection.

OWNERSHIP: Federal Crown land 2470 ha. Provincial Crown land 1040 ha. Private: 2940 ha.

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED: Under the terms of the Canada Wildlife Act, National Wildlife Areas are managed for the conservation of wildlife and its habitat. Activities consistent with that objective are the only ones permitted. Use that could create adverse impacts are rigidly controlled.

Long Point National Wildlife Areas are managed as a wilderness area with little interference in the dynamic forces of nature. Some restorative measures may be undertaken to rectify adverse impacts caused by man's former activities. Biological programs to gather base line data and monitor wildlife populations and water quality are continuing. Public use is limited.

The Big Creek marsh complex has been historically managed to facilitate waterfowl hunting and muskrat harvesting. Water levels have been controlled through a series of small barriers for many years. A resource management plan for the Canadian Wildlife Service's holdings is under development which identifies management policy. Water level control, channelization to facilitate waterfowl brood movement and water flows are among the management activities permitted. Muskrat harvesting is allowed under CWS permit and waterfowl hunting is permitted in designated areas. Sport fishing, canoeing, and wildlife viewing are other permitted activities.

The marsh areas owned by other government agencies and private owners are generally managed for waterfowl hunting purposes. A conceptual management plan for the Big Creek marsh complex has been agreed upon by the government agencies and private owners involved.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

Direct threats to the non-protected wetlands are primarily due to proposals to convert the marshes to agriculture or for recreation purposes. Marina developments to service the large boating public are a constant threat. Channelization to service private cottages requires more rigid control. Parts of the marsh adjacent to the mainland can be easily dyked and converted to agriculture. Fertilizer and herbicide runoff could affect water quality. The water of the Inner Bay tends toward a eutrophic state.

Long Point receives a high degree of acid precipitation. Although normal rain is of pH = 5.6, pH readings have averaged 4.2 at Big Creek and 3.8 on Long Point. Impacts of acid precipitation on fresh water bodies have been well documented. Other than monitoring rainfall, little work has been undertaken at Long Point to determine its impacts on fish and wildlife populations. Environmental pollution from industrial activity is a constant concern.

Other threats can be caused by off-site developments that could interfere with the littoral drift and transport of sand that forms Long Point or by the artificial manipulation of Great Lakes water levels. Severe storms can overwash the barrier beach creating damage to the wetland and high water levels accelerate erosion problems.

MAJOR SCIENTIFIC RESEARCH:

A permanent research station has been operated by the Long Point Bird Observatory to monitor migratory birds since 1960. University research has produced a number of papers at the undergraduate and graduate levels. The Canadian Wildlife Service has been gathering base line data on an ongoing basis while research contracts have been granted to private contractors.

Selected research papers include the following:

Anonymous 1979. Resource Inventory Reports for the Big Creek National Wildlife Area. A series of unpublished reports for the Canadian Wildlife Service, London, Ontario.

_____ 1980. Resource Inventory Reports for the Big Creek and Long Point National Wildlife Areas. A series of unpublished reports for the Canadian Wildlife Service, London, Ontario.

_____ 1981. Resource Inventory Reports for the Long Point National Wildlife Area. A series of unpublished reports for the Canadian Wildlife Service, London, Ontario.

Bayly, I. 1976. Preliminary study of the nutrient regime of marshland at the Big Creek National Wildlife Area. Unpubl. rept. to C.W.S. 70 pp.

Hardy, P.A. 1979. Coastal Marsh Management: The case of Big Creek, Long Point, Lake Erie. Masters Thesis for University of Waterloo. 209 pp.

Heffernan, S.E. 1979. Long Point, Ontario: Land use, landscape change and planning. Unpubl. Masters Thesis for University of Waterloo. 165 pp.

Kreutzwiser, R.D. 1979. Recreational significance of the Long Point marsh, Lake Erie. Research report. Dept. of Geog., University of Guelph. 280 pp.

Mahon, R. and E.R. Balon. 1977. Fish Community Structure in Lakeshore Lagoons on Long Point, Lake Erie, Canada. Env. Biol. Fish. Vol. 2, No. (1): 71-82.

_____ 1977. Ecological Fish Production in Long Pond, a lakeshore lagoon on Long Point, Lake Erie. Env. Biol. Fish. Vol. 2, No. (3) 261-284.

McCracken, J.D., M.S.W. Bradstreet and G.L. Holroyd. 1981. The Breeding Birds of Long Point, Lake Erie. Report 44, Can. Wildl. Serv., Ottawa.

McCracken, J. 1981. Breeding Bird Survey of the Cattail Marsh, Thoroughfare Point, Long Point National Wildlife Area. Unpubl. Rept. for Can. Wildl. Serv., London, Ontario.

McKeating, G. 1982. Preliminary Management Plan, Long Point National Wildlife Area. Canadian Wildlife Service, London, Ontario.

McKeating, G. and K. Dewey. 1982. Preliminary Management Plan, Big Creek National Wildlife Area. Canadian Wildlife Service, London, Ontario. In preparation.

Reid, P.J. 1978a. Distribution and relative abundance of fish along the Long Point Crown Marsh of Inner Bay, Lake Erie. Unpubl. report for OMNR.

_____ 1978b. The fish community within a cattail marsh bordering Inner Long Point Bay, Lake Erie. Unpubl. report for OMNR, SW Region. 38 pp.

PRINCIPAL REFERENCE MATERIAL

For decades, the habitat and the fish and wildlife of the Long Point region have been the topic of numerous scientific and popular papers. The Long Point Bird Observatory, a private citizens group, has undertaken migratory bird studies since the late 1950's. The Canadian

Wildlife Service has surveyed waterfowl populations annually. A number of graduate theses and other studies have been undertaken on a variety of biological topics. Good overviews on the Long Point region are contained in The Biological Environment of Long Point, Lake Erie by M.S.W. Bradstreet and in Seasons, Vol. 21, No. (1), Special Issue on Long Point, M.S.W. Bradstreet, G.B. McKeating and J. Parsons, editors.

Selected references include the following:

Barrett, H.B. 1977. Lore and Legends of Long Point. Burns and MacEachern Ltd., Don Mills, Ontario. 240 pp.

Bradstreet, M.S.W. 1977. The Biological Environment of Long Point, Lake Erie: An overview. Unpubl. report for The Nature Conservancy of Canada.

Bradstreet, M.S.W., G. McKeating, and J. Parsons, Co-editors. 1980. Seasons: Special Issue on Long Point. Vol. 21, No. 1. Spring, 1980. Federation of Ontario Naturalists, Don Mills, Ontario. 63 pp.

Campbell, C.A. 1979. Preliminary herpetological survey and evaluation of proposed habitat alterations at Big Creek National Wildlife Area, Port Rowan, Ontario. Unpubl. report to Can. Wildl. Serv.

Catling, P.M. and A. Reznicek. 1979. A list of plants from Long Point. Unpubl. report to Can. Wildl. Serv. 30 pp.

Deyne, G.A. 1977. Summer Resources inventory of the Lee Brown Waterfowl Management Area. Report for the L.P.R.C.A. 102 pp.

Nelson, J.G. and R.D. Needham. 1979. The Lake Erie Peninsulas: Management Issues and Directions. Contract, Vol. 11, No. 1. Faculty of Environ. Studies, Univ. of Waterloo. Waterloo, Ontario.

Nelson, J.G. and S. Jessen. eds. 1980. Coastal Resources and Environmental Management: The Case of the Long Point Area, Lake Erie, Ontario. Contact, Vol. 12, No. (3) Fall. Faculty of Environmental Studies, University of Waterloo, Waterloo, Ontario.

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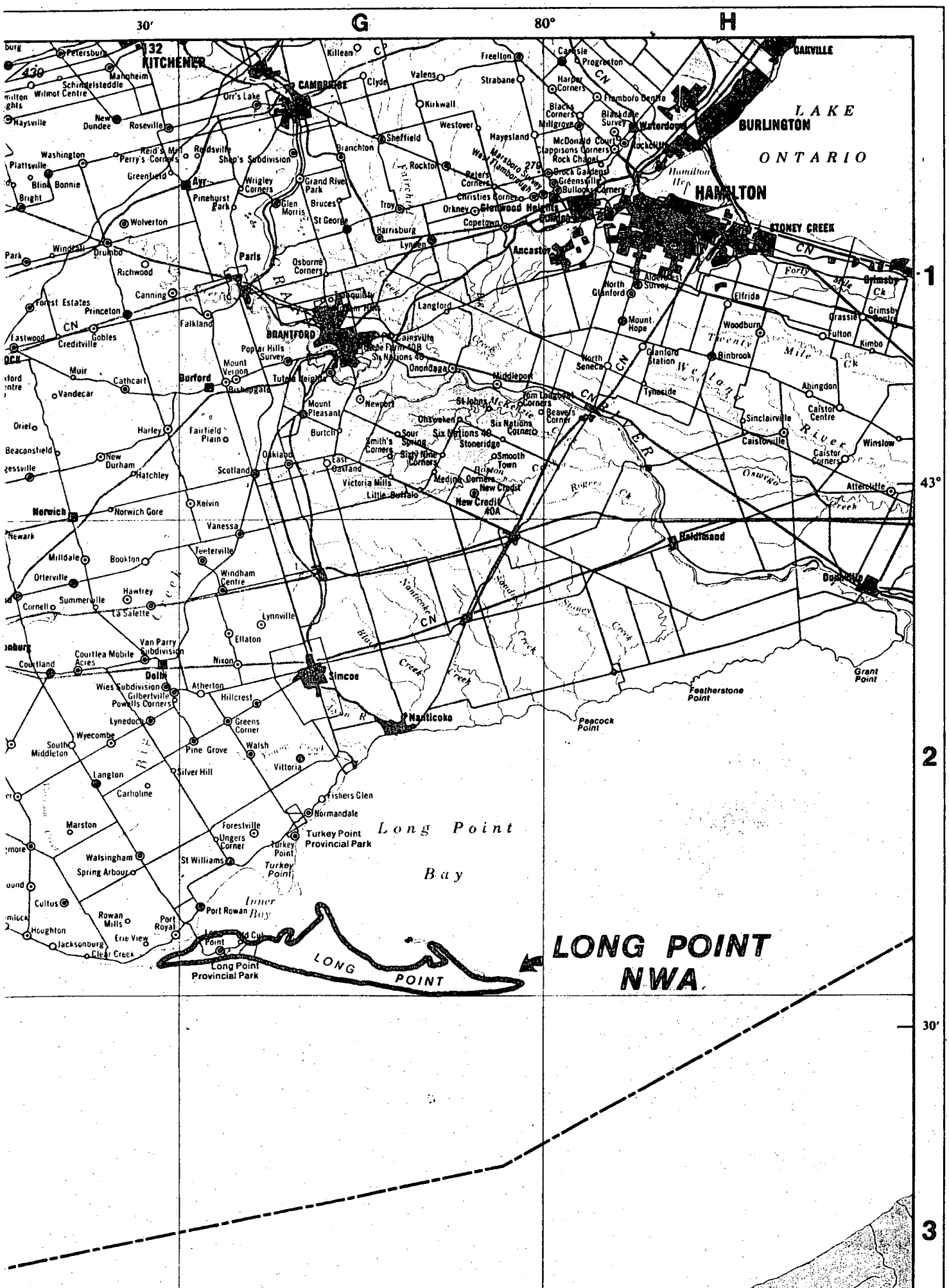
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Norwich
Simcoe
Delhi
Tillsonburg
Port Dover
Nanticoke
Caledonia
Haldimand
Dunnville
Port Rowan
Long Point Provincial Park
Turkey Point Provincial Park
Long Point Bay
Inner Bay
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Grand River
Lake Erie
Welland River
Nanticoke Creek
Big Creek
Black Creek
Stoney Creek
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INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Manitoba

NAME OF WETLAND AREA: Delta Marsh

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 2(c) and 3

GEOGRAPHICAL LOCATION: 22 km. north of Portage la Prairie. Co-ordinates: 50° 05'N, 98° 0'W. Wetland Region PCa.

AREA: 23,000 ha.

ALTITUDE: 248 m. ASL.

DEPTH: Maximum: 4 m. Average: 1.2 m.

WETLAND TYPE(S): 10, 18 and 23. Small islets; fresh eutrophic lake; and temporary waters from snowmelt or rainfall.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The Delta Marsh is a natural area formed in the Lake Agassiz basin at the south edge of Lake Manitoba. It is connected with Lake Manitoba through several natural beaches. The marsh itself consists of large basins (bays) and small sloughs. It is subjected to low level natural fluctuations caused by wind tides from Lake Manitoba. The vegetation consists of Phragmites communis and Scolochloa festucacea meadows which grade into wet prairie vegetation at slightly higher elevation. Sand ridges extending into the marsh contain considerable mossy-cup oak Quercus macrocarpa. The beach ridge is dominated by box-elder Acer Negundo and red alder Fraxinus pennsylvanica. The area is particularly important as a staging marsh for waterfowl, now averaging better than 50,000 Anatidae during the fall, with past peak populations of ducks and geese better than 2 million. Some 285 different species of birds have been recorded of which 37 are accidental occurrence and one has been extirpated.

Parts of the Delta Marsh are cut annually for hay, and the marsh provides valuable fur and fish harvests.

LEGAL PROTECTION STATUS OF WETLAND AREA: Roughly 16,600 ha. are in public ownership (provincial Crown land) and of this 2,000 ha. are protected as a Game Bird Refuge and 7,700 ha. as public shooting grounds. The Delta Waterfowl Research Station controls an additional 1,600 ha. of the marsh itself.

OWNERSHIP: Province of Manitoba, and private holding.

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Present management consists of regulating the hay and waterfowl harvest and restriction of the use of motorized boats. Management plans have recently been proposed by the province, in the Delta Marsh Plan - 1978, and by Ducks Unlimited (Canada). These plans include water level control and development of a public-private cooperative marsh management district.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

Pressure for the development of additional cottage sites and recreational facilities on the Lake Manitoba beach.

In addition the privately owned west portion of the marsh is periodically flooded by the Portage Floodway, causing excessive siltation and vegetational growth.

MAJOR SCIENTIFIC RESEARCH:

Permanent research programs have been conducted since 1938 by the Delta Waterfowl Research Station, dealing largely with waterfowl ecology and behaviour; well over 100 publications in journals have resulted. In 1967, the University of Manitoba opened a field station in the western portion of the marsh, where research has been concentrated on plant ecology, hydrology and local history.

PRINCIPAL REFERENCE MATERIAL:

Bailey, R.O. 1979. Wild mallard stocking in a large marsh habitat. Can. Field-Naturalist 93:55-62.

_____. 1981. A theoretical approach to problems in waterfowl management. Trans. North Am. Wildl. Nat. Resour. Conf. 46:58-71.

Bartonek, J.C. and J.J. Hickey. 1969. Selective feeding by juvenile diving ducks in summer. Auk 86:443-457.

_____. 1969. Food habits of canvasback, redheads, and lesser scaup in Manitoba. Condor 71:280-290.

Batt, B.D.J. and H.H. Prince. 1977. Some reproductive parameters of mallards in relation to age, captivity, and geographic origin. J. Wildl. Manage. 42:834-842.

Batt, B.D.J. 1979. Individual variation and the analysis of mallard populations. pp. 95-102. In Waterfowl and wetlands: an integrated review. T.A. Bookhout (ed.) La Crosse Printing Co. Inc. 152 pp.

Bergman, R.D. 1973. Use of southern boreal lakes by postbreeding canvasbacks and redheads. J. Wildl. Manage. 37:160-170.

Bossenmaier, E.F. and W.H. Marshall. 1958. Field-feeding by waterfowl in southwestern Manitoba. Wild. Monog. 1:32 pp.

Bossenmaier, E.F., J. Cober, W.G. Leitch, G.H. MacKay, W.R. Miller, D.D. Moore, J.M. Walker and P. Ward. 1968. The Delta Marsh; its values, problems and potentialities. Tech. Commit. for Develop. of the Delta Marsh, Man. Dept. of Mines & Nat. Res. 75 pp.

Brakhage, G.K. 1953. Migration and mortality of ducks hand-reared and wild-trapped at Delta, Manitoba. J. Wild. Manage. 17:465-477.

Collias, N.E. and E.C. Collias. 1956. Some mechanisms of family integration in ducks. Auk 73:378-400.

Cooch, F.G. 1964. A preliminary study of the survival value of a functional salt gland in prairie Anatidae. Auk 81:380-393.

Cooper, J.A. 1977. The history and breeding biology of the Canada Geese of Marshy Point, Manitoba. Wildl. Monogr. 61. 87 pp.

Dzubin, A. 1969. Comments on carrying capacity of small ponds for ducks and possible effects of density on mallard production. Saskatoon Wetlands Seminar, Can. Wildl. Serv. Rept. Series No. 6:128-160.

_____. 1969. Assessing breeding populations of ducks by ground counts. Saskatoon Wetlands Seminar, Can. Wildl. Serv. Rept. Series No. 6:178-230.

Dzubin, A. and J.B. Gollop. 1972. Aspects of mallard breeding ecology in Canadian packland and grassland. In Wildlife Research Report 2, U.S. Fish and Wildl. Serv., Washington, pp. 113-152.

Elder, W.H. 1950. Measurement of hunting pressure in waterfowl by means of X-ray. Trans. N. Amer. Wildl. Conf. 15:490-504.

_____. 1955. Fluoroscopic measures of hunting pressure in Europe and North America. Trans. N. Amer. Wild. Conf. 20:298-322.

