

CANADA 25: SOUTHERN JAMES BAY MIGRATORY BIRD SANCTUARIES, ONTARIO AND NUNAVUT

Information Sheet on Ramsar Wetlands

Effective Date of Information: The information provided is taken from text supplied at the time of designation to the List of Wetlands of International Importance, May 1987 and updated by the Canadian Wildlife Service – Ontario Region in October 2001.

Reference: 25th Ramsar site designated in Canada.

Name and Address of Compiler: Canadian Wildlife Service, Environment Canada, 49 Camelot Drive, Ottawa, Ontario K1A.

Date of Ramsar Designation: 27 May 1987.

Geographical Coordinates: Two areas: Hannah Bay Bird Sanctuary - 51°20'N., 79°31'W; and Moose River Bird Sanctuary - 51°20'N., 80°25'W.

General Location: The two sanctuaries are located in southern James Bay. Hannah Bay Bird Sanctuary lies on the eastern side of Hannah Bay, the southernmost project of James Bay, from the Little Mississicabi River to East Point. Moose River Bird Sanctuary lies at the mouth of the Moose River and comprises Ship Sands Island and a piece of land on the eastern flats of the river mouth. The first sanctuary is located 60 km east of Moosonee and the second 18 km to the north-east. Both are located in the Province of Ontario. Offshore waters lie in the Nunavut Territory.

Area: 25 290 ha (Hannah Bay Bird Sanctuary 23 830 ha; Moose River Bird Sanctuary 1 460 ha).

Wetland Type (Ramsar Classification System): *Marine and coastal wetlands:* Type A - marine waters; Type G - intertidal mud, sand, and salt flats; Type F - estuarine waters; Type H - intertidal marshes. *Inland wetlands:* Type Tp - permanent freshwater ponds, marshes and swamps; Type W - shrub swamps; Type Xp - forested peatlands.

Altitude: Range is from sea level to over 50 m.

Overview (Principal Characteristics):

Physical Features (Geology, Geomorphology, Hydrology, Soils, Water, Climate):

The bay and its coast lie within the Hudson Bay Lowland, a flat sedimentary basin close to the radiative centre of the Laurentide ice sheet and subsequently submerged by the late glacial Tyrrell Sea. The area is currently undergoing isostatic rebound, creating new coastal habitats which evolve continually toward shallow interior peatland. Due to the flatness and low relief of the area, the interface between land and water is very gradual, producing extensive wetlands which are influenced by the semi-diurnal tides. Wetland formation processes are also favoured by the layer of silt and clays deposited over the land, which renders it impermeable and, in conjunction with the near zero slope, entails surface water retention. The southern James Bay coast is characterised by a sequence of mud flats, intertidal marshes and supertidal meadow-marshes, which grade through a

willow-alder shrub area into a drier forest interspersed with fens and bogs. Mudflats are generally extensive along southern James Bay; at both sanctuary locations they are a few kilometres in width.

Ecological Features (Habitats, Vegetation): Little vegetation grows on the flats, but their invertebrate fauna constitute an important food source for wildlife. The intertidal marshes extend into the regular zone of tidal influence. A variety of plant associations are found in this zone and species composition is related to the degree of estuarine influence. Truly coastal marshes are mainly dominated by the grass *Puccinellia phryganeoides*, while in the estuarine marshes of the east side of Ship Sands Island sedge *Carex paleacea* is dominant. Marsh pools, where water remains through low tide, are often dominated by single species such as *Scirpus maritimus* var. *paludosus*, *Eleocharis palustris*, *Carex paleacea*, *Senecio congestus*, *Hippuris vulgaris* and *Zanichellia palustris*. In estuarine conditions, where the river mouth sedimentation overrides or prevents the formation of panne-sword pattern, the associations are gradually varying and broader. Commonly associated with sedge *Carex paleacea* (which can have cover values greater than 90%) are arrowgrass *Triglochin maritima*, gramineae *Festuca rubra*, *Potentilla anserina* var. *groenlandica*, and *Ranunculus cymbalarica*. *Eleocharis palustris* is often the first coloniser of the tidal flats and is found in pure growth or associated with *Scirpus validus*.

