

Lake Status

Overall Strategy: Impaired Watershed Management

Water Quality Rating: C-: Secchi – 5.3 ft.; TP – 89 µg/L

Impairment: *Aquatic recreation* due to excess nutrients in the lake.

Water Quality Trend: Secchi – Improving;
TP – No Trend

Shoreland Classification: Natural Environment

Subwatershed Land Cover: 12% developed, 31% forests and woodlanes, 4% grassland/shrubland/sparse vegetation, 7% lakes and open water wetlands, 34% planted or cultivated, 11% wetlands.

Resource Goals

Short Term Goals – Year 2015

- Achieve a five-year mean summer phosphorus concentration at or below 100 µg/L ± 4%.
- Maintain a mean summer secchi depth no less than 2 ft.
- Establish an active Lake Association to assist with lake management and education.
- Revise goals based on the CMSCWD Lake TMDL Study.

Long Range Goals - Year 2020

- Achieve a five-year mean summer phosphorus concentration at or below 80 µg/L ± 4%.
- Maintain a mean summer secchi depth no less than 2 ft.
- Revise goals based on the CMSCWD Lake TMDL Study.
- Conduct watershed management in consideration of the area’s statewide importance to the Blanding’s turtle.

DNR Fisheries Lake Management Plan: None



BASIC FACTS

DNR ID	82006400
Section	28
Township	32
Range	20
Lake Area	72 acres
Subwatershed Area	1038 acres
Outlet Elevation	949.8
Low Water Level	948.89 ('00)
High Water Level	952.68 ('03)
Ordinary High Water	951.00
100-Yr. Flood Elev	954.1 (FEMA)
Greatest Depth	10 ft.

Control Structures:

None

Fish Species:

Black Crappie, Bluegille,
Northern Pike, Yellow Bullhead (1959)

Aquatic Nuisance Species:

Reed Canary Grass

CMSCWD References:

WCD Water Monitoring Report ('08)
DNR Lake Water Level Report
DNR Lake Information Report

Implementation

Operational Priorities

Impaired Watershed Management per TMDL Study Recommendations

Education

Impaired Watershed Education Program per TMDL Study Recommendations

Regulatory

Activities impacting Fish Lake will be regulated by the watershed district through its *Rules of the District*. Regulatory efforts will be coordinated with Scandia Township, Washington County and the Minnesota DNR, where applicable.

Projects

Current:

- CMSCWD Lake TMDL Study
- Best Management Practices (BMP) Program per TMDL Study Recommendations
- Water Quality Monitoring Program per TMDL Study Recommendations
- Permitting Program

Future/Potential:

- TMDL Implementation Plan Projects

* See 2010 Watershed Management Plan Section V, Lake Management Plans for additional information on District lake management activities.

Overall Assessment: Fish Lake

Fish Lake is a long, shallow lake with poor water quality and limited development. The lake is tributary to Jellum's Bay which in turn outlets to Big Marine Lake. In-lake phosphorus concentrations commonly double the MPCA shallow lake standard of (60µg/L) and the lake is therefore listed as impaired. In 2008 the lake did meet the MPCA shallow lake standard of 1-m for sechi depth transparency and has an improving trend for this parameter.

Future development of this lake could further impact the lake and downstream resources if not handled properly. Past District management efforts included cooperation with MN DNR to remove rough fish in 2002 prior to the District's barley straw application to improve water quality in downstream Jellum's Bay. Rough fish re-suspend bottom sediments, releasing nutrients resulting in decreased water clarity and quality. Following the removal of rough fish, the MNDNR used the lake to rear walleye fry for several years.

Based on an Aerial Lakeshore Analysis study (1998), the greatest influence on the lake is non-point source runoff from agricultural fields adjacent to the lake followed by a single potentially failing septic system. An estimated 50% of the shoreline has Best Management Practices (BMPs) in use (i.e. forested buffer). Based on measured lake characteristics and land use in the lake's minor subwatershed, water quality modeling indicated that a significant amount of phosphorus needs to be removed to improve the water quality of the lake. Without extensive restoration efforts, this lake will remain hypereutrophic and continue to have poor water quality.

Fish Lake is one of 10 lakes in the CMSCWD on the EPA's 303(d) list of impaired waters impaired for nutrients. Phase I of the Lake Total Maximum Daily Load (TMDL) Study is complete. The target completion date for the Fish Lake TMDL is 2015. Fish Lake has achieved the 2010 goal of a mean summer secchi depth no less than 2 ft, but it has not achieved a 5-yr. mean summer phosphorus concentration at or below 100 µg/L ± 4% based on the 2008 WCD Water Monitoring Report. These goals have been transferred to 2015 goals, and Fish Lake is undergoing impaired watershed management.