Gottlieb, G. 1961. The following-response and imprinting in wild and domestic ducklings of the same species (Anas platyrhynchos). Behaviour 18:205-228.

Hamilton, W.J., III. 1962. Celestial orientation in juvenal waterfowl. Condor 64:19-33.

Hochbaum, H.A. 1942. Sex and age determination of waterfowl by cloacal examination. Trans. N. Amer. Wildl. Conf. 7:299-307.

_____. 1944. The canvasback on a prairie marsh. Amer. Wild. Inst. Washington, D.C. 207 pp.

_____. 1946. Recovery potentials in North American waterfowl. Trans. N. Amer. Wildl. Conf. 11:403-418.

_____. 1947. The effect of concentrated hunting pressure on waterfowl breeding stock. Trans. N. Amer. Wildl. Conf. 12:53-62.

_____. 1955. Travels and traditions of waterfowl. Univ. of Minnesota Press. 301 pp.

_____. 1967. Contemporary drainage within true prairie of the Glacial Lake Agassiz Basin. In "Life, Land and Water", Proc. 1966 Conference on Environmental Studies, Glacial Lake Agassiz Region, University of Manitoba Press, Winnipeg, pp. 197-204.

_____. 1973. To ride the wind. Harlequin Enterprises Ltd., Toronto. 120 pp.

Hochbaum, P.W. 1970. The Delta Marsh. Dept. of Mines, Resources and Environmental Management, Conservation Extension Branch, Winnipeg, 52 pp.

Kaminski, R.M. and H.H. Prince. 1981. Dabbling duck and aquatic macroinvertebrate responses to manipulated wetland habitat. J. Wildl. Manage. 45:1-15.

_____. 1981. Dabbling duck activity and foraging responses to aquatic macroinvertebrates. Auk 98:115-126.

Kiel, W.H., Jr. 1949. Waterfowl productivity in the Newdale-Erickson district of Manitoba. U.S. Fish and Wildl. Serv. Spec. Sci. Rept. Wildl. 2:76-81.

Kiel, W.H. Jr., A.S. Hawkins and N.G. Perret. 1972. Waterfowl habitat trends in the aspen parkland of Manitoba. Can. Wildl. Serv. Rept. Series 18, 61 pp.

Mattson, M.E. and R.M. Evans. 1974. Visual imprinting and auditory-discrimination learning in young of the canvasback and semiparasitic redhead (Anatidae). Can. J. Zool. 52:421-427.

McKinney, D.F. 1965. The comfort movements of Anatidae. Behaviour 25:120-220.

_____. Spacing and chasing in breeding ducks. Wildfowl Trust Ann. Rept. 16:92-106.

McKinney, D.F. 1969. The behaviour of ducks. In "The Behaviour of Domestic Animals", E.S.E. Hafez (ed.). Balliere, Tindall and Cassell, London, pp. 593-626.

Nelson, C.H. 1976. A key to downy cygnets with analysis of plumage characters. Wilson Bull. 88:4-15.

Nice, M.M. 1953. Some experiences in imprinting ducklings. Condor 55:33-37.

_____. 1962. Development of behaviour in precocial birds. Trans. Lin. Soc., N.Y. 8:211 pp.

Nuechterlein, G.L. 1981. Variations and multiple functions of the advertising display of Western Grebes. Behaviour 76:289-317.

_____. 1981. Courtship behavior and reproductive isolation between Western Grebe color morphs. Auk 335-349.

Phillips, R.E. and A. van Tienhoven. 1960. Endocrine factors involved in the failure of pintail ducks Anas acuta to reproduce in captivity. J. Endocrinology 21:253-261.

_____. 1962. Some physiological correlates of pintail reproductive behavior. Condor 64:291-299.

Prince, H.H., P.B. Siegel and G.W. Cornwell. 1970. Inheritance of egg production and juvenile growth in mallards. Auk 87:342-352.

Prince, H.H. 1979. Bioenergetics of postbreeding dabbling ducks. pp. 103-117. In Waterfowl and wetlands: an intergrated review. T.A. Bookhout (ed.) La Crosse Printing Co. Inc. 152 pp.

Rogers, J.P. 1959. Low water and lesser scaup reproduction near Erickson, Manitoba. Trans. N. Amer. Wildl. Conf. 24:216-224.

_____. 1964. Effect of drought on reproduction of the lesser scaup. J. Wildl. Manage. 28:213-222.

Siegfried, W.R. 1976. Segregation in feeding behaviour of four diving ducks in southern Manitoba. Can. J. Zool. 54:730-736.

Smith, R.I. 1968. The social aspects of reproductive behavior in the pintail. Auk 85:381-396.

Sowls, L.K. 1947. New techniques for breeding ground surveys. Trans. N. Amer. Wildl. Conf. 12:448-454.

_____. 1950. Techniques for waterfowl-nesting studies. Trans. N. Amer. Wildl. Conf. 15:478-489.

_____. 1955. Prairie ducks. Wildl. Manage. Inst., Washington, D.C. 193 pp.

_____. 1949. A preliminary report on renesting in waterfowl. Trans. N. Amer. Wildl. Conf. 14:260-275.

Stout, I.J. and G.W. Cornwell. 1976. Nonhunting mortality of fledged North American waterfowl. J. Wildl. Manage. 40:681-693.

Titman, R.D. and J.K. Lowther. 1975. The breeding behavior of a crowded population of mallards. Can. J. Zool. 53:1270-1283.

Ward, P. 1953. The American coot as a game bird. Trans. N. Amer. Wildl. Conf. 18:322-329.

_____. 1968. Fire in relation to waterfowl habitat of the Delta Marshes. Proc. Ann. Tall Timbers Fire Ecology Conf. 8:243-267.

Ward, P. and B.D.J. Batt. 1973. Propagation of captive waterfowl - the Delta Waterfowl Research Station system. Delta Waterfowl Research Station and Wildlife Management Institute, Washington, 64 pp.

Weller, M.W. 1957. Growth, weights, and plumages of the redhead, Aythya americana. Wilson Bull. 69:5-38.

_____. An automatic nest-trap for waterfowl. J. Wildl. Manage. 21:456-458.

_____. 1959. Parasitic egg laying in the redhead (Aythya americana) and other North American Anatidae. Ecological Monographs 29:333-365.

_____. 1964. Distribution and migration of the redhead. J. Wildl. Manage. 28:64-103.

_____. 1965. Chronology of pair formation in some nearctic Aythya (Anatidae). Auk 82:227-235.

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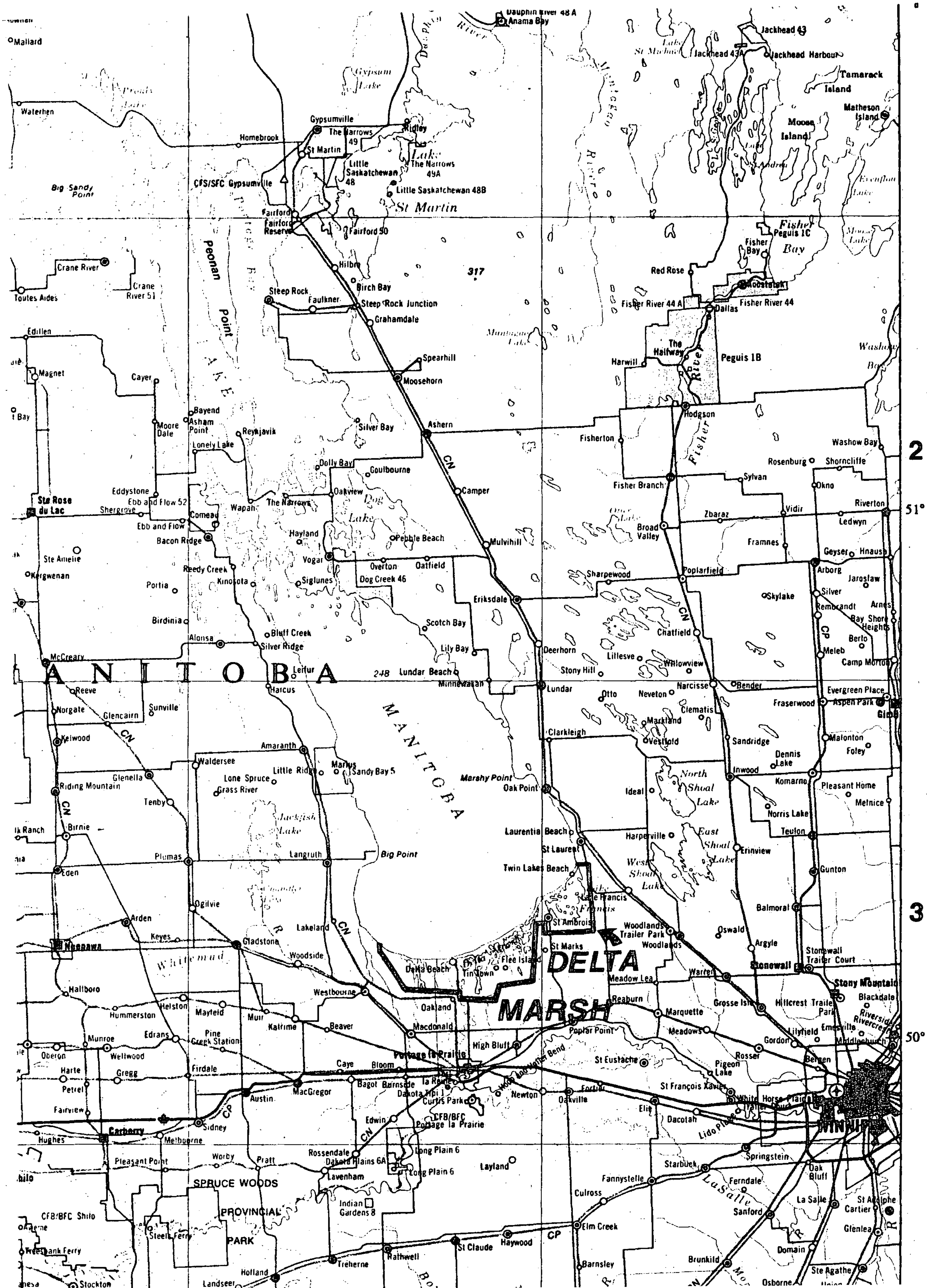

Dauphin River 48 A
Anama Bay
Jackhead 43
Jackhead 43A
Jackhead Harbour
Tamarack Island
Matheson Island
Moose Island
Mallard
Waterhen
Homebrook
Gypsumville
The Narrows 49
Ridley
St Martin
Little Saskatchewan 48
The Narrows 49A
Little Saskatchewan 48B
Big Sandy Point
CFS/SFC Gypsumville
St Martin
Fairford
Fairford Reserve
Fairford 50
Fisher Bay
Peguis 1C
Crane River
Crane River 51
Toutes Aides
Hilbre
Birch Bay
317
Red Rose
Koostatak
Steep Rock
Faulkner
Steep Rock Junction
Grahamdale
Fisher River 44 A
Fisher River 44
Dallas
Peonan Point
Edillen
Magnet
Cayer
Spearhill
Moosehorn
Harwill
The Halfway
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Asham Point
Moore Dale
Reykjavik
Silver Bay
Ashern
Hodgson
Lonely Lake
Fisherton
Washow Bay
Rosenburg
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Dolly Bay
Goulbourne
Sylvan
Fisher Branch
Okno
Eddystone
Ebb and Flow 52
Ste Rose du Lac
Shergrove
Ebb and Flow
Comeau
Wapah
The Narrows
Oakview
Dog Lake
Camper
Riverton
Zbaraz
Vidir
51°
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Broad Valley
Bacon Ridge
Hayland
Pebble Beach
Mulvihill
Framnes
Ste Amelie
Vogar
Overton
Oatfield
Geyser
Hnausa
Kergwenan
Reedy Creek
Kinosota
Siglunes
Dog Creek 46
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Scotch Bay
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Bluff Creek
Chatfield
Berlo
Alonsa
Silver Ridge
Lily Bay
Deerhorn
Lillesve
Meleb
McCreary
Camp Morton
Willowview
Stony Hill
Leifur
248
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Minnewakan
Reeve
Harcus
Lundar
Otto
Neveton
Narcisse
Bender
Evergreen Place
Fraserwood
Aspen Park
Gimli
Norgate
Sunville
Glencairn
Clematis
Markland
Clarkleigh
Vestfold
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Malonton
Kelwood
Foley
Dennis Lake
Amaranth
Waldersee
Marius
Sandy Bay 5
Little Ridge
Glenella
Lone Spruce
Grass River
Marshy Point
Oak Point
North Shoal Lake
Inwood
Komarno
Pleasant Home
Riding Mountain
Tenby
Ideal
Metnice
Norris Lake
Jackfish Lake
Birnie
Laurentia Beach
Harperville
East Shoal Lake
Teulon
St Laurent
Erinview
Plumas
Langruth
Big Point
Twin Lakes Beach
West Shoal Lake
Gunton
Eden
Ogilvie
Lake Francis
Balmoral
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Arden
Lakeland
St Ambrois
Woodlands Trailer Park
Oswald
Keyes
Gladstone
Woodlands
Argyle
Neepawa
St Marks
Stonewall Trailer Court
Woodside
Flee Island
DELTA
Stonewall
Delta Beach
Tin Town
Warren
Stony Mountain
Hallboro
Westbourne
Meadow Lea
Blackdale
MARSH
Reaburn
Grosse Isle
Hillcrest Trailer Park
Helston
Oakland
Marquette
Hummerston
Mayfeld
Muir
Kalrime
Beaver
Macdonald
Poplar Point
Meadows
Lilyfield
Riverside
Edrans
Pine Creek Station
High Bluff
Gordon
Middlechurch
50°
Munroe
Oberon
Wellwood
Portage la Prairie
Rosser
Bergen
St Eustache
Caye
Bloom
Harte
Gregg
Firdale
Pigeon Lake
Bagot
Burnside
la Reine
Dakota Tipi 1
St François Xavier
Petrel
Austin
MacGregor
Curtis Park
Newton
Fortier
Oakville
White Horse Plain
Fairview
Elie
Dacotah
Edwin
CFB/BFC Portage la Prairie
Carberry
Sidney
Lido Plage
Winnipeg
Hughes
Melbourne
Long Plain 6
Springstein
Pleasant Point
Worby
Pratt
Rossendale
Dakota Plains 6A
Layland
Starbuck
Oak Bluff
Shilo
SPRUCE WOODS
Lavenham
Long Plain 6
Fannystelle
Ferndale
Culross
La Salle
La Salle
St Adolphe
Cartier
CFB/BFC Shilo
PROVINCIAL
Indian Gardens 8
Sanford
Glenlea
Elm Creek
Haywood
PARK
Steels Ferry
Treesbank Ferry
Treherne
Rathwell
St Claude
CP
Domain
Holland
Brunkild
Barnsley
Ste Agathe
Stockton
Landseer
Osborne
CN
CP

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Saskatchewan

NAME OF WETLAND AREA: Last Mountain Lake Migratory Bird Sanctuary and Wildlife Area.

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 2(a), 2(c) and 3.

GEOGRAPHICAL LOCATION: Last Mountain Lake is part of the upper Qu'Appelle River system and is situated in south-central Saskatchewan, 150 km south-east of Saskatoon. Coordinates: 51° 20'N, 105° 15'W. Wetland Region PCg.

AREA: About 15,600 ha.; 7,039 ha. federal land; 3,480 ha. provincial land; 5,083 ha. lake (lake beds in Saskatchewan are provincial land).

ALTITUDE: c. 425 m. ASL.

DEPTH: Lake within sanctuary: Maximum 6.3 m.; Average 0.5 - 4 m. with seasonal variations.

WETLAND TYPE(S): 18 and 24. Fresh eutrophic lake and ponds and small reservoirs.

NATURAL AREA: Yes.

ECOLOGY OF WETLAND AREA: The north end of Last Mountain Lake is comprised of shallow marshy bays and inlets, separated by points and numerous islands. The surrounding uplands contain potholes and other fresh and saline wetlands, some with water levels held at artificially high levels by low dams. Soils are light textured with sandy saline loams near the lake. Located in the aspen parkland transition zone between grassland and forest. A wide variety of native grasses (Agropyron, Distichlis, Stipa, Hordeum), forbs (Astragalus, Aster, Thermopsis, Solidago) and shrubs (Rosa, Symphoricarpos, Elaeagnus) occur in complex patterns.

The area is an important breeding and staging area for waterfowl and large numbers of other migratory birds. Over 220 species have been recorded, with more than 90 breeding. Concentrations of ducks, geese and Sandhill Cranes (Grus canadensis) are greatest from mid-August to November.

The endangered Whooping Crane (Grus americana) occurs on the area during spring and fall migration.

LEGAL PROTECTION STATUS OF WETLAND AREA: The Wildlife area is comprised of federal and provincial Crown lands protected and administered cooperatively since 1968 by both governments. It contains a federal Migratory Bird Sanctuary established in 1887, the oldest sanctuary in the Western Hemisphere, to protect this important breeding and staging area. Both governments are now seeking an agreement for long-term uniform management and administration of the area. The federal portion is protected under the Migratory Bird Sanctuary Regulations that stemmed from the Migratory Birds Convention Act.

OWNERSHIP: Government of Canada and Province of Saskatchewan.

