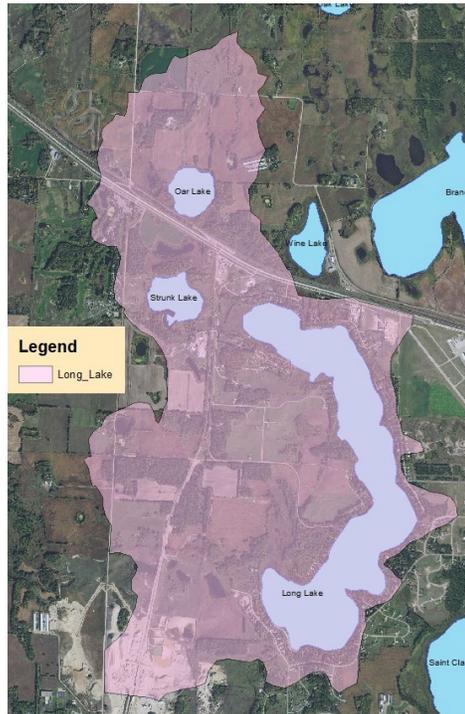


Overall Strategy:
Improve Water Quality

Impairment: Not listed as impaired

Subwatershed Lake Cover/Use:

- 62.4% Open Water
- 2.6% Developed
- 3.2% Wetlands
- 5.6% Cultivated Crops
- 7.5% Forest
- 18.7% Grassland



Water Quality	10-Year Average June - Sept (2008-2017)	Trend
Secchi	14.5 ft.	Improving
Total Phosphorus	12 µg/L	Improving
Ortho Phosphate	3.5 µg/L	Improving
Chlorophyll-a	4.2 µg/L	Stable

Short Term Goals - Year 2025

- Maintain a 5-year mean summer phosphorus concentration at or below 14 µg/L
- Maintain mean summer Secchi depth no less than 14 ft

Long Range Goals – Year 2035

- Maintain a 5-year mean summer phosphorus concentration at or below 14 µg/L
- Maintain mean summer Secchi depth no less than 14 ft

Basic Facts

DNR ID/ Becker No	MN03-0383-00 / 383
Township(s)	Lake View, Detroit (Sec 5, 29-32)
Lake Classification	Recreational Development
Lake Area	408.73 acres
Littoral Area	152 acres (37.19%)
Sub-watershed Area	2761 acres
Shoreline Length	6.0 miles / 31,597 feet
Inlet(s)	Stream from wetland
Outlet(s)	Stream to St. Clair Lake
Control Structures	None
Highest Recorded*	1351.25 feet (7/25/1993)
Lowest Recorded*	1349.61 feet (11/11/1944)
Ordinary High Water Level*	1351.2 feet
Recorded Range*	1.64 feet
Maximum Depth	61 feet
Main Fish Species	Black Crappie, Bluegill, Largemouth Bass, Northern Pike, Rock Bass, Walleye
Secondary Fish Species	Bowfin, Hybrid Sunfish, Pumpkinseed, Tullibee, White Sucker, Yellow Perch, Brown/Yellow Bullhead
MN DNR/ Private Fish Stocking	Walleye
Aquatic Invasive Species (2015)	None listed
Public Access Sites	City Park on NE Shore (DNR)
Marinas	None
Public Beach	None
References	DNR Lake Finder, Becker County

Overall Assessment

Long Lake is a 408-acre recreational development lake located that head if it's watershed area, with no surface water inputs, such as a river or a stream. Long Lake is feed primarily be stormwater runoff and groundwater interactions. It a narrow, deep lake with a maximum depth of 61 feet and with 37% of the lake surface area is classified at littoral. Though a small lake relative to others which attract a large clientele, its elongated shape gives it a shoreline length that is exceeded in the District only by Big Detroit and Melissa; and only Melissa has more residential structures along its shores.

Nutrient and water clarity summer averages show that Long Lake has good water quality with annual phosphorus level ranging from 11 ppb to 16 ppb and water clarity between 12 and 19 feet. 10-year summer mean for phosphorus and clarity is 12ppb and 14.5 feet, respectively.

Long Lake is known for its abundance of Northern Pike and Bluegill. The 2016 assessment showed Pike catches were higher than the lakes average and higher than other ecologically similar lakes. While there are no special regulations for Long Lake, anglers are encourage to release Northern Pike over 24 inches. Since 2001, a Walleye stocking research study has been underway to attempt to determine the best stocking method for a given lake type, despite the efforts, Walleye abundance has continued to decline.

Long Lake outlets via Joy Creek to St. Clair Lake, a lake impaired for excessive nutrients.

Long is a deep lake, and much of its shoreline slopes steeply towards the lake with nearly 37% (11,690 feet) of the shoreline length containing a steep slope (within the 75' structure setback requirements). The natural shoreline has been greatly modified, and based upon District shoreline monitoring is continuing at a rapid pace, including installation or rip-rap, sand blankets, and vegetation removal. Of the 183 parcels surveyed in 2010, 30 contained a retaining wall within the shore impact zone. 96 of parcel (52%) were recorded as having moderately to greatly altered shorelines, including 83 with rip-rap shorelines and 60 with beach sand blankets. 87 parcels (47%) of the parcels remained in a natural or minimally altered condition.

The City of Detroit Lakes annexation of Long Lake has provided water and sewer to the east and south sides of the lake with services on the north to be completed in the next few years. It is still unknown when City utilities will be connected on the west side of the lake. It is likely that improved water quality

Implementation

Planned/Potential Projects:

Capital Improvement Projects:

Projects & Programs

Ongoing Programs:

Long Lake Watershed Summary

In the past 20 years, several resorts have been converted to large residential lots and have all been connected to City water and sewer. One RV campground still exists on the northwest side of the lake and it is likely that it too will eventually be subdivided. The City of Detroit Lakes owns Long Lake Park which contains over 2,200 feet of shoreline, located on the east side of the lake that, except for the public access, will remain in its natural condition. Along the west side of the lake, another parcel, owned by Concordia College, will also remain in an unaltered condition that will protect over 2000 feet of shoreline.

In 2003, a water control structure was installed on a wetland outlet on the north side of the lake, allowing the wetland to serve as a water detention area significantly reducing nutrient loading from the wetland. This project drastically reduced localized nuisance algal blooms in the north side of the Lake and caused an increase in mean summer water clarity by nearly 2 feet.

- Gravel mining adjacent
- Steep slope, importance of shoreline veg
 - High shoreline to lake surface area – sensitive to shoreline erosion, nutrient inputs
- Highway 10 stormwater improvements, leveler
- Improvement attributed to City utilities
- Campground conversion to large single family home on water/sewer
- Contributing basin to St. Clair

Past Studies