The supertidal meadow-marshes of the coastal and estuarine sites are less varied than the intertidal marshes. On the coast, graminoid meadows dominate all non-beach ridge areas, the major species being *Festuca rubra*. Plant growth in streams is sparse, but ponds can be congested. Pondweed *Potamogeton filiformis* is abundant and *Eleocharis palustris*, *Myriophyllum exalbescens*, *Zanichellia palustris* and *Hippuris vulgaris* can also be found. In estuarine supertidal meadow-marshes, the *Festuca rubra* associations are as important, but are more variable in composition. Herbs are commonly associated, as are graminoids (*Carex paleacea*, *Agrostis gigantea*) or rushes (*Juncus balticus*, *Scirpus rufus* var. *neogaeus*). In wetter sites, behind the shallow ridges of Long Point, uncommon species are found including *Carex vecta*, *Carex limosa-paupercula*, *Carex aquatilis*, *Equisetum variegatum*, *Angelica atropurpurea* and *Rumex occidentalis*. *Elymus mollis*, a gramineae, is sparsely distributed on coastal low-raised beach ridges and becomes denser on older ridges. Exposed sides may be shrub-rich while interior ridges are thicketed or treed. Beyond the open coastal habitats, vegetation on the ridges reaches its full potential with Ericaceae shrubs, trees (*Picea glauca*, *Populus* sp. *Larix laricina*), lichens and mosses.

Land Tenure:

(a) **Site:** The two sanctuaries (Moose River and Hannah Bay) mainly are provincial Crown land except for offshore islands lying within the Nunavut Territory which are federal Crown land.

(b) **Surrounding Area:** Provincial Crown land and Indian Reserve lands and offshore waters in the Nunavut Territory.

Conservation Measures Taken: Both sanctuaries are protected under the *Migratory Birds Convention Act*.

Conservation Measures Proposed: None currently.

Current Land Use/Activities in:

(a) Site: The sanctuaries have been designated to keep important staging habitats free from hunting pressure and permit an increase in native harvest in the surrounding tidal marshes. Management implications are to clearly post the sanctuaries' boundaries and to enforce the no-hunting regulations. Management and enforcement activities generally take place as a cooperative effort by federal and provincial agencies.

(b) Surrounding Area: Traditional native hunting, fishing and trapping as well as commercial outfitting camps primarily for goose hunting.

Threats to Integrity of:

(a) Site: None at present.

(b) Surrounding Area: Hydro development in the future could become an issue affecting this region.

Hydrological/Physical Values:

Social/Cultural Values: Hunting by native residents is an important component of the local Cree traditional lifestyle.

Noteworthy Fauna: James Bay plays a significant role in the annual cycle of waterfowl. The funnel-shaped outline of Hudson and James bays causes birds migrating from the Arctic to concentrate at the southern end of James Bay each autumn, where the extensive coastal wetlands provide critical staging and moulting areas for migrating geese, ducks and shorebirds. Lesser Snow Geese *Chen caerulescens* stage in the Hudson Bay lowland coastal marshes for extensive periods during spring and autumn. Several races and populations of Canada Geese *Branta canadensis*, as well as Brant Geese *Branta bernicla brota* are also found. In years when spring break-up is rapid, geese move out quickly. In late springs, they may stay for up to three weeks. During the autumn, geese make use of the coastal marshes where a large variety of plants are grazed. The autumn staging period in James Bay is essential for continued growth of juvenile geese, as well as for building fat reserves necessary for the autumn migration to the American mid-west.

The largest concentrations of Lesser Snow Geese are found in late autumn in southern James Bay. In October 1971, over 150 000 Lesser Snow Geese were located in southern James Bay, between the Eastmain River and Moosonee. The sanctuaries themselves support several tens of thousands of geese depending on the time. Over 5% of the total population of Lesser Snow Geese can be present in the sanctuaries during one single period, a higher proportion of the total population is estimated to use the marshes during the critical autumn staging period. Canada Geese *Branta canadensis interior* are generally encountered in southern James Bay. A few hundred are found in Moose River Bird Sanctuary during spring and fall migration feeding along the tideline. In the Hannah Bay area, 1 884 Canada Geese were counted from September 19 to 22, 1972. In the autumn, Brant Geese migrate through southern James Bay from their staging areas further north. The only geese remaining to nest in the southern James Bay area are the Canada Geese. Breeding has been confirmed in Hannah Bay Migratory Bird Sanctuary.