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

The area is managed for the conservation of migratory birds, their habitats and other wildlife species, and to help reduce cereal grain crop damage by influencing the local distribution of waterfowl and cranes. Economic activities (haying and grazing) are normally restricted to lands outside the sanctuary. No hunting is permitted in the sanctuary. Boating and recreational fishing are permitted, with public access being restricted in August and September to minimize disturbance of birds feeding on lure crops.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

A steady rise in public use is causing increased disturbance to wildlife throughout the year. Breeding success of Double-crested Cormorants (Phalacrocorax auritus) and perhaps other birds has declined, and White Pelicans (Pelecanus erythorhynchos) no longer breed. Increasing amounts of toxic chemicals from surrounding agricultural land are carried to the area by run-off water. Natural fluctuations of the lake level have been controlled, reducing return of nutrients to some marshlands.

MAJOR SCIENTIFIC RESEARCH:

Intensive research programs have been conducted since 1959 by the Canadian Wildlife Service and in cooperation with the Universities of

Saskatchewan and Regina, and the province. The Saskatchewan Branches of Wildlife and Fisheries have conducted studies since the 1950s. There is high interest in continuing research programs on the area.

PRINCIPLE REFERENCE MATERIAL:

Published research includes ornithology, wildlife management and fisheries investigations and has appeared in a variety of journals and agency reports. The Canadian Wildlife Service can provide information on the most current literature available.

Fawson, D.S. and J.E. Moore. 1944. The saline lakes of Saskatchewan. Can. Journ. Research, D. 22:141-201.

Johnson, R.P. 1963. Studies on the life history and ecology of the bigmouth buffalo Ictiobus cyprinellus. Journal Fish. Res. Bd. Canada 20(b):1397-1429.

Stephen, W.J.D. 1967. Bionomics of the sandhill crane. Canadian Wildlife Service Report Series, Number 2, 46 pp.

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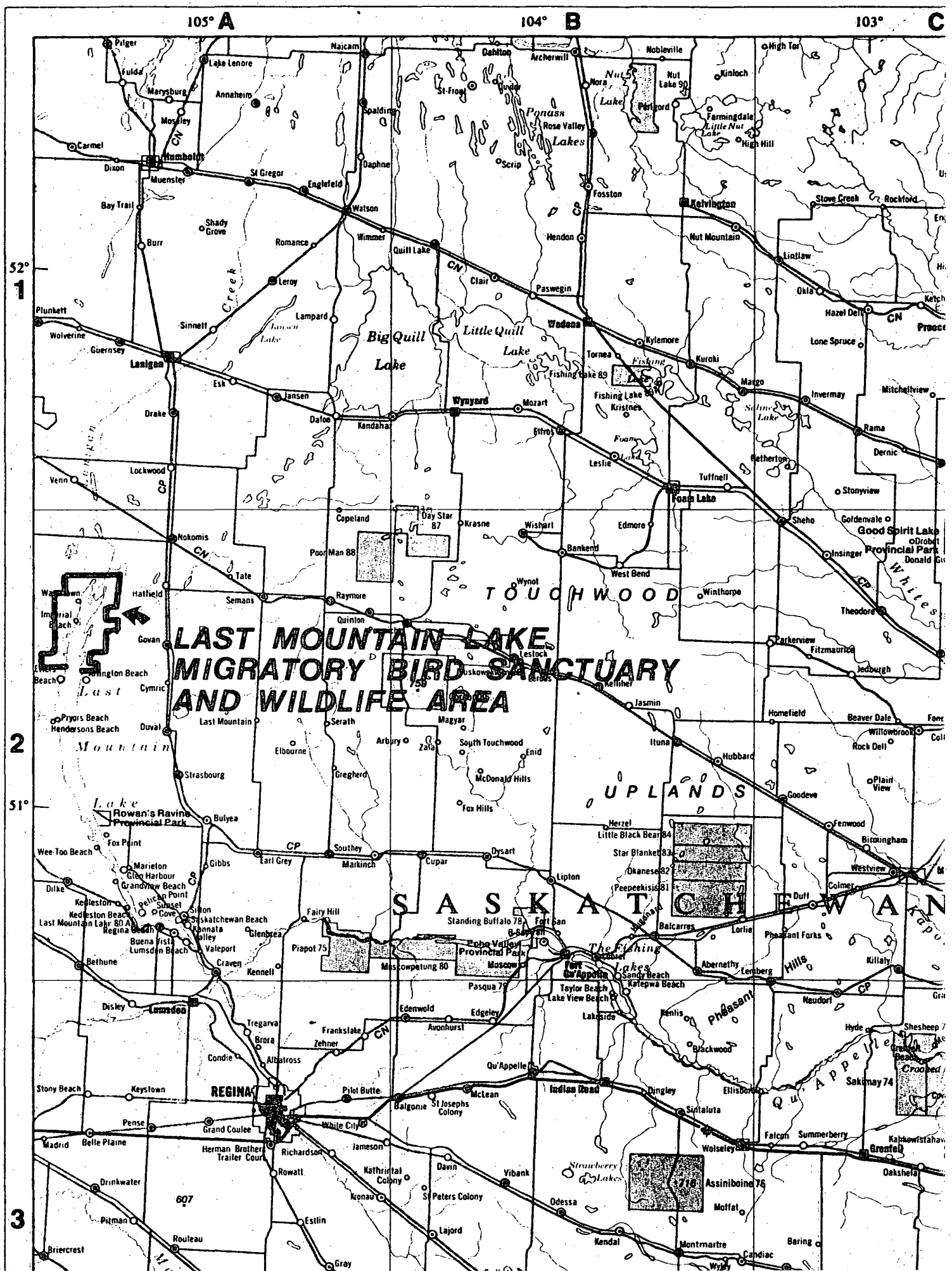
105° A
104° B
103° C
52°
51°
1
2
3
LAST MOUNTAIN LAKE
MIGRATORY BIRD SANCTUARY
AND WILDLIFE AREA
TOUCHWOOD
UPLANDS
SASKATCHEWAN
Big Quill Lake
Little Quill Lake
Pasqua Hills
Qu'Appelle
Pheasant
Hills
Lake
Mountain
Last
Pilger
Fulda
Marysburg
Lake Lenore
Annaheim
Mosley
Najcam
Dahlton
Archerwill
Noblevill
High Tor
Kinloch
Nut Lake 90
Perkford
Farmingdale
Little Nut Lake
High Hill
St-Front
Spalding
Ponass Lakes
Rose Valley
Scrip
Daphne
Carmel
Humboldt
Dixon
Muenster
St Gregor
Englefield
Watson
Fosston
Kelvington
Stove Creek
Rockford
Bay Trail
Shady Grove
Burr
Romance
Wimmer
Quill Lake
Hendon
Nut Mountain
Lintlaw
Leroy
Clair
Paswegin
Okla
Hazel Dell
Plunkett
Wolverine
Guernsey
Sinnett
Lampard
Janson Lake
Lanigan
Esk
Jansen
Wadena
Kylemore
Tornea
Kuroki
Lone Spruce
Margo
Invermay
Mitchellview
Fishing Lake 89
Fishing Lake
Kristnes
Drake
Dafoe
Kandahar
Wynyard
Mozart
Sifton
Foam Lake
Leslie
Rama
Dernic
Lockwood
Venn
Nokomis
Tate
Copeland
Day Star 87
Krasne
Wishart
Edmore
Sheho
Goldenvale
Good Spirit Lake Provincial Park
Poor Man 88
Bankend
Insinger
West Bend
Wynot
Winthorpe
Theodore
Hatfield
Semans
Raymore
Quinton
Govan
Imperial Beach
Lestock
Parkerview
Fitzmaurice
Jedburgh
Pyrors Beach
Hendersons Beach
Duval
Last Mountain
Serath
Magyar
Elbourne
Arbury
Zala
South Touchwood
Enid
Jasmin
Homefield
Beaver Dale
Willowbrook
Rock Dell
Ituna
Hubbard
Strasbourg
Gregherd
McDonald Hills
Fox Hills
Plain View
Goodeve
Fenwood
Herzel
Little Black Bear 84
Star Blanket 83
Okanese 82
Peepeekisis 81
Birmingham
Westview
Colmer
Duff
Rowan's Ravine Provincial Park
Bulyea
Fox Point
Wee-Too Beach
Marieton
Glen Harbour
Grandview Beach
Pelican Point
Sunset Cove
Gibbs
Earl Grey
Southey
Markinch
Cupar
Dysart
Lipton
Dilke
Kenleston
Kenleston Beach
Last Mountain Lake 80A
Regina Beach
Silton
Saskatchewan Beach
Kannata Valley
Buena Vista
Lumsden Beach
Valeport
Glenbrea
Fairy Hill
Standing Buffalo 78
Fort San
8-Sovereign
Balcarres
Lorlie
Pheasant Forks
Abernethy
Lemberg
Killaly
Bethune
Craven
Kennell
Piapot 75
Moosomin 80
Echo Valley Provincial Park
Moscow
Fort Qu'Appelle
Sandy Beach
Katepwa Beach
Taylor Beach
Lake View Beach
Pasqua 79
Neudorf
Disley
Lumsden
Tregarva
Brora
Frankslake
Zehner
Edenwold
Edgeley
Avonhurst
Lakeside
Henlis
Blackwood
Hyde
Shesheep
Condie
Albatross
Qu'Appelle
Stony Beach
Keystown
REGINA
Pilot Butte
McLean
Balgonie
St Josephs Colony
Indian Head
Dingley
Ellisboro
Sintaluta
Sakimay 74
Pense
Grand Coulee
White City
Madrid
Belle Plaine
Herman Brother Trailer Court
Richardson
Jameson
Rowatt
Kathrintal Colony
Davin
Vibank
Strawberry Lakes
Falcon
Summerberry
Wolseley
Grenfell
Kahkewistahaw
Oakshela
Drinkwater
607
Kronau
St Peters Colony
Odessa
Assiniboine 76
Moffat
Pitman
Estlin
Lajord
Kendal
Montmartre
Candiac
Baring
Briercrest
Rouleau
Gray
Wylie

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada

PROVINCES AND TERRITORY: Alberta and Northwest Territories

NAME OF WETLAND AREA: Whooping Crane Summer Range; in and adjacent to Wood Buffalo National Park.

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 2(a), 2(b) and 2(c)

GEOGRAPHICAL LOCATION: The designated wetland complex is located in northeastern Alberta and in the adjoining southern portion of the District of Mackenzie, Northwest Territories. Most of the wetlands lie within Wood Buffalo National Park. The town of Fort Smith, NWT lies 80 km southeast of the area. Co-ordinates: 60° 15'N, 113° 15'W. Wetland Regions BHc and SL.

AREA: c. 1,689,500 ha.

ALTITUDE: 150 - 250 m. ASL.

DEPTH: The thousands of waterbodies in the area vary from several cm in depth to about 1 m. The average depth of Whooping Crane nesting ponds is about 26 cm. Seasonal drought in some years greatly affect pond water levels in the Whooping Crane summer range.

WETLAND TYPE(S): 14, 17, 18 and 22. Brooks; salt lakes; fresh eutrophic lakes; and peat bogs.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The Whooping Crane Summer Range is a natural area, a complex of marshes, shallow ponds, streams, lakes and bogs occurring near the northern extent of the Boreal Forest Region and west of the Canadian Shield.

Bulrush (Scirpus validus), sedge (Carex aquatilis) and cattail (Typha latifolia) predominate in the marshland vegetation. Dominant coniferous species include white spruce (Picea glauca), black spruce (P. mariana), tamarack (Larix laricina) and jack pine (Pinus banksiana). Deciduous species include white birch (Betula papyrifera), quaking aspen (Populus tremuloides) and balsam poplar (P. balsamifera). Understorey species include dwarf birch (Betula glandulosa), buffalo berry (Shepherdia canadensis), willows (Salix sp.), Labrador tea (Ledum groenlandicum) and sphagnum moss.

Located within this wetland is the only known nesting locality of the endangered Whooping Crane (Grus americana). In 1982 there were 19 breeding pairs. This area is critical to its survival. The only other endangered bird occurring in the region is the Peregrine Falcon (Falco peregrinus). The park itself was established in 1922 to protect the wood bison (Bison bison athabascae).

LEGAL PROTECTION STATUS OF WETLAND AREA: Most of the wetlands described lie within the Crown-owned Wood Buffalo National Park, the world's second-largest national park (over 4 million hectares). About 230,000 hectares of the Whooping Crane summer range lie in the Northwest Territories but outside WBNP.

International Biological Programme (IBP) site 12, Salt River Alkaliflats and Site 13 the Whooping Crane nesting area, lie wholly within the described Whooping Crane Summer Range. A third IBP site (Plains Southwest of Grand Detour, Site 3) abuts on the eastern border of the Whooping Crane Summer Range. The exceptional interest of Site 13 is that this area contains the world's only know nesting area of the Whooping Crane. Site 12 contains unusual saline habitats utilized as salt licks by ungulates and the area supports a number of halophytes rare for the region and probably near their northern range limit. Site 3, just outside the Whooping Crane Summer Range, contains an important summer bison range and displays interesting forest succession, from grassy "prairie-patches" to aspen to white spruce.

OWNERSHIP: Federal Crown land.

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

The area of present concern is within the management scheme of Parks Canada which is presently evaluating and planning future management

requirements of the park. Recreational activities are minimal because of the remoteness and limited access into park areas. All fires in the park are acted upon, with the Whooping Crane nesting area being one of the main priorities. Trapping of fur bearers and hunting is allowed within the area of concern. Ground access into the Whooping Crane nesting area is prohibited, as is aerial traffic under 600 m.

Bison management is limited to aerial inventories and surveillance for evidence of diseases carried out by Parks staff. The Canadian Wildlife Service annually carries out aerial Whooping Crane breeding pair and production surveys, and removes excess Whooping Crane eggs for a "foster parent" program in Idaho conducted by the U.S.A. as part of a Whooping Crane recovery plan.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS: A feasibility study to examine positive and negative aspects of a hydroelectric dam across the Slave River near Fort Smith is currently underway. It is possible that such a dam could change or disrupt water levels and/or drainage patterns in the Whooping Crane Summer Range. Electrical power transmission lines from the dam site to the Fort McMurray area would pose a serious hazard to migratory birds, including Whooping Cranes. It is likely that traffic along Highway 5 north and west of Fort Smith will increase, particularly in the event of large scale industrial development near Fort Smith. This highway is the only road access to WBNP from the west. The road bisects the crane nesting area and runs within 5 km of a known nesting site.

An extra-heavy voltage powerline running parallel to Highway 5 also acts as a constant danger to low flying birds.

MAJOR SCIENTIFIC RESEARCH:

Allen, R.P. 1956. A report on the Whooping Crane's northern breeding grounds. Natl. Audubon Soc., Suppl. Res. Rep. 3. 60 pp.

Fuller, W.A. 1962. The biology and management of Wood Buffalo National Park. Can. Wildl. Serv. Wildl. Mgmt. Bull. Ser. 1, No. 16.

Kuyt, E. 1981. Population status, nest site fidelity and breeding habitat of Whooping Cranes. Pages 119-125 in: Crane Research Around the World ed. by J.C. Lewis and H. Masatomi, Sapporo, Japan.

Kuyt, E. 1981. Clutch size, hatching success, and survival of Whooping Crane chicks, Wood Buffalo National Park, Canada. Pages 126-129 in: Crane Research Around the World ed. by J.C. Lewis and H. Masatomi, Sapporo, Japan.

Novakowski, N.S. 1966. Whooping Crane population dynamics on the nesting grounds, Wood Buffalo National Park, Northwest Territories. Can. Wildl. Ser. Rep. Ser. 1, 20 pp.

Soper, J.D. 1942. The birds of Wood Buffalo Park and vicinity, northern Alberta and District of Mackenzie, N.W.T., Canada. Trans. Roy. Can. Inst. 24: 19-97.

PRINCIPAL REFERENCE MATERIAL:

Airphoto Analysis Associate Consultants Ltd. 1979. The biophysical resource inventory, Wood Buffalo National Park. Volume I-IV.

I.B.P. Ecological sites in subarctic Canada. Contribution of the Can. Committee of the International Biological Programme, Region 10 Panel. Edited by Dorothy K.B. Beckel, U. of Lethbridge Production Services, Lethbridge, Alberta.

Kienzle, B. 1972. The Wood Buffalo National Park area; a bibliography. Calgary, Alberta.

Scace, R.A. 1974. An initial bibliography of Wood Buffalo National Park. Scace and Associates, Calgary, Alberta.

Scace and Associates. 1974. Wood Buffalo National Park; a literature review. Ottawa Parks Canada.

Map References - Maps by Dept. of Mines and Tech. Surveys:

Little Buffalo River, 85A (Edition 1, 1967), Scale 1:250,000.

Buffalo Lake, 85B (Edition 1, 1967), Scale 1:250,000.

Peace Point, 84P (Edition 1, 1967), Scale 1:250,000.

