

**ST. CLAIR NATIONAL WILDLIFE AREA, ONTARIO**  
**Information Sheet on Ramsar Wetlands**

**Effective Date of Information:** The information presented is taken from the document submitted at the time of designation to the List of Wetlands of International Importance, October 1985 and updated by the Canadian Wildlife Service in March 1993.

**Reference:** 4CA016

**Name and Address of Compiler:** Canadian Wildlife Service, Environment Canada, Ottawa, Ontario, Canada K1A 0H3.

**Date of Ramsar Designation:** 16 October 1985.

**Geographical Coordinates:** 42°22'N., 82°22'W.

**General Location:** On the east shore of Lake St. Clair in Dover Township, County Kent, Province of Ontario. Chatham is 30 km to the east.

**Area:** 244 ha.

**Wetland Type (Ramsar Classification System):** Inland wetlands: Type 8 - permanent freshwater ponds, marshes, and swamps; Type 10 - shrub swamps.

**Altitude:**

**Overview (Principal Characteristics):** Shoreline marshes typical of once extensive marshes of the Great Lakes ecosystem.

**Physical Features (Geology, Geomorphology, Hydrology, Soils, Water, Climate):** Lake St. Clair is a shallow, mesotrophic link in the Great Lakes system. Waters from Lake Huron flow in via the St. Clair River and out via the Detroit River to Lake Erie. The shallow channel of the Thames River (a major tributary) has been extensively diked to control the frequent spring flood waters, and little natural wetland habitat remains along the river flood plain. The lakeshore marshes lie on stratified clay plains which are among the most fertile in Canada.

**Ecological Features (Habitats, Vegetation):** St. Clair National Wildlife Area (NWA) contains examples of the three major habitat types: (i) continuous emergent marsh, predominantly stands of cattail *Typha* sp., with rare plants found on the wet meadows occurring on slightly higher ground such as freshwater cord grass *Spartina pectinata*, yellow star grass *Hypoxis hirsuta*, Culver's root *Veronicastrum virginicum*, tickseed sunflower *Bidens coronata* and tall ironweed *Veronica altissima*; (ii) emergent marshes interspersed with small ponds which cover about 40% of the St. Clair NWA, the principal elements being pickerel-weed *Pontederia cordata*, hardstem bulrush *Scirpus acutus*, softstem bulrush *Scirpus validus*, burreed *Sparganium* spp. and tuberous water lily *Nymphaea tuberosa* (the rare species green water arum *Peltandra virginica*, cow lily *Nuphar advena* and American lotus *Nelumbo lutea* are also found here); and (iii) marsh zones that are open to Lake St. Clair and that vary in character as lake levels change. In some areas, large increases in the amount of quality waterfowl foods such as sago pondweed *Potamogeton pectinatus* and wild celery occurred when high lake levels killed extensive beds of emergent vegetation, large cattails. Some extensive submerged beds of muskgrass occur and some small areas of open water marsh.

**Land Tenure:**

(a) **Site:** The area is federal Crown land.

(b) **Surrounding Area:** Mainly private land holdings and provincial Crown

land (Lake St. Clair).

**Conservation Measures Taken:** Designated as a National Wildlife Area and protected under regulations of the *Canada Wildlife Act* of 1973.

**Conservation Measures Proposed:** None currently.

**Current Land Use/Activities in:**

(a) **Site:** In 1940 the land was purchased by a hunting club and the area was diked, strips were ploughed to encourage the establishment of marsh plants, and then it was flooded. Water levels were kept low in summer to encourage aquatic plant growth and some species were introduced. Water levels were raised in fall to attract ducks and were kept high during muskrat trapping seasons. Since its acquisition by Environment Canada in 1974, a variety of wildlife management techniques have been employed. Constructed nesting islands and existing dikes, spoil piles, and meadow areas provide nest sites. Cut channels provide brood habitat and loafing or resting areas. Water circulation throughout the marsh has been improved by pumping; water level manipulations and cattail control measures have improved interspersion of open water and emergent vegetation. These measures have improved growth of submergent aquatic plants and the associated invertebrates that provide food for waterfowl species.

Muskrat harvesting, which minimizes damage to dikes from muskrat tunnels, continues to be allowed under National Wildlife Area permits. Trapping also encourages maintenance of healthy populations of muskrats which, by using cattails as a major food source and for lodge-building materials, limit the encroachment of cattail in the marsh ponds and channels. The St. Clair National Wildlife Area also provides a year-round dike-top trail and viewing tower for public use.

(b) **Surrounding Area:** The adjacent marshes are managed by waterfowl hunting clubs with water-level management similar to the National Wildlife Area. The adjacent upland is among the most productive farmland in Canada and is extensively cash-cropped, primarily for corn and soybeans.

**Threats to Integrity of:**

(a) **Site:** Of the marshes remaining along Lake St. Clair's east shore, only St. Clair National Wildlife Area is protected from development. There has been major wetland loss of privately-owned wetlands due to drainage for agriculture, development for recreational uses and cottage development. The lakeshore marshes are vulnerable to impacts from off-site development. Spills of oil or other toxic chemicals from Great Lakes shipping are a constant threat. Manipulations of lake levels or impacts of an extended navigation season on the Great Lakes could cause wetland losses and detrimental changes. St. Clair National Wildlife Area is diked and somewhat protected from, but not invulnerable to, such impacts. Purple loosestrife is now present in this area and expanding.