The coastal wetlands of southern James Bay provide essential pre- and post-breeding staging habitats to a large number of dabbling ducks nesting in the lowlands and further north. The southern James Bay area from Nomansland Point to the Quebec border, supports 36% of the total in spring, 15% in summer and 23% in the autumn. Black Duck *Anas rubripes* is the species most often encountered along the coast. It is one of the first to arrive in spring, staging primarily in southern James Bay. In autumn, at least 1% of the continental population use the sanctuaries, with numbers reaching 15 000 birds. Mallard *Anas platyrhynchos* is less common than Black Duck. It is regularly found staging during spring and fall along the Hudson and James Bay coast primarily on freshwater habitats such as pools on the coastal marsh and creeks inland from their mouths. Close to 1% of the continental population of Green-winged Teal *Anas crecca carolensis* and of Pintail *Anas acuta*, constituting up to 50% of their Atlantic Flyway populations, are found in the lowland during the autumn. Some 11% of the Atlantic Flyway populations of Green-winged Teal and 7% of Northern Pintail Atlantic Flyway populations are found in southern James Bay. Other regularly encountered dabbling ducks are American Wigeon *Anas americana*, Northern Shoveler *Anas chrypeata* and Blue-winged Teal *Anas discors*. Green-winged Teal and American Black Duck are confirmed breeders in the sanctuaries. Black Scoter *Melanitta nigra* constitutes the majority of the diving ducks. However, Scaup *Aythya* spp., Common Goldeneye *Bucephala clangula* and Mergansers *Mergus* spp. are regularly noted. Both Common and Red-breasted Merganser, as well as Common Goldeneye, have been recorded as probable breeders in the sanctuaries. Long-tailed Duck *Clangula hyemalis* has been seen offshore from Hannah Bay.

The southwestern coasts of James and Hudson bays form a major migration pathway for many shorebird species. The majority are medium-sized birds, including Red Knot *Calidris canutus rufa*, Short-billed Dowitcher *Limnodromus griseus*, Dunlin *Calidris alpina*, Greater Yellowlegs *Tringa melanoleuca* and Lesser Yellowlegs *Tringa flavipes*, as well as Ruddy Turnstone *Arenaria interpres*, Black-bellied Plover *Pluvialis squatarola* and Lesser Golden Plover *Pluvialis dominica*. Large species consist principally of Hudsonian Godwit *Limosa haemastica*, with smaller numbers of Marbled Godwit *Limosa fedoa* and Whimbrel *Numenius phaeopus*. Small species consist predominantly of Semi-palmated Sandpiper *Calidris pusilla*, with smaller numbers of White-rumped Sandpiper *Calidris fuscicollis*, Sanderling *Calidris alba* and Spotted Sandpiper *Actitis macularia*. In October 1985, there were 2 000 Dunlin at East Point in Hannah Bay Sanctuary. The two sanctuaries provide nesting habitat for Pied-billed Grebe *Podilymbus podiceps*, American Bittern *Botaurus lentiginosus*, Belted Kingfisher *Ceryle alcyon*, Sora *Porzana carolina*, Bonaparte's Gull *Larus philadelphia*, Herring Gull *Larus argentatus*, Common Tern *Sterna hirundo*, and for Sandhill Crane *Grus canadensis*.

Many warblers, sparrows and other passerine species also use various habitat types during the breeding season as well as on migration. At Hannah Bay some of the commonest are groups of Horned Lark *Eremophila alpestris*, Lapland Longspur *Calcarius lapponicus*, Snow Bunting *Plectrophenax nivalis* and, notably, several thousand Common Redpoll *Carduelis flammea* seen in the East Point area.

Noteworthy Flora:

Current Scientific Research and Facilities: Surveys pertaining to geology, mapping, flora and fauna have taken place, with emphasis on potential development activities, such as hydroelectric dams and petroleum exploration. Wildlife surveys include the Hudson

Bay Lowland project, the Ontario Breeding Bird Atlas and ongoing goose productivity surveys.

Current Conservation Education:

Current Recreation and Tourism:

Management Authority: Jointly administered by Ontario Ministry of Natural Resources and Canadian Wildlife Service, Environmental Conservation Branch, Ontario Region, Environment Canada.

District Manager
Cochrane District
Ontario Ministry of Natural Resources
2 Third Street
Cochrane, Ontario
P0L 1C0

Jurisdiction: Provincial - Ontario Ministry of Natural Resources.

Selected Bibliography:

Reasons for Ramsar Designation: Birds migrating from the Arctic concentrate at the southern end of James Bay each autumn, where the extensive coastal wetlands provide critical staging and moulting areas for migrating geese, ducks and shorebirds. Lesser Snow Geese *Chen caerulescens* stage in the Hudson Bay lowland coastal marshes for extensive periods during spring and autumn. Up to 150 000 Lesser Snow Geese can be located in southern James Bay, between the Eastmain River and Moosonee. The sanctuaries themselves support several tens of thousands of geese depending on the time. Over 5% of the total population of Lesser Snow Geese can be present in the sanctuaries during one single period.

Status of Management Plan: A management plan for these migratory bird sanctuaries has not been prepared to date.