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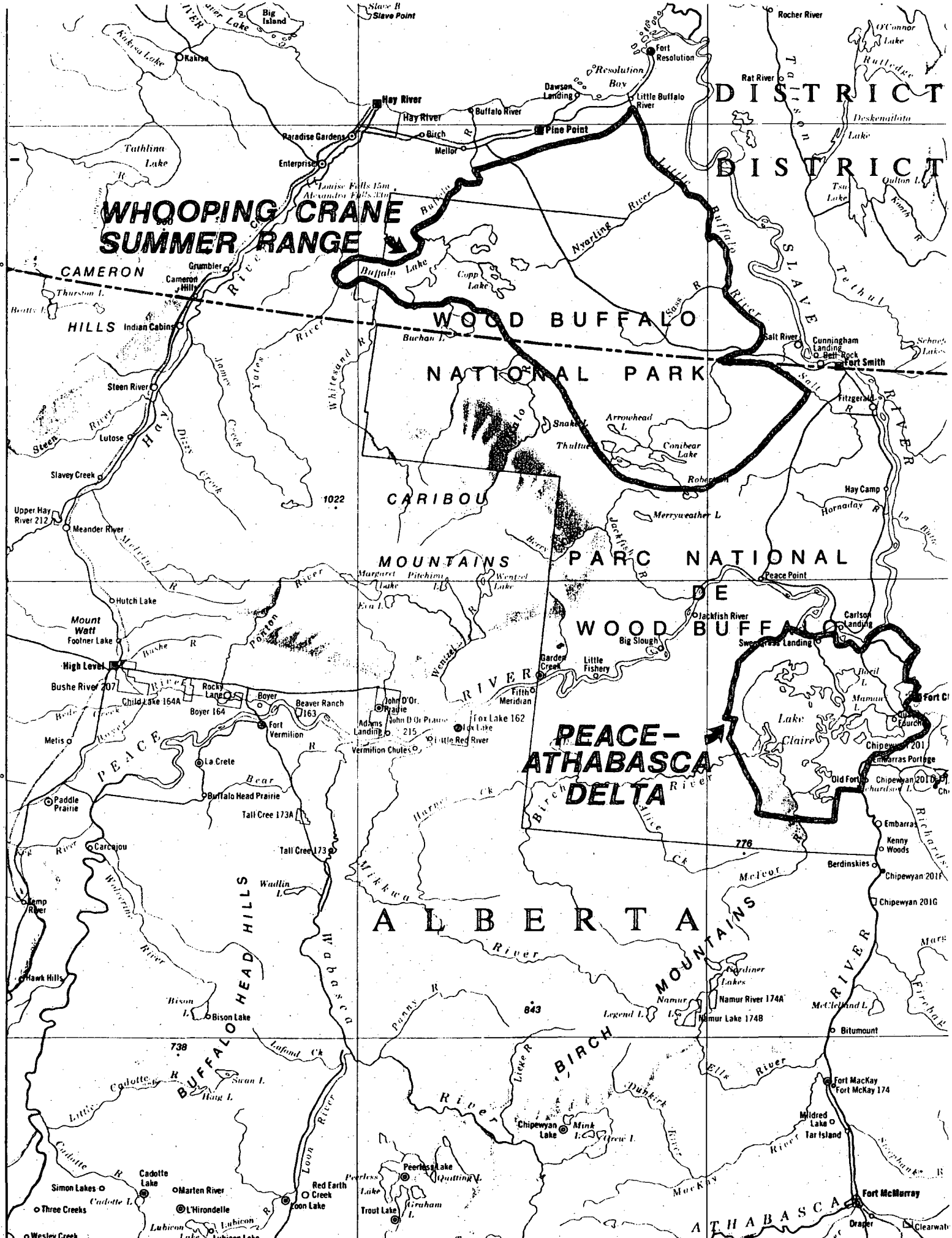
WHOOPING CRANE SUMMER RANGE
WOOD BUFFALO NATIONAL PARK
PEACE-ATHABASCA DELTA
PARC NATIONAL DE WOOD BUFFALO
CAMERON HILLS
CARIBOU MOUNTAINS
BUFFALO HEAD HILLS
BIRCH MOUNTAINS
ALBERTA
DISTRICT
DISTRICT
SLAVE RIVER
PEACE RIVER
ATHABASCA RIVER
Slave R
Slave Point
Big Island
Rocher River
O'Connor Lake
Rutledge
Kakisa Lake
Kakisa
Fort Resolution
Resolution Bay
Dawson Landing
Little Buffalo River
Rat River
Hay River
Hay River
Buffalo River
Pine Point
Deskenatlata Lake
Paradise Gardens
Birch R
Mellor
Tathlina Lake
Enterprise
Louise Falls 15m
Alexandra Falls 33m
Buffalo R
Little Buffalo River
Nyarling River
Quitton L
Tsu Lake
Kom R
Buffalo Lake
Copp Lake
Grumbler
Cameron Hills
Thurston I
Beatty L
Indian Cabins
Sass R
Salt River
Cunningham Landing
Bell Rock
Fort Smith
Tethul
Buchan L
Whitesand R
James
Yates
Steen River
Steen
Lutose
Hay
Dizzy Creek
Slavey Creek
Upper Hay River 212
Meander River
Snake L
Arrowhead L
Thultue
Conibear Lake
Robertson L
Fitzgerald
Hay Camp
Hornaday R
1022
Merryweather L
Jackfish R
Berry
Peace Point
Margaret Lake
Pitchimi L
Wentzel Lake
Eva L
Hutch Lake
Mount Watt
Footner Lake
Portion
Bushe R
High Level
Bushe River 207
Rocky Lane
Boyer
Beaver Ranch 163
Child Lake 164A
Boyer 164
Jackfish River
Carlson Landing
Big Slough
Sweetgrass Landing
Garden Creek
Little Fishery
Wentzel
Fifth Meridian
John D'Or Prairie
Fox Lake 162
Old Lake
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Adams Landing
215
Vermillion Chutes
Fort Vermilion
Metis
La Crete
Peace
Bear
Buffalo Head Prairie
Paddle Prairie
Tall Cree 173A
Tall Cree 173
Carcajou
Wadlin L
Hamp River
Hawk Hills
Bison L
Bison Lake
Waterways
Mikkwa
River
Harper Ck
Birch River
Alice Ck
776
Embarras
Kenny Woods
Berdinskies
Chipewyan 201F
Chipewyan 201G
McIvor
Richardson
Mamawi L
Lake Claire
Chipewyan 201
Embarras Portage
Old Fort
Chipewyan 201D
Richardson L
Fort Chipewyan
Fort Chipewyan Indian Reserve 201
Gardiner Lakes
Namur
Namur River 174A
Namur Lake 174B
Legend L
843
McClelland L
Bitumount
Pierre R
Lafond Ck
738
Cadotte R
Swan L
Hay L
Little Cadotte R
Cadotte L
Simon Lakes
Cadotte Lake
Marten River
Three Creeks
L'Hirondelle
Wesley Creek
St Isidore
Lubicon Lake
Lubicon
Loon River
Red Earth Creek
Loon Lake
Peerless Lake
Peerless
Trout Lake
Graham L
Quatting L
Tepee L
Lieze R
Chipewyan Lake
Mink L
Crew L
Dunkirk River
Elk River
Fort MacKay
Fort MacKay 174
Mildred Lake
Tar Island
Fort McMurray
Draper
Clearwater
Lenarthur
MacKay River
Firebag
Richardson
58°
60°

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Alberta

NAME OF WETLAND AREA: Peace-Athabasca Delta (Wood Buffalo National Park Section).

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 2(a), 2(b), 2(c) and 3

GEOGRAPHICAL LOCATION: The Peace-Athabasca Delta is situated in the southeast corner of Wood Buffalo National Park, in the northeast corner of the province of Alberta, Canada. The town of Fort Chipewyan is located approximately 20 km to the east. Co-ordinates: 58° 42N, 111° 08W. Wetland Region BHc.

AREA: c. 321,300 ha.

ALTITUDE: 204.2 - 210.3 m. ASL.

DEPTH: Maximum: 3.05 m. Average: less than 1.0 m.

WETLAND TYPE(S): 9 and 12. Deltas and lowland rivers including flood plains.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The Peace-Athabasca Delta is one of the largest freshwater deltas in the world. It consists of three smaller deltas: the Athabasca, 1970 km^2; the Peace, 1684 km^2; and the Birch, 168 km^2. Its major lakes, Claire, Baril, Mamawi, and Richardson, are very shallow, from 0.6 to 3 m. deep, and are characterized by a thick growth of submerged and emergent vegetation.

The topography of the Delta consists of very large flat areas of sediment with outcropping islands of Canadian Shield scattered in the northeastern region. Active and inactive river channels meander across the Delta joining major lakes to Lake Athabasca and draining upland areas around the Delta. The levees of these channels are vegetated mainly by poplar and white and black spruce. The large open grasslands are interspersed with hundreds of shallow perched basins which create thousands of miles of shoreline ideal for waterfowl production.

Importance of the Delta

The Peace-Athabasca Delta is an invaluable regional, national, and international resource. It is the largest boreal delta in the world and is relatively undisturbed by civilization.

Approximately 80% of the Peace-Athabasca Delta lies within Wood Buffalo National Park. 215 species of birds, 44 species of mammals, and 18

species of fish have been recorded from the Delta area, as well as thousands of species of insects and other invertebrates. In addition, over 250 species of vascular plants provide food and shelter for these animals. Two species of special interest in the area are the endangered Whooping Crane (Grus americana) and the Peregrine Falcon (Falco peregrinus).

The world's entire wild population of just over 100 Whooping Cranes, perhaps the most celebrated of all North America's endangered bird species, which nests in the northern part of the Park, are known to migrate through the Delta area. Peregrine Falcons nest in the Delta region.

Wood Buffalo is one of the largest national parks in the world and the home of the world's largest herd of free-roaming wood bison (Bison athabascae). Of the 35,000 bison on the continent, Wood Buffalo National Park contains 14,000, or 40%. An estimated 10,000 bison graze on the Delta.

The Delta is one of the most important waterfowl nesting and staging areas in North America. All four flyways cross the Delta, though it is probably of most significance to the Mississippi and Central flyways. In addition to being a production area for wildfowl, the Delta provides a vital staging area for migrants in spring and fall. As such, it is the staging area for breeding ducks and geese on their way to the

Mackenzie River lowlands, the Arctic river deltas, and the Arctic islands. Due to shallow water, high fertility, and a relatively long season, it produces the abundance of food these birds require. This is of particular significance during drought years on the prairies when a large proportion of the continental duck population is forced to spend the summer in northern habitats. This function will become increasingly important as continual attrition gradually decreases the potholes and marshes of the prairie habitat.

Eleven habitat types are found within the Peace-Athabasca Delta (see Table 1). Table 2 identifies the area covered by each of the 11 habitats.

Table 1. Habitat types in the Peace-Athabasca Delta.

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1. Water - flooded area devoid of emergent vegetation.
2. Emergents - inundated area that had erect, living vegetation rooted to the substrate.
3. Mud flats - area above water with little or no vegetation growing on it.
4. Immature fen (meadow) - the community resulting from a one-year exposure to mud flats and represented by seedling stages of Carex sp., Calamagrostis sp., or shrubs.

5a. Sedge meadow - area dominated by sedge where woody vegetation is an occasional shrub or tree.

5b. Grass meadow - area dominated by Calamagrostis canadensis where woody cover is an occasional shrub or tree.

6. Low shrub - woody shrub vegetation under 6 feet tall.

7. Tall shrub - woody shrub vegetation over 6 feet tall.

8. Deciduous - tree communities of primarily deciduous species, mainly balsam poplar (Populus balsamifera) and birch (Betula spp.)

9. Coniferous - tree communities of conifers.

10. Rock outcrop - the area of the Delta where rock outcrop exists at an elevation above the upper limit of water level consideration.

Table 2. Extent of different habitat types on Delta in fall, 1970, in ha.

1.	Open Water	130,630
2.	Emergents	779
3.	Mud Flats	13,593
4.	Immature Fen	18,478
5a.	Meadow (sedge)	18,813
5b.	Meadow (Calamagrostis)	12,186
6.	Low Shrubs	56,037
7.	Tall Shrubs	26,809
8.	Deciduous Forests	7,372
9.	Coniferous Forests	13,157
10.	Rock Outcrop	23,473
	Total	321,324

LEGAL PROTECTION STATUS OF WETLAND AREA: The Peace-Athabasca Delta (Wood Buffalo National Park Section) is owned and controlled by the Government of Canada. The Delta area included in this submission, falls completely within the boundary of Wood Buffalo National Park and is therefore managed and protected through the regulations of the National Parks Act and National Parks Policy.

OWNERSHIP: Government of Canada

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Studies in the early 1970s identified that water levels on the Delta required regulating to mitigate the effects of the Bennett Dam, located upstream on the Peace River and completed in 1967. The Bennett Dam had caused a significant drop in water flow to the Delta, hence the water levels in the Delta were insufficient to fill the numerous perched basins in the area. Weirs were constructed at Rivière des Rochers and Revillon Coupé in attempts to alleviate the problem.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

At present, the only major threat to the Peace-Athabasca Delta is the Bennett Dam, located upstream on the Peace River in the province of British Columbia, which has affected the volume and timing of the flow to the Delta.

Any further dam construction or river diversions on the Peace River, could result in more damage to the Delta.

MAJOR SCIENTIFIC RESEARCH: The Governments of Canada, Alberta and Saskatchewan established the Peace-Athabasca Delta Project Group in January 1971 to conduct a detailed investigation into the problem of low water levels in Lake Athabasca, their cause, and their effect on the Delta flora, fauna and upon the local people. This came about after noticing 3 consecutive years of low water levels in the Delta, following the construction of the Bennett Dam.

The key findings and recommendations emanating from the study are presented in a summary report and a technical report. The summary report, based on the latter but couched in non-technical language and intended for the general public, was issued in January 1973, under the title the Peace-Athabasca: a Canadian Resource.

PRINCIPAL REFERENCE MATERIAL:

The technical report contains a consolidation of the most important findings and conclusions of the 37 separate studies presented in three appendices, volumes 1, 2, and 3 to the report entitled: The Peace-Athabasca Delta Project - Technical Report, published in 1973.

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SEE WHOOPING CRANE SUMMER

RANGE FOR MAP

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Alberta

NAME OF WETLAND AREA: Hay-Zama Lakes

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a) and 3

GEOGRAPHICAL LOCATION: NE Alberta - 100 km west-northwest of High Level. Co-ordinates: 58° 30'N, 119° W. Wetland Region BHc.

AREA: c. 50,000 ha.

ALTITUDE: c. 320 m. ASL.

DEPTH: Maximum: unknown Average: unknown

WETLAND TYPE(S): 12, and 18. Lowland river, including flood plains and interior deltas; and fresh eutrophic lakes.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA:

The Hay-Zama wetland complex is of continental importance to both spring and fall migrating ducks and geese. Waterfowl from three of the

four North American flyways (Pacific, Central, and Mississippi) utilize the complex. Up to 130,000 Lesser Snow Geese, (Anser c. caerulescens), as many as 47,000 Canada Geese (Branta canadensis), and in excess of 200,000 ducks (up to 90% dabblers) have been known to use the complex in the fall. The plant community and ecology can be discovered from attached references.

LEGAL PROTECTION STATUS OF WETLAND AREA:

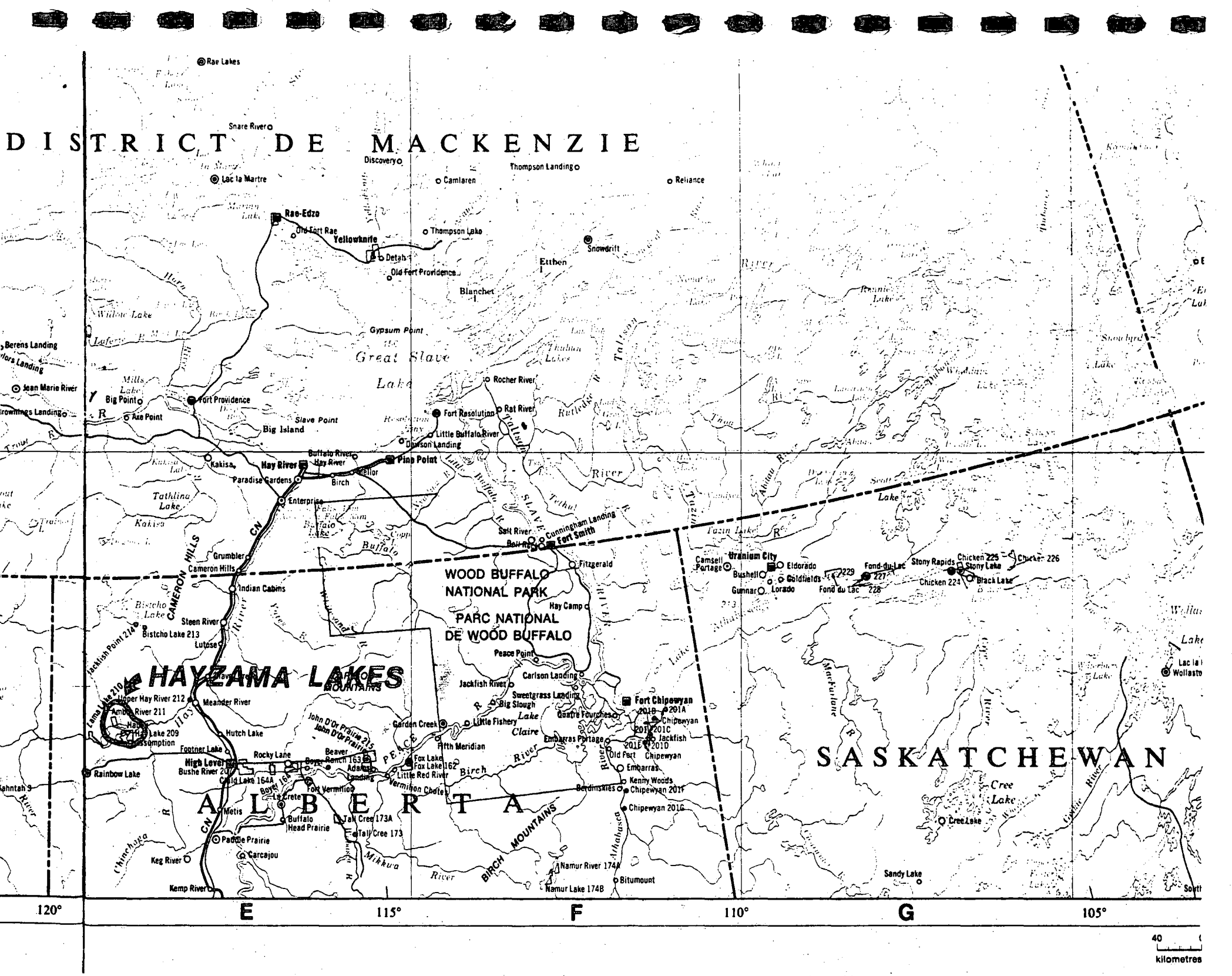
1) Alberta Fish & Wildlife Crown Reservation.

