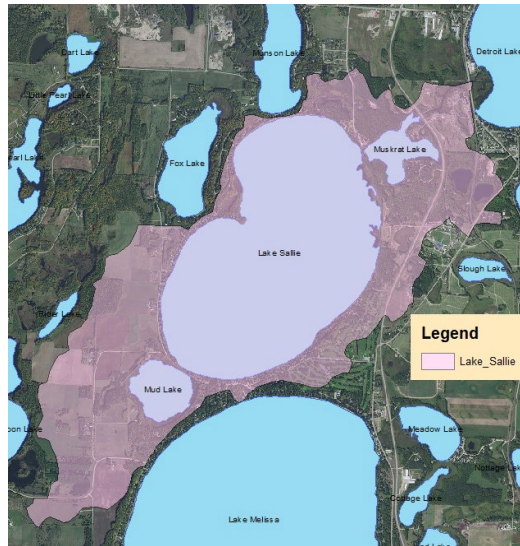


Overall Strategy:
Improve Water Quality

Impairment:
Listed as impaired for mercury

Subwatershed Lake Cover/Use:
46.2% Open Water
10.0% Developed
3.7% Wetlands
7.6% Cultivated Crops
18.0% Forest
14.4% Grassland



Water Quality	10-Year Average (2008-2017)	Trend
Secchi	10 feet	Stable
Total Phosphorus	30 µg/L	Stable
Ortho Phosphate	9 µg/L	Stable
Chlorophyll-a	6 µg/L	Stable

Note: Zebra Mussel infested water listing in 2016

Short Term Goals – Year 2025

- Achieve a 5-year mean summer phosphorus concentration at or below 27 µg/L
- Achieve mean summer Secchi depth no less than 10 ft

Long Range Goals – Year 2035

- Achieve a 5-year mean summer phosphorus concentration at or below 27 µg/L
- Achieve a mean summer Secchi depth no less than 10 ft

Basic Facts

DNR ID/ Becker No	MN03-0360-00 / 360
Township	Lake View (Sec 7-9, 16-20)
Lake Classification	Natural Environment
Lake Area	67 acres
Littoral Area	64 acres
Sub-watershed Area	acres
Shoreline Length	1.7 miles
Inlet(s)	Pelican River from Detroit Lakes
Outlet(s)	Pelican River to Lake Sallie
Control Structures	Dunton Rapids (no longer controlled)
Highest Recorded*	1335.4 ft (07/29/1993)
Lowest Recorded*	1332.6 ft (10/19/2017)
Ordinary High Water Level*	1334.3
Recorded Range*	2.81 feet
Maximum Depth	18 feet
Water Residence	5 days
Main Fish Species	Black crappie, Bluegill, Green sunfish, Largemouth bass, Muskellunge, Northern pike, Walleye
Secondary Fish Species	Bowfin, Hybrid sunfish, Pumpkinseed, White sucker, Yellow perch, Black/Brown/Yellow bullhead
MN DNR/ Private Fish Stocking	None
Aquatic Invasive Species (2016)	Flowering rush, Curly-leaf pondweed, Zebra Mussel
Public Access Sites	Walk in Access
Marinas	None
Public Beach	None
References	DNR Lake Finder, Becker County

Overall Assessment

Muskrat is a small lake located

Of the 23 parcels on the lake, 14 of them remain in a natural (or near natural) condition in terms of vegetation and alterations, 8 minimally altered, and 1 moderately altered. It should be noted that over 1/2 of the shoreline remains undeveloped. Because of the navigable channel to Detroit Lake and a tram to Sallie, there is a higher concentration of watercraft included PWC's than lake similar in size and classification.

Past Studies

- McComas, Steve and Stuckert, J. Blue Water Science. 1999. Plant Harvesting and Zooplankton Dynamics in Muskrat Lake for 1998
- Rieke Carrol Muller and Associates Inc. 1984. Facility Pland Addendum Report, Lakeview Township Evaluation of Land Application by Spray Irrigation
- Wenck Associates Inc. 1998. Wastewater Treatment and Drinking Water Supply Alternatives; Lake Sallie and Melissa Chain of Lakes
- Widseth Smith Nolting. 1997. A Proposal to Detroit Township to Provide Engineering Services for a Wastewater Facility Plan and Water Feasibility Study
- A.W. Research Laboratories. 1995. Proposal for Mapping Sedimentation in Lake Sallie
- Larson Peterson and Associates. 1989. Clean Lakes Program: In Lake Monitoring Lake Sallie
- Lee, David R. 1971. Septic Tank Nutrients in Groundwater Entering Lake Sallie
- McComas, Steve, Hecock, R., Nustad, R., Wilson, B. 1996. An Updated Diagnostic and Feasibility Study for Lake Sallie, Detroit Lakes, MN
- McComas, Steve. Blue Water Science. 1997. Plant Harvesting and Zooplankton Dynamic in Muskrat Lake, Status Report
- McComas, Steve. Blue Water Science. 2001. Plant Harvest and Water Quality Dynamics in Muskrat lake for 2000
- Neel, Joe K. 1973. Weed Harvest and Lake Nutrient Dynamics
- Instrumental Research Inc. 1985. Nutrient Retention of Harvested Aquatic Vegetation from Lakes Sallie and Melissa
- Rieke Carrol Muller and Associates Inc. 1978. Water Pollution Control Facilities Report for Lakeview Township, Becker County, MN
- Rieke Carrol Muller and Associates Inc. 1981. Wastewater Treatment Facilities Plan Summary Report
- Wenck Associates Inc. 2010. Lakeview Township Community Assessment Report
- McComas, Steve. Blue Water Science. 1999. Pelican River Watershed District Aquatic Plant Harvesting Program Evaluation
- McComas, Steve. Blue Water Science. Pelican River Watershed District Aquatic Plant Harvesting Program Evaluation
- Larson Peterson and Associates. 1987. 1987 Monitoring Plan: Lakes Sallie and Detroit
- Larson Peterson and Associates. 1990. Clean Lakes Study of Lakes Sallie and Detroit: 1988 and 1989 Data Collection Summary
- Larson Peterson and Associates. 1992. Diagnostic Feasibility Study: Management Alternatives for Lakes Sallie and Detroit

Implementation

Planned/Potential Projects:

Capital Improvement Projects:

Projects & Programs

Ongoing Programs:

Lake Muskrat Watershed Summary

- Larson Peterson and Associates. 1998. 1998 Monitoring Plan: Lakes Sallie and Detroit
- Larson Peterson and Associates. 2001 Diagnostic Management Alternatives for Lake Sallie and Detroit Lake
- Iverson, Steven W. 1992. The Pelican River Navigation Restoration Project
- K-V Associates Inc. 1980. Septic Leachate Survey, Detroit Lakes, MN
- Hecock, R. 1993. Diagnostic and Feasibility Study and Management Alternatives for Lake Sallie and Detroit Lake
- Larson Peterson and Associates. 1998. 1998 Quality Assurance Plan: Lakes Sallie and Detroit