

CANADA 5: LAST MOUNTAIN LAKE, SASKATCHEWAN

Information Sheet on Ramsar Wetlands

Effective Date of Information: The information provided is taken from the List of Canadian Wetlands Designated as of International Importance, May 1982 and updated by the Canadian Wildlife Service – Prairie and Northern Region in October 2001.

Reference: 5th 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: 24 May 1982.

Geographical Coordinates: 51°20'N., 105°15'W.

General Location: Last Mountain Lake is part of the Upper Qu'Appelle River system in south-central Saskatchewan, 150 km south-east of Saskatoon and 100 km north-west of Regina.

Area: 15 602 ha (within National Wildlife Area boundaries)

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

Altitude: About 425 m.

Overview (Principal Characteristics): The National Wildlife Area (NWA) and Migratory Bird Sanctuary (MBS) are situated at the northern end of Last Mountain Lake and are 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 artificially high by low dams.

Physical Features (Geology, Geomorphology, Hydrology, Soils, Water, Climate): The lake within the Sanctuary has a maximum depth of 6.3 m and an average depth of 0.5-4 m depending on seasonal variations. Soils are light in texture with sandy saline loams near the lake.

Ecological Features (Habitats, Vegetation): A preliminary annotated plant list for the area contains 318 species in 58 families. Seven plant species known to occur in the area have been identified as being rare in Saskatchewan.

The NWA is at the interface of Mixed Grass Prairie and Fescue Prairie Ecoregions. Aspens and willows are the only native trees and are generally scarce. Shrubs and trees are confined to hollows with sufficient moisture. Uplands comprise about 70 percent of the NWA while wetlands make up nearly 30 percent.

Several undisturbed native grassland complexes exist. One complex covering about a tenth of the NWA is typical of the higher, drier upland site and it is dominated by

Northern Rough Fescue and Spear Grass. Herbaceous species include Golden Bean, Northern Bedstraw, Crocus Anemone, Low Goldenrod, and Yellow Toadflax. Small stands of Western Snowberry may occur. A lowland complex, composed of moisture tolerant species, covers more than 12% of the area. The dominant plants vary with the degree of alkalinity and slope. Mid slope sites see Western Snowberry associated with Smooth Blue Beardtongue, Bastard Toadflax, Early Blue Violet, and Northern Bedstraw. Mid-lower slopes have Northern Rough Fescue, Kentucky Blue Grass and Green Needle Grass. Lower slopes have Kentucky Blue Grass, Northern Reed Grass, Graceful Sedge and Northern Wheatgrass as dominants. The dominant grasses associated with soil salinity are Salt Grass, Wild Barley and Slender Wheatgrass. Highly saline areas support Salt Grass and Nuttals' Salt-meadow Grass. A third complex is found in wet meadows and is characterized by Wild Barley, Beaked Sedge, Awned Sedge and Spangletop and covers 2% of the NWA. A fourth, associated with alkaline wetlands, covers about 1% of the area. These areas frequently dry out leaving a white alkali flat ringed with Red Samphire, Wild Barley, Nuttals' Salt-meadow Grass, Salt Grass and Sea-Milkwort.

Wetland edge vegetation includes sedges and Reed Grass. The most common emergents are bulrush and cattail. One small but special habitat is the fen complex around the springs in the northern portion of the NWA. The raised bogs surrounding the springs support cattails, sedges and Northern Grass of Parnassus. Wetlands and associated vegetation communities cover nearly 30 percent of the NWA.

Plankton affect water quality and are an essential link in the aquatic food chain. The standing crop of plankton in the north end of the lake was 158.7 kg/ha in 1974. Ninety-eight percent of plankton organisms were phytoplankton, the remainder zooplankton. *Anabaena*, *Anacystis* and *Aphanizomenon* are important Blue-green algae species in Last Mountain Lake. *Anabaena* assumes bloom proportions when the water temperature is about 22°C. In 1974 *Anacystis* and *Aphanizomenon* bloomed in the northern part of the lake although the water did not reach the 25°C deemed necessary for this phenomenon. Blue-green algae blooms reduce recreational use of the lake.

Land Tenure:

(a) **Site:** The area is owned by the Government of Canada.

(b) **Surrounding Area:** Private land and provincial Crown land.

Conservation Measures Taken: The area was first set aside in 1887 as a federal sanctuary for birds and has been administered as a National Wildlife Area since 1994. The area is protected under the Migratory Bird Sanctuary Regulations which stem from the *Migratory Birds Convention Act* and the National Wildlife Area Regulations under the *Canada Wildlife Act*. Last Mountain Lake was recognized as a key site under the International Biological Program in the 1970s; a Ramsar site in 1982; a National Historic Site in 1990; a Western Hemisphere Shorebird Reserve in 1994, and most recently, designated under the Important Birds Areas Program of Canada.

Conservation Measures Proposed: Limited land acquisition may occur in the future to increase the size of the area and complete in-filling.