2) AB Energy Resources Conservation Bd. Interim Directive No. ID. 71-3

OWNERSHIP: Government of Alberta

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Currently there is no active management practiced specifically for waterfowl. Oil and gas production activity on the complex is strictly controlled by "shut-down" dates in the spring and fall. The degree of waterfowl use in the fall appears to depend on fluctuating water levels and resultant goose behaviour. It is, therefore, a dynamic wetland in terms of degree of utilization. The entire complex is under Crown reservation by the Alberta Fish and Wildlife Division. Future management practices will include the restriction of further oil and gas activity and may include the control of water levels.


DISTRICT DE MACKENZIE
SASKATCHEWAN
ALBERTA
WOOD BUFFALO NATIONAL PARK
PARC NATIONAL DE WOOD BUFFALO
HAY-ZAMA LAKES
CAMERON HILLS
BIRCH MOUNTAINS
Rae Lakes
Snare River
Discovery
Lac la Martre
Camlaren
Thompson Landing
Reliance
Rae-Edzo
Old Fort Rae
Yellowknife
Thompson Lake
Snowdrift
Detah
Old Fort Providence
Etthen
Blanchet
Willow Lake
Gypsum Point
Great Slave Lake
Berens Landing
Jean Marie River
Big Point
Fort Providence
Axe Point
Slave Point
Big Island
Rocher River
Fort Resolution
Rat River
Little Buffalo River
Dawson Landing
Buffalo River
Hay River
Pine Point
Kakisa
Paradise Gardens
Birch
Enterprise
Tathlina Lake
Kakisa
Grumbler
Cameron Hills
Indian Cabins
Steen River
Bistcho Lake 213
Lutose
Jackfish Point 214
Lama Lake 210
Upper Hay River 212
Amber River 211
Meander River
Hutch Lake
Footner Lake
Rocky Lane
High Level
Bushe River 207
Rainbow Lake
Child Lake 164A
Boyer 164
Boyer Ranch 163
Beaver Landing
Fort Vermilion
La Crete
Fox Lake
Fox Lake 162
Little Red River
Vermilion Chute
Metis
Buffalo Head Prairie
Tall Cree 173A
Tall Cree 173
Paddle Prairie
Carcajou
Keg River
Kemp River
Chinchaga River
Mikkwa River
Namur River 174A
Namur Lake 174B
Bitumount
Garden Creek
Fifth Meridian
John D'Or Prairie 215
John D'Or Prairie
Jackfish River
Carlson Landing
Peace Point
Sweetgrass Landing
Big Slough
Little Fishery
Quatre Fourches
Embarras Portage
Fort Chipewyan
Chipewyan 201A
Chipewyan 201B
Chipewyan 201C
Jackfish 201D
Jackfish 201E
Old Fort Chipewyan
Embarras
Kenny Woods
Chipewyan 201F
Chipewyan 201G
Berdinskies
Athabasca River
Peace River
Birch River
Slave River
Cunningham Landing
Fort Smith
Fitzgerald
Hay Camp
Salt River
Bell Rapids
Tazin River
Tazin Lake
Scott Lake
Ahiaun Lake
Camsell Portage
Uranium City
Eldorado
Bushell
Goldfields
Gunnar
Lorado
Fond-du-Lac 229
Fond-du-Lac 227
Fond du Lac 228
Stony Rapids
Chicken 225
Stony Lake
Chicken 226
Chicken 224
Black Lake
Cree Lake
Sandy Lake
MacFarlane River
Wollaston Lake
Lac la Wollaston
120°
E
115°
F
110°
G
105°
40
kilometres

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

Threat exists of future expansion of oil and gas activity. This wetland complex is somewhat isolated from major developments.

MAJOR SCIENTIFIC RESEARCH: None

PRINCIPAL REFERENCE MATERIAL:

Hennan, E. and A.J. Macaulay. 1974. Hay-Zama Lakes Project, waterfowl habitat assessment. Unpublished Ducks Unlimited (Canada) Report, Special Project No. 1503. 55 p.

Kelland, C.D. 1967. Summarization of goose, vegetation and water level data collected during the summer of 1967 for the Hay-Zama Lakes goose project. Unpublished progress report, Project 82-4-5-27, Canadian Wildlife Service, Edmonton, 70 p.

LGL Ltd. Environmental Research Associates, Edmonton, Alberta. 1979. Waterfowl use of the Hay-Zama Lakes in relation to oil-pumping operations.

Macaulay, A.J. 1969. Job completion report, Project No. 82-4-5-78, Hay-Zama Lakes Goose Project. Unpublished report to Canadian Wildlife Service, Edmonton, 30 p.

Macaulay, A.J. 1969. Hay-Zama Lakes project summer, 1969. Unpublished report of Ducks Unlimited (Canada), Winnipeg. 34 p. + plates.

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Date: May 24, 1982

The sedge community consists of Lyngbye's sedge in association with reed fescue (Jestuca anindinaceae), bent grasses (Agrostis spp.) and round-stem bulrush (Scirpus validus). The bulrush community, which is almost completely submerged at high tide, is dominated by three-square bulrush (Scirpus americanus) with some round-stem bulrush present.

The area provides wintering, staging, feeding and breeding habitat for many species of western North American waterfowl. It supports the largest wintering waterfowl population in Canada comprised of 40 species of ducks, geese and swans. The most common species are Canada Geese (Branta canadensis), Mallards (Anas platyrhyncos) and American Wigeon (Anas americana). About 25,000 ducks, 25,000 geese (15,000 Canada Geese and 10,000 Lesser Snow Geese (Anser c. caerulescens)) and 100,00 shorebirds remain to winter in the delta.

LEGAL PROTECTION STATUS OF WETLAND AREA: Protected under federal legislation - Canada Wildlife Act and Migratory Birds Convention Act.

OWNERSHIP: Government of Canada

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED: Control of water levels, agricultural practices, public access and hunting carried out by Alaksen NWA staff. Crops are grown suitable for wildfowl use.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS: The ownership by the federal government removes the threat of landfill, but pollution by toxic substances from adjacent areas is a potential threat.

MAJOR SCIENTIFIC RESEARCH: Bird use studies are in progress.

PRINCIPAL REFERENCE MATERIAL:

Canada - British Columbia. 1982. A living river by the door, a proposed Management Program for the Fraser River Estuary. Ministry of Environment, Surrey, B.C. 62 pp.

Hoos, L.M. and G.A. Packman. 1974. The Fraser River Estuary - Status of environmental knowledge to 1974. Estuary Working Group, Req. Brd. Pac. Reg., Canada Dept. Environ., Spec. Est. Ser. Rept. (1) 518 pp.

Fraser River Estuary Study - Habitat Report of the Habitat Group. 1978. Prepared for the Fraser River Estuary Study Steering Committee of the Government of Canada and the Province of British Columbia. 181 pp.

Submitted by: Gordon Staines
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Date: May 24, 1982

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: British Columbia

NAME OF WETLAND AREA: Alaksen National Wildlife Area

CRITERIA FOR INCLUSION IN THE DIRECTORY: - 1(a) and 3

GEOGRAPHICAL LOCATION: 40 km south of Vancouver, B.C. in the municipality of Delta. Co-ordinates: 49°05'N, 123°15'W. Wetland Region Op.

AREA: Land and freshwater 280 hectares; tidal zone wetlands 240 hectares

ALTITUDE: 5 m. to -1 m. ASL.

DEPTH: Maximum 2 m. Average 1.25 m.
freshwater bodies ("sloughs") 2-3 m.
intertidal zone wetlands: high tide 1-2 m.

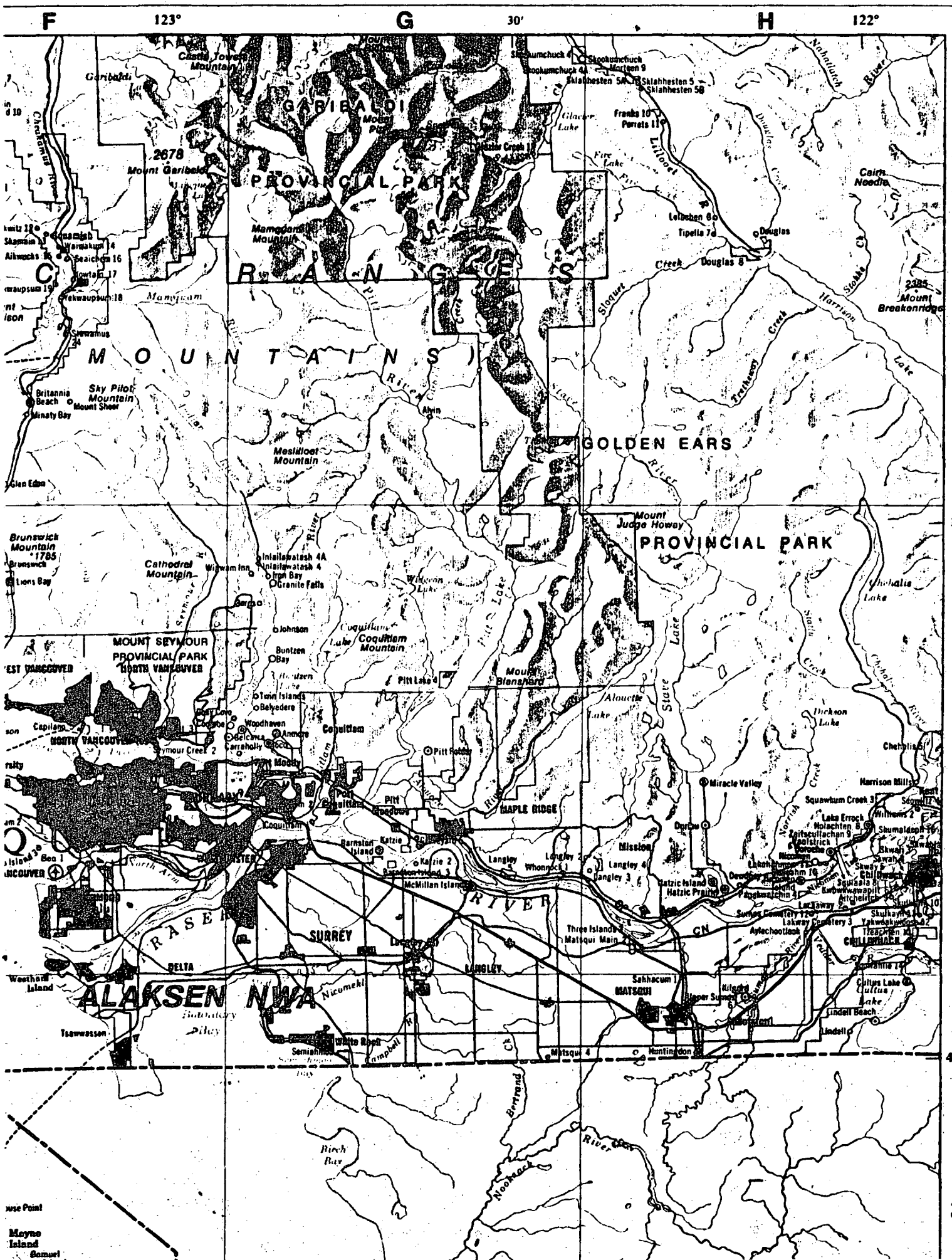
WETLAND TYPE(S): 3 and 9. Shallow sea waters, bottom uncovered at low tide; deltas.

NATURAL AREA: 240 ha. of intertidal zone MAN-MADE: 280 ha.

ECOLOGY OF WETLAND AREA: The farmland portion, protected by dikes, is under cultivation, producing potatoes, "Indian" corn, peas, beans, cabbage and turnips. The remnants of these crops, plus the grasslands, provide food for waterfowl, especially in winter when the fields are semi-flooded by rainwater. The freshwater bodies are valuable wintering areas, which seldom freeze over for more than 3 weeks.

The soils of the agricultural area within the dikes are saline rego gleysols or orthis gleysols, developed from the medium deltaic deposits. The topography is flat, and besides the commercial crops there are grasses such as bent grasses (Agrostis spp.), velvet grass (Holcus lanatus L.), Canada blue grass (Poa compressa) and smartweeds (Polygonum spp.). On higher and well-drained sites there are red alder (Alnus rubra), willow (Salis spp.) and black cotton wood, with shrub communities of snowberry (Symphoricarpus albus), salmon berry (Rubus spectabilis) and blackberry (Rubus ursimus). These thickets provide good habitat for pheasants and passerines.

The wetlands of the intertidal zone are brackish and freshwater marshes. There are also intertidal sand and mud flats. The salinity of the water is rather low due to the influence of the freshwaters of the Fraser River which flow into the area. The cattail community consists of cattail (Typha spp.), Lyngbye's sedge (Carex lyngbyei) and water plantain (Alisma plantago - agriatica).


F
123°
G
30'
H
122°
GARIBALDI
PROVINCIAL PARK
2678
Mount Garibaldi
Castle Towers Mountain
Garibaldi Lake
Mamquam Mountain
Mamquam River
Cheakamus River
Squamish
Alice Lake
Brackendale
Britannia Beach
Minaty Bay
Sky Pilot Mountain
Mount Sheer
Stawamus
Mesilloet Mountain
Ahbau
Pitt River
Pitt Lake
Stave River
Stave Lake
Harrison Lake
Harrison River
Lillooet River
Fire Lake
Glacier Lake
Franks
Perrets
Lillooet
Douglas
Douglas Creek
Douglas 8
Tipella 7
Leibehen 6
Cairn Needle
Stokke Ck
Mount Breakenridge
2385
Sloquet Creek
Trethewey Creek
Nahatlatch River
Stukumchuck
Stukumchuck Martsen 9
Sklahhesten 5
Sklahhesten 5A
Sklahhesten 5B
Mount Judge Howay
PROVINCIAL PARK
GOLDEN EARS
Brunswick Mountain 1785
Brunswick
Lions Bay
Cathedral Mountain
Wigwam Inn
Inlailawatash 4A
Inlailawatash 4
Iron Bay
Granite Falls
Seymour River
Seymour Creek
Capilano River
Capilano
Johnson
Buntzen Bay
Buntzen Lake
Coquitlam Lake
Coquitlam Mountain
MOUNT SEYMOUR PROVINCIAL PARK
NORTH VANCOUVER
WEST VANCOUVER
Twin Islands
Belvedere
Woodhaven
Anmore
Belcarra
Carrahally
Port Moody
Coquitlam
Port Coquitlam
Pitt Meadows
Pitt Polder
Pitt Lake
Mount Blanshard
Alouette River
Alouette Lake
Dickson Lake
Chehalis
Harrison Mills
Miracle Valley
Squawtum Creek 3
Lake Errock
Holachten 8
Zeitscullachan 9
Zeitzulick
Shumaldeph 10
Shwalt
Sawah
Chilliwack
Chilliwack Lake
Skulkayim
Yakweakwioose
Tzeachten
CHILLIWACK
Cultus Lake
Lindell Beach
Lindell
Sahhecum
MATSQUI
Matsqui 4
Huntingdon
Three Islands
Matsqui Main
Aylechootlook
Lakway
Lakway Cemetery 3
Sumas Cemetery 12
Sumas River
Yarrow
Kilgard
Upper Sumas
Mission
Langley
Langley 2
Langley 4
Langley 3
Whonnock 1
Katzie
Katzie 2
Barnston Island
Barnston Island 3
McMillan Island
Katzie Island
Katzic Prairie
Dewdney
Pangkwatchin
Nicomen
Lakahahmen 10
Squalaala 8
Kwawkwawapilt
Pitchelitch
Lazkaway
Nicomen Island
Nicomen Island 1
Deroche
Durieu
MAPLE RIDGE
FRASER RIVER
SURREY
DELTA
LANGLEY
ALAKSEN NWA
Westham Island
Tsawwassen
Semiahmoo
White Rock
Campbell
Nicomeki
Serpentine River
Bertrand Ck
Bertrand River
Nooksack River
Birch Bay
Point Roberts
Boundary Bay
Mayne Island
Samuel
CN
49
45

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada TERRITORY: Yukon Territory

NAME OF WETLAND AREA: Old Crow Flats

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 2(a) and 3

GEOGRAPHICAL LOCATION: The Old Crow Flats are located in a plain bordered on the north by the British Mountains, on the east by the Driftwood Hills of the Richardson Mountains and to the south by Old Crow and Keele Ranges; c. 60 km north of the town of Old Crow, Y.T., c. 110 km south of the Beaufort Sea (Arctic Ocean) and c. 120 km north of the Arctic Circle. Co-ordinates: 67° 34'N, 139° 50'W. Wetland Region SH.

