



SOUTHERN INDIAN LAKE (AREA 4)

Coordinated Aquatic Monitoring Program Overview

The Coordinated Aquatic Monitoring Program (CAMP), established in 2008, is a long-term aquatic monitoring program to study and monitor the health of water bodies (rivers and lakes) affected by Manitoba Hydro's generating system.

A Memorandum of Understanding (MOU) between the Province of Manitoba (MB) and Manitoba Hydro (MH), signed in 2006, summarizes and defines the need for coordinating aquatic monitoring to address:

- growing expectation from environmental regulators, local communities, and the general public;
- monitoring and assessment of Manitoba Hydro's hydroelectric generation system.

Design of the CAMP integrates components of existing MB and MH long-term monitoring programs and developed new components and sites to fill necessary gaps. The geographic scale of CAMP makes it the largest holistic, ecosystem-based aquatic monitoring program in Manitoba.

Habitat Summary

In 2013 an aquatic habitat inventory study was conducted on Southern Indian Lake Area 4. Surveys were conducted via boat-based hydroacoustics. Acoustic surveys were validated with observations of substrates and shoreline habitat features. The resulting data was processed and analyzed to produce bathymetric and substrate maps.

Southern Indian Lake Area 4 is a large deep waterbody with over 92% of its area below 3 m in depth. Its mean depth is 13.49 m, and its average bed slope is 1.96%. The maximum depth in the waterbody is 35.08 m. The waterbody is deep and flat throughout the central portions of the lake. One of the deeper areas of the lake (~35 m at its deepest) is Loon Narrows (~500 m at its widest) to the north of Loon Island. Loon Narrows also has steeply sloped banks/shoelines. The maximum bed slope in the waterbody is 33.38%.

Southern Indian Lake is largely composed of mud-based substrates. Silt/Clay substrates comprise 31.39% and clay substrates comprise 15.74% of the waterbody. Mixed sand/silt/clay loam substrates occupy 29.67% of the waterbody. The shore zone is often rocky with varying degrees of embedded materials between fine substrates. Sand (12.37%) dominated substrates are found sporadically throughout the nearshore areas of the waterbody.

References and Data Source:

- Contains information licensed under the Open Government Licence - Canada. (CanVec digital topographic information from Geogratis)
- Information pertaining to the collection and analysis of aquatic habitat data will be found in: North/South Consultants Inc. TBD. Coordinated Aquatic Monitoring Program (CAMP) Manitoba/Manitoba Hydro Coordinated Aquatic Monitoring Program (CAMP): Six Year Summary Report (2008-2013) In Prep.

Prepared by North/South Consultants Inc.