Current Land Use/Activities in:

(a) Site: The area is managed for the conservation of migratory birds, their habitats, and for other wildlife species, and to help reduce crop damage of cereal grain by influencing the local distribution of waterfowl. The site serves as a refuge for waterbirds in drought years. Boating and recreational fishing are permitted with public access restricted in August and September to minimize disturbance of birds feeding on lure crops.

(b) Surrounding Area: Predominantly utilized for agricultural purposes with a mixture of cereal, oil-seed and pulse crops and cattle pasture land.

Threats to Integrity of:

(a) Site: A steady rise in public use in the surrounding area and on Last Mountain Lake is causing increasing disturbance to wildlife, particularly colonial nesting birds in summer. Breeding success of Double-crested Cormorant *Phalacrocorax auritus*, and perhaps other birds, has fluctuated, and American White Pelican *Pelecanus erythrorhynchos* now breeds here regularly. Natural fluctuations of the lake level have been controlled, thereby reducing the return of nutrients to some marshlands.

Several species of exotic plants (smooth brome grass, yellow toadflax, and nodding thistle) have increased in their occurrence on the area in recent years. Carp (*Cyprinus carpio*), first detected in 1968, have also increased, perhaps at the expense of native fish species such as the bigmouth buffalo fish (*Ictiobus cyprinellus*) listed as vulnerable in Canada. Management actions to control the spread of these exotic species are underway.

(b) Surrounding Area: Increasing amounts of fertilizers and toxic chemicals from surrounding agricultural land are carried into the area by runoff water.

Hydrological/Physical Values: The site is particularly critical to waterbirds during years of drought when small, shallow prairie wetlands dry up.

Social/Cultural Values: The wetlands on the site, particularly the lake, are important to surrounding communities for recreational activities including boating and fishing. Upland areas outside the MBS are also important for recreational hunting.

Noteworthy Fauna: The area is an important breeding and staging area for waterfowl and large numbers of other migratory birds. More than 280 species have been recorded including 100 breeding species of birds, 16 of which are waterfowl. Concentrations of migrant waterfowl are greatest from mid-August to November when up to 75 000 Sandhill Crane and 400 000 geese (*Anser c. caerulescens*, *Anser rossii*, *Anser albifrons*, and *Branta canadensis*) are present. The endangered Whooping Crane *Grus americana* occurs in the area during spring and fall migration. There are occasional large concentrations of *Calidris canutus* and *Arenaria interpres*. The islands within the lake support nesting colonies of pelicans, cormorants, gulls, and terns. Other breeding birds include the endangered Piping Plover *Charadrius melodus*, species of grebe, and a variety of shorebirds such as *Recurvirostra americana*, *Limosa fedoa*, *Catoptrophorus semipalmatus*, and *Phalaropus tricolor*. The threatened Loggerhead Shrike (*Lanius ludovicianus*) is a regular breeding species in the area.

The area also supports populations of prairie mammals such as *Taxidea taxus*, and *Canis latrans*. It is especially important as a wintering habitat for deer such as *Odocoileus virginianus*. The lakes, shallow bays and inlets are among the richest fish spawning and nursery grounds in Saskatchewan, supporting some 18 fish species including the vulnerable *Ictiobus cyprinellus*, rare over much of its range.

Noteworthy Flora: see above.

Current Scientific Research and Facilities: Intensive research programs have been conducted since 1959 by the Canadian Wildlife Service in cooperation with the Universities of Saskatchewan, Regina, and Alberta and the Province of Saskatchewan. The Saskatchewan Wildlife and Fisheries departments have conducted studies since the 1950s. Extensive research programs continue in this area with a number of cooperators.

Current Conservation Education: A self-guided interpretation program assists visitors learn about conservation efforts and wildlife at this site.

Current Recreation and Tourism: The site has an administration office, information kiosk, walking trails, viewing tower, and a series of information brochures.

Management Authority:

Canadian Wildlife Service
Environmental Conservation Branch
Prairie and Northern Region
Environment Canada
Twin Atria Bldg., Room 200
4999 - 98th Avenue
Edmonton, Alberta
T6B 2X3

Jurisdiction: Federal - Environment Canada.

Selected Bibliography:

- Fawson, D.S. and J.E. Moore. 1944. The saline lakes of Saskatchewan. Canadian Journal of Research D.22: 141-201.
- Johnson, R.P. 1963. Studies on the life history and ecology of the bigmouth buffalo *Ictiobus cyprinellus*. Journal of the Fisheries Research Board of Canada 20(b): 1397-1429.
- Stephen, W.J.D. 1967. Bionomics of the sandhill crane. Canadian Wildlife Service Report Series, No 2. Ottawa, Ontario. 46 p.
- Smith, A.R. 1996. Atlas of Saskatchewan birds. Special Publication No. 22. Nature Saskatchewan, Regina, Saskatchewan. 456 pp.

Reasons for Ramsar Designation: Last Mountain Lake was recognized as a key site under the International Biological Program in the 1970s. The area is an important breeding and staging area for waterfowl and large numbers of other migratory birds.

Status of Management Plan: A *Draft Resource Management Plan for the Last Mountain Lake National Wildlife Area and Migratory Bird Sanctuary* was released for review and consultation by Environment Canada in January 1994.