AREA: c. 617,000 ha.

ALTITUDE: 260 - 300 m. ASL.

DEPTH: Maximum: c. 4 m. Average: c. 0.5 - 1.0 m.

WETLAND TYPE(S): 12, 18, 20 and 22. Lowland rivers including flood plains, fresh eutrophic lakes; fresh dystrophic lakes; and peat bogs.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The Old Crow Flats is a lacustrine plain pocked by over 2,000 shallow lakes, presumably formed by the melting of ice blocks in the substrate, and varying in size from 0.5 ha to 4700 ha. Permafrost underlies the area and forms the lake margins. The area is traversed by the meandering Old Crow River valley, down-cut well below the plain, leaving most of the lakes "hanging". Scattered, stunted black spruce and hummock tundra dominate the areas between lakes while poorly drained sites develop peatlands and better drained sites develop scattered forest stands with an understory of dwarf birch (Betula spp.) and willow (Salex spp.)

The higly productive lakes and marshes are exceptional at such a high latitude (67°N). Several species of Potamogeton dominate the aquatic systems. The associate invertebrate fauna is unusually varied and productive. Marsh habitat develops when ice-rich lake margins erode causing sudden water level changes. Sedge marsh develops, forming floating mats and eventually shore-fast, wet, sedge beach. The dynamics of this marsh formation, which provides nesting habitat for waterfowl, are poorly understood.

The area is important to about 500,000 water birds including 60,000 scoters (Melanitta spp.), 30,000 American Goldeneye (Bucephala clangula), 150,000 Pintail (Anas acuta) and 75,000 American Wigeon

(Anas americana). It also supports Whistling Swans (Cygnus colombianus), seaducks, loons and grebes. The primary function of the area appears to be as a safe moulting and pre-migrational staging area. In years when there is drought in the prairies it also provides a haven for ducks that move north after abandoning any attempt at breeding. The area provides nesting and hunting habitat for an important population of Peregrine Falcons (Falco peregrinus), a rare and endangered species. A relatively dense moose (Alces americana) population exists on the area and its production of furbearers, notably the muskrat (Ondatra zibethicus), is well known. The deep alluvial substrate underlying the area has been identified as an extremely important paleontological and archaelogical study area containing a rich assortment of pleistocene material.

LEGAL PROTECTION STATUS OF WETLAND AREA: The entire area is federal crown land. The Department of Indian Affairs and Northern Development administers land management subject to the Territorial Land Use Regulations.

OWNERSHIP: Federal Crown land.

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Present protection for wildlife species is afforded through the Yukon Wildlife Ordinance and the Migratory Birds Convention Act. Land

management is via the Territorial Lands Act and the Territorial Land Use Regulations administered by the Federal Department of Indian Affairs and Northern Development. The future security of the area figures highly in the Native Land Claim negotiations between Canada and the native people of the Old Crow Band.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS: Oil exploration is pending for the area. Some seismic line construction has occurred. Heavy machinery on the area would possibly damage the ice-retention properties of the shorelines and could lead to the draining of lakes.

Road construction near the area has been proposed, posing the threat of increased access. At least one proposed gas pipeline passed near the flats. Major archeological and paleontological field programs are being carried out or are planned for the future. Disturbance, particularly to rare wildlife and its habitat is a current management problem.

MAJOR SCIENTIFIC RESEARCH: Surveys of waterfowl were conducted by the Canadian Wildlife Service in the 1950's and aerial surveys of breeding ducks in early May have been made annually by the U.S. Fish and Wildlife Service since 1957. In 1974, the Yukon Wildlife Branch began a long-term study of the wetland ecology of the flats. The initial phase, addressing water bird use, is complete but unpublished.

Additional work on furbearers and large mammals is planned. Archeological and paleontological research has been conducted in the area for several decades. Major programs are planned for the future. This work has produced many scientific and popular publications. Lead agencies are the Museum of Man and Nature (Ottawa) and the University of Toronto.

PRINCIPAL REFERENCE MATERIAL: Some research papers on avian ecology are published. Publications of the Gas Arctic consortium contain several papers on birds and furbearers. Government reports (primarily those of the Yukon Territory) contain by far the majority of material available on the biological systems of the area.

Wiken, E.B., D.M. Welch, G.R. Ironside and D.G. Taylor, 1981. The northern Yukon: an ecological land survey. Ecological Land Classification Series, No. 6. Lands Directorate, Environment Canada. 147 pp.

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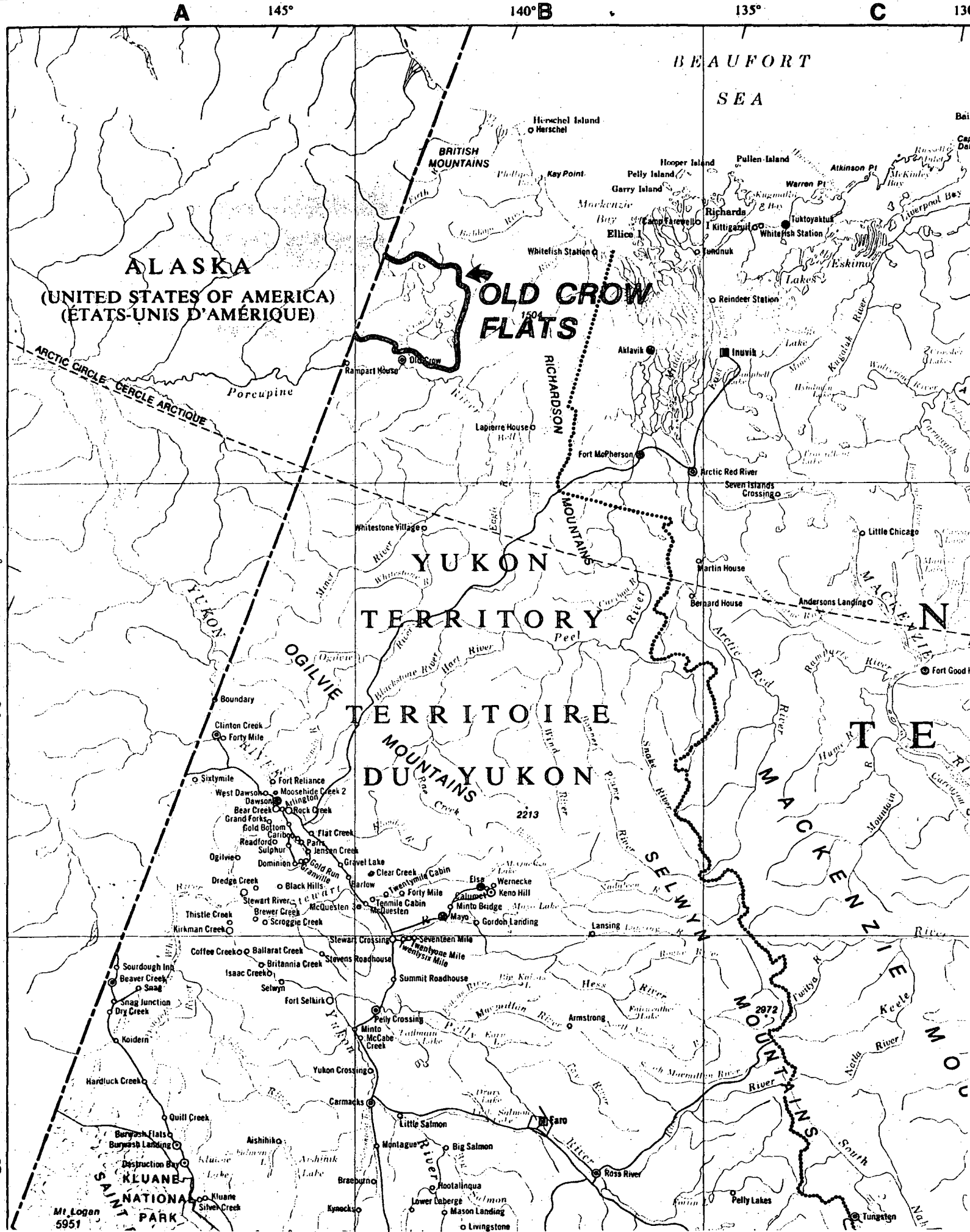
A
145°
140°
B
135°
C
BEAUFORT SEA
ALASKA
(UNITED STATES OF AMERICA)
(ÉTATS-UNIS D'AMÉRIQUE)
OLD CROW FLATS
1504
BRITISH MOUNTAINS
Herschel Island
Herschel
Kay Point
Hooper Island
Pelly Island
Garry Island
Pullen Island
Atkinson Pt
Warren Pt
Richards
Kittigazuit
Tuktoyaktuk
Whitefish Station
Ellice
Camp Farewell
Tununuk
Eskimo Lakes
Reindeer Station
Aklavik
Inuvik
Rampart House
Old Crow
ARCTIC CIRCLE CERCLE ARCTIQUE
Porcupine River
Lapierre House
RICHARDSON MOUNTAINS
Fort McPherson
Arctic Red River
Seven Islands Crossing
Whitestone Village
Little Chicago
Martin House
Bernard House
Andersons Landing
YUKON TERRITORY
TERRITOIRE DU YUKON
OGILVIE MOUNTAINS
MACKENZIE MOUNTAINS
Peel River
Arctic Red River
Snake River
Hare R
Ramparts River
Fort Good
Boundary
Clinton Creek
Forty Mile
Sixtymile
Fort Reliance
West Dawson
Moosehide Creek 2
Dawson
Arlington
Bear Creek
Rock Creek
Grand Forks
Gold Bottom
Caribou
Flat Creek
Readford
Paris
Sulphur
Jensen Creek
Ogilvie
Dominion
Gold Run
Granville
Gravel Lake
Clear Creek
Twentymile Cabin
Dredge Creek
Black Hills
Barlow
Forty Mile
Elsa
Wernecke
Keno Hill
Calumet
Stewart River
McQuesten
Tenmile Cabin
Minto Bridge
Thistle Creek
Brewer Creek
Scroggie Creek
Mayo
Gordon Landing
Kirkman Creek
Lansing
Stewart Crossing
Seventeen Mile
Twenty-one Mile
Twenty-six Mile
Coffee Creek
Ballarat Creek
Stevens Roadhouse
Britannia Creek
Sourdough Inn
Beaver Creek
Isaac Creek
Summit Roadhouse
Snag
Selwyn
Snag Junction
Dry Creek
Fort Selkirk
Pelly Crossing
Minto
McCabe Creek
Armstrong
Koidern
Yukon Crossing
Hardluck Creek
Carmacks
Quill Creek
Little Salmon
Faro
Burwash Flats
Burwash Landing
Aishihiko
Montague
Big Salmon
Destruction Bay
KLUANE NATIONAL PARK
Kluane Silver Creek
Mt Logan
5951
Braeburn
Rootalinqua
Lower Laberge
Mason Landing
Livingstone
Kynocks
Ross River
Pelly Lakes
Tungsten
SELWYN MOUNTAINS
2213
2972
Hess River
Macmillan River
Pelly River
Yukon River
Keele River
Nahanni
1
2
3
5°

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada PROVINCE: Northwest Territories

NAME OF WETLAND AREA: Polar Bear Pass

CRITERIA FOR INCLUSION IN THE DIRECTORY: 2(c) and 3

GEOGRAPHICAL LOCATION: Bathurst Island, Queen Elizabeth Islands, Northwest Territories. Co-ordinates: 75°45'N, 98°40'W. Wetland Region AH.

AREA: 296,000 ha.

ALTITUDE: 0 - 60 m. ASL.

DEPTH: Maximum: 2 m.

WETLAND TYPE(S): 10, 12, 14, 19, 22 and 23. Small inlets; lowland rivers; brooks, fresh oligotrophic lakes; peat-bogs; and temporary waters from snowmelt.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The marshes, meadows and adjacent slopes provide feeding sites for at least 42 species of birds, 26 of which nest in the region. Important populations of King Eider (Somateria spectabilis), Greater Snow Geese (Anser caerulescens atlanticus), gulls, jaegers and shorebirds, especially Sanderlings (Crocethia alba), utilize the area.

The most abundant of the eight species of mammals found in the area are lemmings (Lemmus and Synaptomys spp), arctic foxes (Alopex lagopus), muskoxen (Oxibos moschatus) and Peary caribou (Rangifer pearyi) polar bear (Ursus maritimus) regularly use the area in the spring and summer to reach better ice for hunting and occasionally den within it.

LEGAL PROTECTION STATUS OF WETLAND AREA: Territorial Land Use Regulations, administered by the Federal Department of Indian and Northern Affairs.

OWNERSHIP: Federal Crown lands

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

None

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

Mining, oil exploration and drilling permits were issued many years ago, some of which have not yet lapsed.

MAJOR SCIENTIFIC RESEARCH:

Since 1968, the National Museum of Natural Sciences, Ottawa, with the assistance of the Polar Continental Shelf Project, has operated a research station in the area to study the life-histories and behavioural adaptations of arctic animals.

PRINCIPAL REFERENCE MATERIAL:

Nettleship, David H. and Pauline A. Smith, 1975. Ecological sites in northern Canada. Canadian Committee for the International Biological Programme, Conservation Terrestrial-Panels. 330 pp.

Sutton, G.M. 1971. High Arctic. Fitzhenry and Whiteside, Don Mills, Ontario. 119 pp.

