

CANADA 23: QUILL LAKES, SASKATCHEWAN

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 – Prairie and Northern Region in October 2001.

Reference: 23rd Ramsar site designated in Canada.

Name and Address of Compiler: Environmental Conservation Branch, Environment Canada, Twin Atria Bldg., Room 200, 4999 - 98th Avenue, Edmonton, Alberta, T6B 2X3.

Date of Ramsar Designation: 27 May 1987.

Geographical Coordinates: 51°55'N., 104°20'W.

General Location: Situated in east-central Saskatchewan, approximately 150 km east of Saskatoon and 150 km north of Regina.

Area: 63 500 ha.

Wetland Type (Ramsar Classification System): *Inland wetlands:* Type Q - permanent and seasonal brackish, saline or alkaline lakes, flats and marshes.

Altitude: About 518 m

Overview (Principal Characteristics): The Quill Lakes are the repository for an internal drainage basin which contains three distinct wetlands; Big Quill, Middle Quill (Mud Lake) and Little Quill lakes.

Physical Features (Geology, Geomorphology, Hydrology, Soils, Water, Climate): Big Quill is Canada's largest saltwater lake.

Ecological Features (Habitats, Vegetation): Salinity limits the floral diversity of Big Quill Lake, although submergent *Potamogeton* spp. are abundant over much of the lake complex and shoreline emergent plant communities dominated by *Typha* and *Scirpus* spp. fringe a portion of the lake.

Land Tenure:

(a) **Site:** The lake complex is principally provincial Crown land administered by the Government of Saskatchewan.

(b) **Surrounding Area:** Mainly privately-held land.

Conservation Measures Taken: 18 000 ha have been designated under the *Saskatchewan Critical Wildlife Habitat Protection Act*. Islands located in Middle Quill Lake are designated as provincial wildlife refuges to protect breeding colonies of American White Pelican *Pelecanus erythrorhynchos* and Double-crested Cormorant *Phalacrocorax auritus*. The wetland complex is

also included in the Saskatchewan Heritage Marsh Program. Quill Lakes was identified as a site under the International Biological Program in the 1970s. The site was declared a Western Hemispheric Shorebird Reserve in May 1994 under the Western Hemispheric Shorebird Reserve Network.

Conservation Measures Proposed: None currently.

Current Land Use/Activities in:

(a) Site: In 1987, Quill Lakes was used as the first implementation site for the North American Waterfowl Management Plan (NAWMP) in Canada. In NAWMP First Step initiatives alone, 6 630 ha were protected and or enhanced here for waterfowl and other wildlife values. Designation as a premier provincial marsh under the Heritage Marsh Program involves intensified management of existing Ducks Unlimited Canada projects on tributary drainages, and the allocation of more resources to the waterfowl crop damage prevention program.

Agricultural activities (cultivation, livestock grazing and haying) have been common for most of the past century throughout upland areas associated with the Quill Lakes complex, and grazing and haying also occur on the salt flats of Big Quill Lake. The Waterfowl Crop Damage Control Program was instituted in the late 1960s to compensate landowners for grain crops lost to field feeding waterfowl. This active program now employs temporary lure crops (168 ha) and four bait stations to reduce the incidence of crop depredation in the area. Field studies indicated a need to upgrade the local crop damage control program; this is being done under the North American Waterfowl Management Plan activities in this region.

(b) Surrounding Area: Mainly private agricultural land. Some lands are being managed for wildlife by the province of Saskatchewan (Fish and Wildlife Branch) and Saskatchewan Wetlands Conservation Corporation (SWCC).

Threats to Integrity of:

(a) Site: A potassium sulphate extraction plant has been proposed for Big Quill Lake. Concern over resultant water chemistry changes to the lake and potential associated impacts on aquatic invertebrates and migratory birds has resulted in an environmental impact assessment by the province of Saskatchewan. This assessment concluded that the proposed development would not have a significant impact on the ecology of the lake. Based upon the assessment, the proposed development has been approved. The Potash Corporation of Saskatchewan has been directed to monitor Piping Plover and other shorebird populations in advance of any decision to proceed.

Drought has led to a serious drawdown in lake levels, resulting in increasing salinity levels and reduction in shoreline habitat for such species as Piping Plover.

(b) Surrounding Area: None currently.

Hydrological/Physical Values:

Social/Cultural Values:

Noteworthy Fauna: The Quill Lakes complex is recognised to be one of the most important waterfowl staging areas in the province. During the autumn, large numbers of geese (*Branta* spp., *Chen* spp., *Anser* spp.), ducks (principally Anatidae) and Sandhill Crane *Grus canadensis* utilise the three basins. Some 140 species of migratory birds have been recorded breeding in the area. Big Quill Lake is one of the primary breeding sites in Saskatchewan for the endangered Piping Plover *Charadrius melodus*. Saline mud flats around the periphery of the lake basin support 19% of the provincial Piping Plover population and 9% of the North American population in 1986. Peregrine Falcon *Falco peregrinus* and the Whooping Crane *Grus americana* are two other endangered species that are known to appear regularly in the Quill Lakes area during migration. Islands located in Middle Quill Lake have in past hosted breeding colonies of white pelican *Pelicanus erythrorhynchos* and double-crested cormorant *Phalacrocorax auritus*.

Noteworthy Flora:

Current Scientific Research and Facilities:

Current Conservation Education:

Current Recreation and Tourism: The area has recently developed ecotourism opportunities including trails, viewing tower and tours.

Management Authority: The area is managed in cooperation with the Saskatchewan Wetland Conservation Corporation. The responsible management authority is:

Fish and Wildlife Branch
Saskatchewan Department of Environment and Resource Management
3211 Albert Street
Regina, Saskatchewan
S4S 5W6

Jurisdiction: Provincial - Saskatchewan Department of Environment and Resource Management

Selected Bibliography:

Reasons for Ramsar Designation: Quill Lakes is one of the key breeding ground areas for North American populations of waterfowl and other migratory birds and shorebirds. The area is a major shorebird staging area in the spring and fall with numbers ranging from 60 000 to 155 000 birds.

Status of Management Plan: Numerous sites around the lakes are managed as waterfowl projects under the North American Waterfowl Management Plan. A *Cooperative Shorebird Management Plan* will be completed by July 1995.