(b) **Surrounding Area:** Marsh areas are under constant threat to drainage for agriculture and marina development. Purple loosestrife continues to expand into the marshes of Lake St. Clair.

**Hydrological/Physical Values:**

**Social/Cultural Values:**

**Noteworthy Fauna:** During spring and fall migrations, there are frequent periods when more than 100 000 waterfowl are present in the lake and adjacent region. In spring, peak numbers have been as high as 60 000 birds. In autumn, nearly 150 000 ducks, geese and swans have been present at one time.

Over half the eastern population of Tundra Swan *Cygnus c. columbianus* passes through the region in early spring; this is 23% of the entire North American population. In autumn, the region supports significant proportions of waterfowl populations: 15% of the Tennessee Valley population of Canada Goose *Branta canadensis*; 18% of world populations of Canvasback *Aythya valisineria*; 8% of world populations of Redhead *Aythya americana*; 4% of world populations of Ring-necked Duck *Aythya collaris*; and 3% of North American populations of Ruddy Duck *Oxyura jamaicensis*.

Other marsh-dependent birds found include: grebes, herons, rails and waders. Feeding shorebirds are especially abundant when mud flats are exposed. Among the more uncommon species recorded are King Rail *Rallus elegans*, Glossy Ibis *Plegadis falcinellus* and Snowy Egret *Egretta thula*. Breeding waterfowl include: Pied-billed Grebe *Podilymbus podiceps*, Least Bittern *Ixobrychus exilis*, American Bittern *Botaurus lentiginosus*, Mallard, American Coot *Fulica americana* and Black Tern *Chlidonias niger*. Other nesters are Blue-winged Teal *Anas discors*, Redhead, Virginia Rail *Rallus limicola*, Sora *Porzana carolina*, Common Moorhen *Gallinula chloropus*, Killdeer *Charadrius vociferus*, Spotted Sandpiper *Actitis macularia*, and Snipe *Gallinago gallinago*. In addition, many species use the area for feeding or loafing: Great Blue Heron *Ardea herodias*, Great Egret *Casmerodius albus*, Night Heron *Nycticorax nycticorax* and Tern *Sterna hirundo* feed in the marsh.

Muskrats *Ondatra zibethicus* play a major ecological role in the marsh. Other mammals of importance in the marshes are raccoon *Procyon lotor*, striped skunk *Mephitis mephitis* and mink *Mustela vison*. The reptiles and amphibians of the area include several species that, while not yet officially designated as such, are considered by experts to be rare or threatened in Canada. Eastern fox snake *Elaphe vulpina gloydi*, considered threatened in Canada, is abundant in St. Clair marsh edges. Among the five species of turtles that have been found are: spotted turtle *Clemmys guttata*, Blanding's turtle *Emydoidea blandingi* and eastern spiny softshell *Trionyx s. spiniferus*, all considered rare in Canada.

**Noteworthy Flora:**

**Current Scientific Research and Facilities:** The Canadian Wildlife Service has monitored waterfowl numbers and wetland habitats at Lake St. Clair for many years. Waterfowl surveys during migration, censuses of wintering waterfowl, and brood surveys are aspects of ongoing programs. Research on cattail control, waterfowl ecology, breeding bird surveys, weekly bird censuses, vegetation monitoring and a variety of other baseline biological data collections are conducted by Canadian Wildlife Service staff and other researchers. Water quality is monitored on a regular basis.

**Current Conservation Education:**

**Current Recreation and Tourism:** A viewing tower and trails are on site.

**Management Authority:**

Canadian Wildlife Service  
Environmental Conservation Branch  
Ontario Region  
Environment Canada  
152 Newbold Crescent  
London, Ontario  
N6E 1Z7

**Jurisdiction:** Federal - Environment Canada.

**Selected Bibliography:**

- Dennis, D.G. and N.R. North. 1981. Waterfowl use of the Lake St. Clair marshes during migration in 1976-77 versus 1968-69. Internal Report.

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- Dennis, D.G., G.B. McCullough, N.R. North, and R.K. Ross. 1983. An updated assessment of migrant waterfowl use of the Ontario shorelines of the southern Great Lakes. Internal Report. Canadian Wildlife Service. London, Ontario.
- McCullough, G.B. 1981. Wetland loss in Lake St. Clair and Lake Ontario. pp. 81-89 In Proceedings, Ontario Wetlands Conference. Federation of Ontario Naturalists. Don Mills, Ontario.
- McKeating, G., D. Gow, and P. Madore. 1982. Management plan: St. Clair Wildlife Area. Internal Report, Canadian Wildlife Service. London, Ontario.

**Reasons for Ramsar Designation:** Large numbers of waterfowl use Lake St. Clair and adjacent wetlands, which constitute one of the most important staging regions for waterfowl in Ontario south of James Bay. At the height of migrations in spring and fall, tens of thousands of ducks, geese and swans congregate in the marshes and shallow waters of the east shore of the lake.

**Status of Management Plan:** The *St. Clair National Wildlife Area Management Plan* was released in August 1982. It will be updated to reflect current goals for the area.