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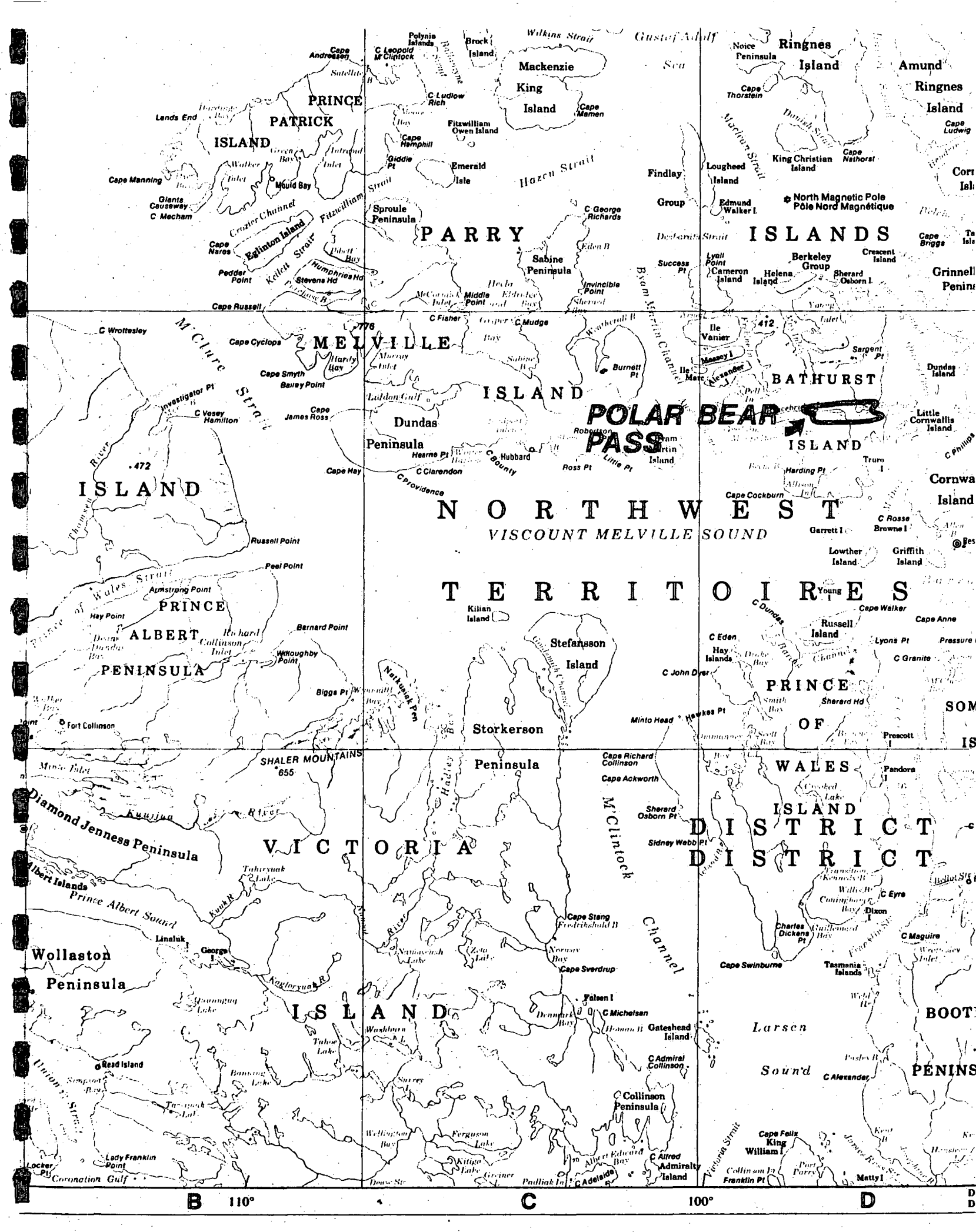
PRINCE PATRICK ISLAND
Lands End
Cape Manning
Giants Causeway
C Mecham
Mould Bay
Walker Inlet
Intrepid Inlet
Green Bay
Crozier Channel
Eglinton Island
Fitzwilliam Strait
Cape Nares
Pedder Point
Kellett Strait
Pullen Strait
Stevens Hd
Humphries Hd
Cape Russell
Sproule Peninsula
Polynia Islands
C Leopold M'Clintock
Brock Island
Wilkins Strait
Gustaf Adolf Sea
Mackenzie King Island
C Ludlow Rich
Cape Mamen
Fitzwilliam Owen Island
Cape Hemphill
Giddie Pt
Emerald Isle
Hazen Strait
PARRY ISLANDS
C George Richards
Eden B
Sabine Peninsula
Middle Point
Invincible Point
Sherard Bay
Byam Martin Channel
Findlay Group
Lougheed Island
Edmund Walker I.
North Magnetic Pole
Pôle Nord Magnétique
Ringnes Island
Noice Peninsula
Cape Thorstein
Amund Ringnes Island
Cape Ludwig
Danish Strait
Maclaren Strait
King Christian Island
Cape Nathorst
Lyall Point
Cameron Island
Helena Island
Berkeley Group
Crescent Island
Sherard Osborn I.
Grinnell Penin
Cape Briggs
Success Pt
Prince of Wales Strait
C Wrottesley
C Fisher
C Mudge
Cape Cyclops
776
MELVILLE ISLAND
Hardy Bay
Cape Smyth
Bailey Point
Murray Inlet
Sabine B
Burnett Pt
Ile Vanier
412
Massey I
Ile Marc
Alexander I
Sargent Pt
BATHURST ISLAND
Dundas Island
Little Cornwallis Island
C Phillips
Investigator Pt
C Vesey Hamilton
Cape James Ross
Dundas Peninsula
Luddon Gulf
Hearne Pt
C Hubbard
C Bounty
Cape Hay
C Clarendon
C Providence
POLAR BEAR PASS
Robertson Bay
Ross Pt
Little Pt
Martin Island
Truro I
Harding Pt
Cape Cockburn
Cornwa Island
Thomsen River
472
ISLAND
Russell Point
Peel Point
Armstrong Point
PRINCE ALBERT PENINSULA
Hay Point
Bernard Point
Richard Collinson Inlet
Willoughby Point
Biggs Pt
Fort Collinson
NORTHWEST TERRITORIES
VISCOUNT MELVILLE SOUND
Garrett I
C Rosse
Browne I
Lowther Island
Griffith Island
Kilian Island
Stefansson Island
Storkerson Peninsula
Nerkupiak Fen
Young
Cape Walker
Cape Anne
C Dundas
Russell Island
C Eden
Hay Islands
Lyons Pt
Pressure
C Granite
C John Dyer
PRINCE OF WALES ISLAND
Sherard Hd
Minto Head
Hawkes Pt
Prescott I
SHALER MOUNTAINS
655
Music Inlet
Diamond Jenness Peninsula
Kuujjua River
Albert Islands
Prince Albert Sound
Tahiryuak Lake
Kuuk R
Linaluk
George I
Wollaston Peninsula
Kugloryuak R
Banning Lake
Read Island
Simpson Bay
Union Strait
Tahiryuak Lake
Lady Franklin Point
Locker Pt
Coronation Gulf
VICTORIA ISLAND
Hadley Bay
Cape Richard Collinson
Cape Ackworth
M'Clintock Channel
Sherard Osborn Pt
Sidney Webb Pt
WALES ISLAND
Pandora I
Crooked Lake
DISTRICT OF FRANKLIN
Transition Kennedy R
Wilkes Bay
Coningham Bay
C Eyre
Dixon I
Charles Dickens Pt
C Maguire
Cape Swinburne
Tasmania Islands
Cape Sverdrup
Norway Bay
Nanuyavuk Lake
Zeta Lake
Tahoe Lake
Washburn Lake
Denmark Bay
Falsen I
C Michelsen
Gateshead Island
C Admiral Collinson
Larsen Sound
C Alexander
BOOTHIA PENINSULA
Surrey
Ferguson Lake
Wellington Bay
Kitiga Lake
Greiner Lake
Collinson Peninsula
Albert Edward Bay
C Adelaide
Padliak In
C Alfred Admiralty Island
Victoria Strait
Cape Felix
King William I
Collinson In
Franklin Pt
Port Perry
Matty I
James Ross Str
B
110°
C
100°
D

OWNERSHIP: Federal Crown land

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Because the numbers and distribution of the geese are changing continually it is necessary to re-survey them at intervals of not more than 5 years.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

None apparent at this time.

MAJOR SCIENTIFIC RESEARCH:

The principal subject of research in the sanctuary has been the breeding biology of Ross's Goose.

PRINCIPAL REFERENCE MATERIAL:

Barry, T.W. 1958. Waterfowl investigations and wildlife surveys of the western arctic and some of the central arctic islands. Unpub. typed CWS 42-58.

Hanson, H.C., P. Queneau and P. Scott, 1956. The geography, birds and mammals of the Perry River region. Arctic Institute of North America special publ. No. 1, 96 pp.

Kerbes, R.H. 1975. The nesting population of Lesser Snow Geese in the eastern Canadian Arctic: a photographic inventory of June 1973. Can. Wild. Serv. Rep. Ser. No. 35, 47 pp.

Nettleship, David N. and Pauline Smith. 1975. Ecological sites in northern Canada. Canadian Committee for the International Biological Programme Conservation Terrestrial-Panel 9, 330 pp.

Ryder, J.P. 1967. The breeding biology of Ross goose in the Perry River region, Northwest Territories. CWS report series No. 3 56 pp.

Ryder, J.P. 1969. Nesting colonies of Ross goose. Auk 86(2); 282-292.

Ryder, J.P. 1969. Timing and spacing of nests and breeding biology of Ross goose. Unpub. Ph.D. Thesis, University of Saskatchewan, Saskatoon, 239 pp.

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Date: May 24, 1982

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada TERRITORY: Northwest Territories

NAME OF WETLAND AREA: Queen Maud Gulf Migratory Bird Sanctuary

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 1(c), 2(b) and 2(c)

GEOGRAPHICAL LOCATION: South Coast of Queen Maud Gulf Co-ordinates: 67°00'N, 102°00'W. Wetland Region AM.

AREA: 6,200,000 ha.

ALTITUDE: 0 - 100 m. ASL.

DEPTH: Maximum: unknown Average: unknown

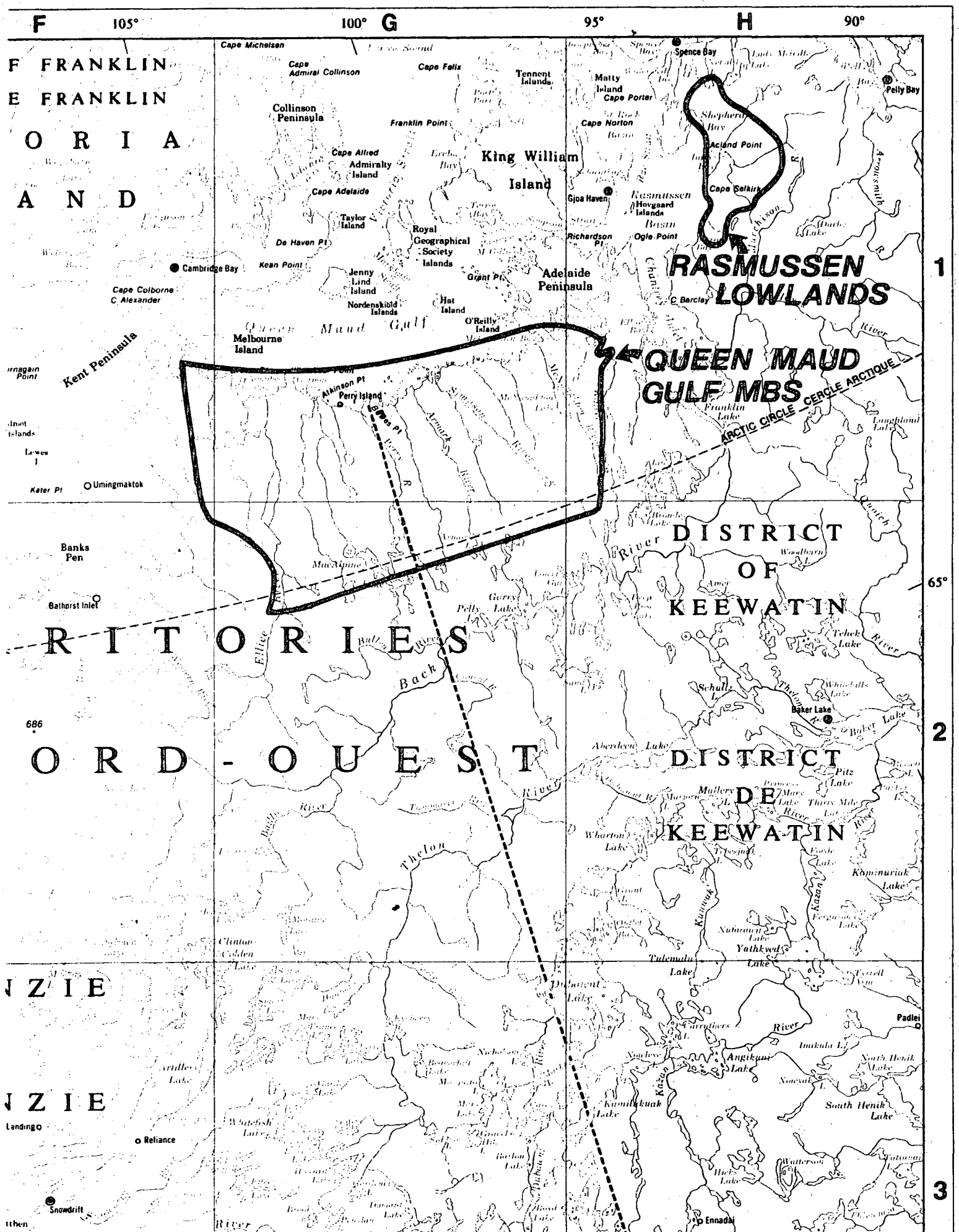
WETLAND TYPE(S): 1, 2, 3, 5, 8, 9, 12 and 19. Intertidal zone of open sea shallow waters; permanent shallow waters in open sea; shallow sea waters, bottom uncovered at low tide; shallow sea bays; tidal estuaries; deltas; lowland rivers; and fresh oligotrophic lakes.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: Queen Maud Gulf Migratory Bird Sanctuary, established as a sanctuary in 1961, contains the largest variety of geese of any nesting area in North America. It is one of the few areas in which both the Atlantic and Pacific Brant (Brant bernicla hrota and Branta bernicla nigricans) nest. Almost the entire population of Ross's Goose (Anser rossi) nest in the sanctuary. During the last 35 years they have increased about ten-fold, there being at least 125,000 in 1981. Recently Lesser Snow Geese (Anser c. caerulescens) have moved westward into the sanctuary. There were about 80,000 in the summer of 1982. The status of Canada Geese (Branta canadensis) is not clear. There are at least 2 groups nesting, known as the Tall Grass Prairie and the Short Grass Prairie populations, the latter being further west than the former at all times of the year.

Marsh tundra consists of well vegetated hummocky tussocks much of which floods during spring breakup. Mosses (Aulacomnium turgidum, Drepanocladus revolvens, Meesea triafaria and Tetraplodon urceolatus) occur on the wet ground between hummocks and the hummocks themselves support cotton grass (Eriophorum vaginatum) and sedge (Carex chordorrhiza). Emergent species include sedge (Carex stans) and mare's tail (Hippuris vulgaris). Forty-six bird species and 6 mammals have been recorded in the sanctuary.

LEGAL PROTECTION STATUS OF WETLAND AREA: The federally controlled sanctuary established in 1961, is protected through the Migratory Bird Sanctuary Regulations stemming from the Migratory Birds Convention Act.


F
105°
100°
G
95°
H
90°
1
2
3
65°
RASMUSSEN LOWLANDS
QUEEN MAUD GULF MBS
ARCTIC CIRCLE — CERCLE ARCTIQUE
DISTRICT OF KEEWATIN
DISTRICT DE KEEWATIN
F FRANKLIN
E FRANKLIN
O R I A
A N D
R I T O R I E S
O R D - O U E S T
N Z I E
N Z I E
Cape Michelsen
Cape Admiral Collinson
Cape Felix
Tennent Islands
Collinson Peninsula
Franklin Point
Cape Allred
Admiralty Island
King William Island
Cape Adelaide
Taylor Island
Royal Geographical Society Islands
De Haven Pt
Kean Point
Cambridge Bay
Jenny Lind Island
Grant Pt
Adelaide Peninsula
Cape Colborne
C. Alexander
Nordenskiold Islands
Hat Island
O'Reilly Island
Melbourne Island
Queen Maud Gulf
Kent Peninsula
Atkinson Pt
Perry Island
Forges Pt
Banks Pen
Bathurst Inlet
Umingmaktok
Kater Pt
Spence Bay
Matty Island
Cape Porter
Cape Norton
Pelly Bay
Shepherd Bay
Acland Point
Cape Selkirk
Gjoa Haven
Rasmussen Hovgaard Islands
Richardson Pt
Ogle Point
C. Barclay
Franklin Lake
Baker Lake
Padlei
Angikuni Lake
Yathkyed Lake
Schultz L.
Aberdeen Lake
Wharton Lake
Tulemalu Lake
Kamilukuak Lake
South Henik Lake
Kaminuriak Lake
Ennadai
Reliance
Snowdrift
Landing
686

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada TERRITORY: Northwest Territories

NAME OF WETLAND AREA: Rasmussen Lowlands

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 1(c), 2(b) and 2(c).

GEOGRAPHICAL LOCATION: East of Rasmussen Basin c. 100 km S of Spence Bay. Coordinates: 68° N, 93° 30'W. Wetland Region AM.

AREA: c. 300,000 ha.

ALTITUDE: 0 - 50 m. ASL.

DEPTH: Maximum: unknown Average: unknown

WETLAND TYPE(S): 19, 22, and 23. Fresh oligotrophic lakes; peat-bogs; and temporary waters from snowmelt.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA:

The southern portion of the lowlands is flat, poorly drained and

covered with marine silts and sands except for the occasional esker or rock outcrop. Approximately 10 km north of the Inglis River, glacial moraine outcrops through the marine sediments forming the gently rolling Ross Hills. Numerous lakes and ponds are scattered throughout the lowlands. The escarpment of the Wager Highlands occurs along the eastern border.

Approximately 6,000 Whistling Swans (Cygnus columbianus) summered in the Rasmussen Lowlands in 1976, about 90% of the population that is known to nest in the eastern Arctic. An estimated 13,000 White-fronted Geese (Anser albifrons), about 6.5% of the total North American population, summered in the same area during 1977. Three small Lesser Snow Goose (Anser c. caerulescens) nesting colonies totalling 4,000-6,000 birds also occur in the area. Other observations include: 10,000-15,000 Oldsqaw (Clangula hyemalis), 30,000-35,000 King Eiders (Somateria spectabilis) and about 500,000 shorebirds. Raptors also nest along the eastern escarpment.

LEGAL PROTECTION STATUS OF WETLAND AREA: Territorial Land Use Regulations, administered by the Federal Department of Indian and Northern Affairs.

OWNERSHIP: Federal Crown land

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

None

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

Polar Gas pipeline could cross area.

MAJOR SCIENTIFIC RESEARCH:

Allen, D.L. and T.H. Hogg. 1978. Bird studies in the district of Keewatin: patterns of distribution, habitat preferences and potential impact of a pipeline. Final Report, Arctic Islands Pipeline Project.

McLaren, M.A., P.L. McLaren and W.G. Alliston. 1977. Bird populations in the Rasmussen Basin Lowlands, N.W.T. June-September 1976. L.G.L. Environmental Research Associates for Polar Gas Project.

Adan, R.W. and D.B. Brackett. 1976. Migratory Bird populations survey in the District of Keewatin and Sumerset Island. Environmental Social Program, Northern Pipelines, ESCOM Report No. AI - 18.

PRINCIPAL REFERENCE MATERIAL:

as above

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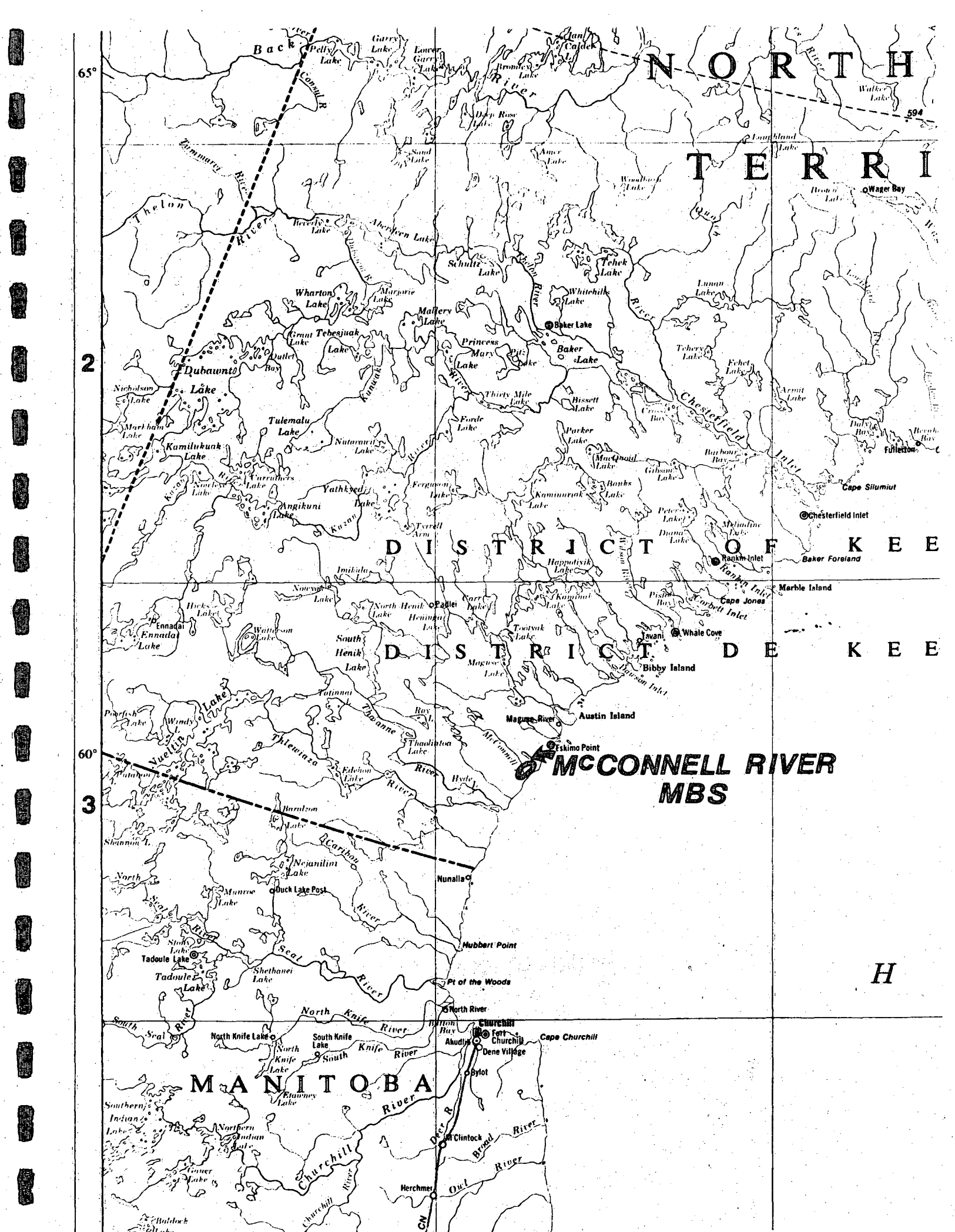
SEE QUEEN MAUD GULF FOR MAP


NORTH
TERRI
DISTRICT OF KEE
DISTRICT DE KEE
MANITOBA
McCONNELL RIVER
MBS
65°
60°
2
3
Back River
Thelon River
Dubawnt Lake
Baker Lake
Wager Bay
Chesterfield Inlet
Cape Silumiut
Baker Foreland
Rankin Inlet
Marble Island
Cape Jones
Whale Cove
Bibby Island
Austin Island
Eskimo Point
Nunalla
Hubbert Point
Pt of the Woods
North River
Churchill
Fort Churchill
Cape Churchill
Dene Village
Akudlik
Bylot
Duck Lake Post
Tadoule Lake
North Knife Lake
South Knife Lake
Seal River
North Knife River
South Knife River
Churchill River
Broad River
Oxford River
Herchmer
McClintock
Caribou
Thelewiaza River
Tulemalu Lake
Kamilukuak Lake
Angikuni Lake
Yathkyed Lake
Schultz Lake
Whitehills Lake
Mallery Lake
Wharton Lake
Princess Mary Lake
Thirty Mile Lake
Parker Lake
Happadivik Lake
Kaminuriak Lake
Ennadai Lake
South Henik Lake
Tadoule Lake
Shethanei Lake
Nejanilini Lake
Windy Lake
Tebesjuak Lake
Nueltin Lake
Ferguson Lake
Banks Lake
Wilson River
Kazan River
Dubawnt River
Thelon River
Seal River
Churchill River
Hudson Bay
Deer R
CN

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Activities within the sanctuary are controlled through the above-mentioned regulations. Population levels of breeding Lesser Snow Geese are regularly monitored.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

There are no imminent threats from development. Ownership and use of the land and hunting rights may be affected by the outcome of land claim negotiations between the Inuit Tapirisat and the Government of Canada, at present in abeyance.

MAJOR SCIENTIFIC RESEARCH:

McConnell River has been the site of extensive studies on the biology of geese and other arctic species during the past two decades. A permanent field research station exists on site.

PRINCIPAL REFERENCE MATERIAL:

Ankney, C.D.. 1974. The importance of nutrient reserves to breeding blue geese (Anser caerulescens). Unpubl. Ph.D. Thesis, University of Western Ontario. 213 pp.

Cooch, F.G. 1958. The breeding biology and management of the blue goose (Chen caerulescens). Unpubl. Ph.D. Thesis, Cornel University. 235 pp.

Davis, R.A. 1972. A comparative study of the use of habitat by arctic loons and red-throated loons. Unpubl. Ph.D. Thesis, University of Western Ontario. 290 pp.

Harwood, J. 1974. The grazing strategies of blue geese (Anser caerulescens). Unpubl. Ph.D. Thesis, University of Western Ontario. 186 pp.

Judd, W.W. 1967. Insects from McConnell River, N.W.T. Entomological News 78(2):50-55.

Kerbes, R.A. 1975. The nesting population of Lesser Snow Geese in Eastern Canadian Arctic: a photographic inventory of June 1973. Can. Wildl. Ser. Report Series, 35,1-46.

Lieff, B.C. 1973. The summer feeding ecology of blue and Canada geese at the McConnell River, N.W.T. Unpubl. Ph.D. Thesis, University of Western Ontario. 203 pp.

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INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada TERRITORY: Northwest Territories

NAME OF WETLAND AREA: McConnell River Migratory Bird Sanctuary

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 2(c), and 3

GEOGRAPHICAL LOCATION: C. 27 km south of Eskimo Point in the District of Keewatin. Co-ordinates: 61° 07'N, 94° 03'W. Wetland Region AL.

AREA: c. 32,800 ha.

ALTITUDE: 0 - 20 m. ASL.

DEPTH: Maximum: unknown Average: approximately 1 m.

WETLAND TYPE(S): 3, 8, 9, 10 and 12. Shallow sea waters, bottoms uncovered at low tide; tidal estuaries; deltas; small islets, and lowland rivers including flood plains and interior or dry deltas.

NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The McConnell River Migratory Bird Sanctuary, established in 1960, consists primarily of coastal marsh flats which

extend 3 to 8 km inland: the flat, low-lying poorly drained plain is dotted with shallow ponds and lakes, typical of much of the Hudson Bay coastline.

The Lesser Snow Goose (Anser c. caerulescens) colony at McConnell River has undergone rapid growth. The first report of geese nesting in the area was in 1941; by 1973 the number had increased to over 163,000 nesting pairs, the largest nesting colony of Lesser Snow Geese in the Canadian Arctic. The colony has now spread beyond the boundaries of the sanctuary inland as well as to the south and north. This nesting colony was studied extensively from 1954 to 1973. Substantial numbers of the Tall Grass Prairie population of Canada Geese (Branta canadensis) also nest here.

More than 125 species of birds have been recorded on the area including the endangered Peregrine Falcon (Falco peregrinus)

LEGAL PROTECTION STATUS OF WETLAND AREA:

The federally controlled sanctuary is protected by means of the Migratory Bird Sanctuary Regulations, stemming from the Migratory Birds Convention Act.

OWNERSHIP: Federal Crown land

INTERNATIONAL UNION FOR CONSERVATION OF

NATURE AND NATURAL RESOURCES

Directory of Wetlands of International Importance

Data Sheet

NATION: Canada TERRITORY: Northwest Territories

NAME OF WETLAND AREA: Dewey Soper Migratory Bird Sanctuary

CRITERIA FOR INCLUSION IN THE DIRECTORY: 1(a), 1(b), 1(c), 2(c) and 3

GEOGRAPHICAL LOCATION: The sanctuary occurs approximately 275 km. northeast of Cape Dorset southwest of Baffin Island in the District of Franklin. Coordinates: 64° 14'N, 76° 32'W. Wetland Region AM.

AREA: c. 815,900 ha.

ALTITUDE: 0 - 60 m. ASL.

DEPTH: Maximum: unknown Average: unknown

WETLAND TYPE(S): 1, 2, 3, 8 and 12. Intertidal zone of open sea shallow waters; permanent shallow waters in open sea; shallow sea waters, bottom uncovered at lowtide; tidal estuaries; and lowland rivers.

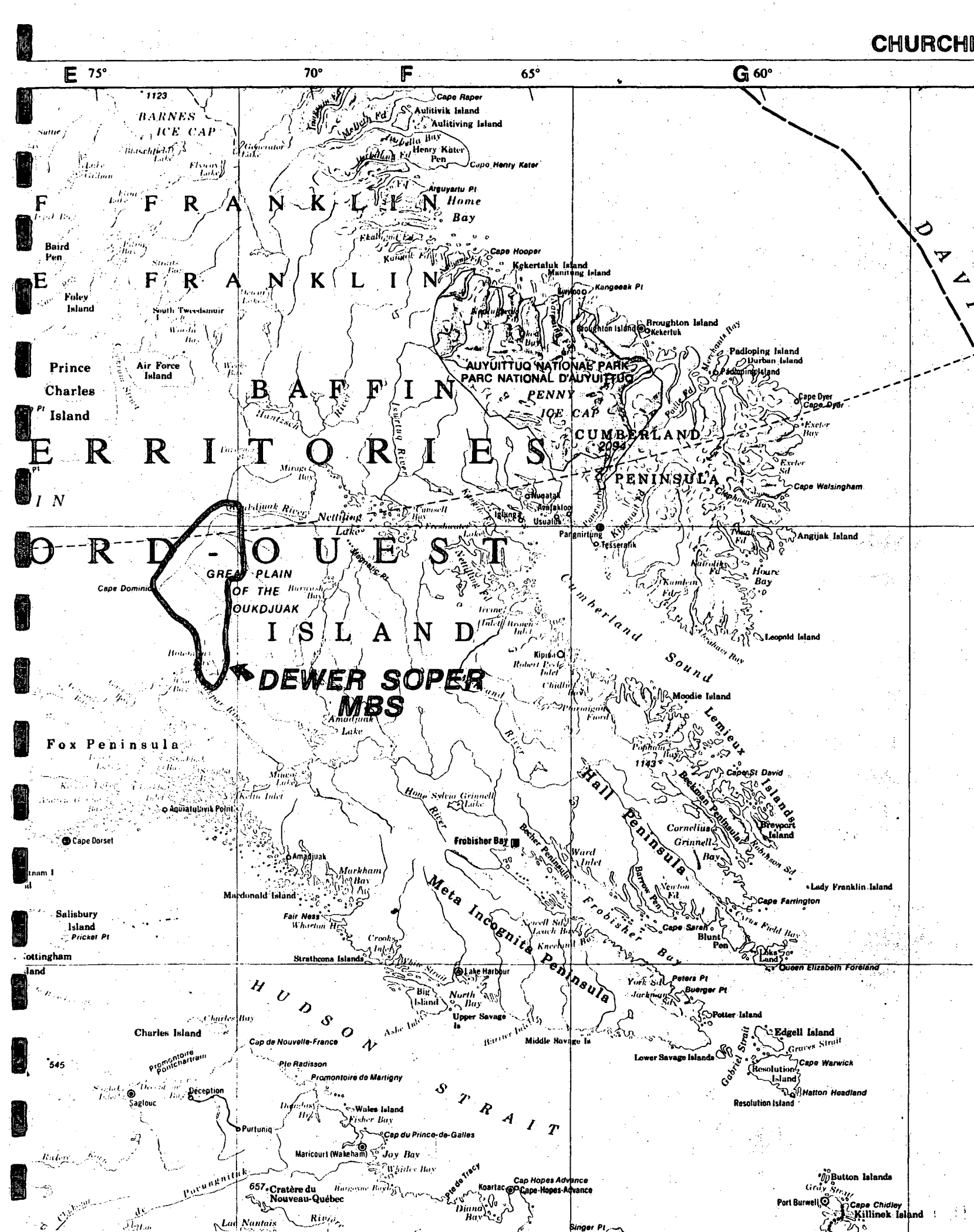
NATURAL AREA: Yes

ECOLOGY OF WETLAND AREA: The Dewey Soper Migratory Bird Sanctuary includes approximately 250 km of coastal section of the Great Plain of the Koukdjuak. Much of the area is covered with a mat of mosses and the sedge Carex stans. Other common plants include Alopecurus alpinus, Salix sp., Cochlearia officinalis and Saxifraga caespitosa. Lack of relief on the plain and high tides in Foxe Basin combine to form a tidal zone which may extend up to 15 km inland. The wide marshy plain is dotted with shallow round lakes and circular swamps and is drained by innumerable small sluggish streams.

Lesser Snow Geese (Anser c. caerulescens) are the most abundant waterfowl species in the sanctuary. Approximately 450,000 nesting individuals, in three major colonies, were recorded in 1973 and again in 1979, though their distribution was different. Small Canada Geese (Branta canadensis) of the Tall Grass Prairie population, Atlantic Brant (Branta bernicla hrota), Oldsquaw (Clangula hyemalis), eiders (Somateria mollissima borealis and s. spectabilis) and several species of shorebirds are also numerous. Cape Dominion appears to be the most important nesting area in the eastern arctic for Atlantic Brant.

LEGAL PROTECTION STATUS OF WETLAND AREA: The federally controlled sanctuary, established in 1957, is protected through the Migratory Bird Sanctuary Regulations stemming from the Migratory Birds Convention Act.

OWNERSHIP: Federal Crown land


E 75°
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F
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1123
BARNES ICE CAP
Cape Raper
Aulitivik Island
Aulitiving Island
Henry Kater Pen
Cape Henry Kater
Arguyartu Pt
F R A N K L I N
Home Bay
Baird Pen
Cape Hooper
Kekertaluk Island
Manitong Island
Kangeesk Pt
E F R A N K L I N
Foley Island
South Tweedsmuir I
Broughton Island
Kekertuk
Padloping Island
Durban Island
Prince Charles Island
Air Force Island
AUYUITTUQ NATIONAL PARK
PARC NATIONAL D'AUYUITTUQ
B A F F I N
PENNY ICE CAP
Cape Dyer
CUMBERLAND 2094
E R R I T O R I E S
PENINSULA
Cape Walsingham
Nuqatak
Kangiqtugaapik
Iglulik
Usuallik
Pangnirtung
Tesserarik
Angijak Island
O R D - O U E S T
GREAT PLAIN OF THE OUKDJUAK
Cape Dominion
Houre Bay
Cumberland Sound
I S L A N D
DEWER SOPER MBS
Leopold Island
Kipisa
Moodie Island
Lemieux Islands
Fox Peninsula
Amadjuak Lake
Aquiatuluvik Point
Cape Dorset
Frobisher Bay
Hall Peninsula
Cape St David
Brevoort Island
Cornelius Grinnell Bay
Amadjuak
Markham Bay
Macdonald Island
Salisbury Island
Pricket Pt
Fair Ness
Meta Incognita Peninsula
Lady Franklin Island
Cape Farrington
Cape Sarah Blunt Pen
Queen Elizabeth Foreland
Strathcona Islands
Lake Harbour
Big Island
North Bay
Upper Savage Is
Middle Savage Is
Lower Savage Islands
Potter Island
Edgell Island
Resolution Island
Cape Warwick
Hatton Headland
HUDSON STRAIT
Charles Island
Cap de Nouvelle-France
Pte Radisson
Promontoire de Martigny
Promontoire Pontchartrain
Deception
Saglouc
Wales Island
Fisher Bay
Purtuniq
Cap du Prince-de-Galles
Maricourt (Wakeham)
Joy Bay
Cratère du Nouveau-Québec
Pte de Tracy
Koartac
Cap Hopes Advance
Cape-Hopes-Advance
Diana Bay
Button Islands
Port Burwell
Cape Chidley
Killinek Island
Singer Pt
545
657

EXISTING MANAGEMENT PRACTICES and/or FUTURE MANAGEMENT PRACTICES NEEDED:

Activities within the sanctuary are controlled through the above-mentioned regulations. Population levels of breeding Lesser Snow Geese are regularly monitored.

THREATS FROM EXISTING, PROPOSED OR POSSIBLE DEVELOPMENTS:

There are no imminent threats.

MAJOR SCIENTIFIC RESEARCH:

Although the opportunity exists for doing so, no major scientific efforts have yet occurred within the sanctuary.

PRINCIPAL REFERENCE MATERIAL:

Kerbes, R.H. 1969. Biology and distribution of nesting blue geese on Koukdjuak Plain, N.W.T. Unpubl. M.Sc. Thesis, University of Western Ontario.

_____ 1975. The nesting population of Lesser Snow Geese in the eastern Canadian Arctic: a photographic inventory of June 1973. Can. Wildl. Serv. Rep. Ser. No. 35. 47 pp.

Soper, J.D. 1946. Ornithological results of the Baffin Island expeditions of 1928-29 and 1930-31; together with more recent records. Auk 63:1-24, 224-239, 418-427.

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