

Lake Status

Overall Strategy: Routine Watershed Management

Water Quality Rating: C: Secchi – 4.2 ft.; TP – N/A

Impairment: Not Impaired

Water Quality Trend: Secchi – N/A (shallow);
TP – N/A

Shoreland Classification: Natural Environment

Subwatershed Land Cover: 3% developed, 14% forests and woodlands, 75 grassland/shrubland/sparse vegetation, 10% lakes and open water wetlands, 57% planted or cultivated, 9% wetlands.



Resource Goals

Short Term Goals – Year 2015

- Maintain a water quality rating of at least C.
- Achieve a five-year mean summer phosphorus concentration at or below 75 µg/L ± 4%.
- Maintain a mean summer secchi depth no less than 3.5 ft.
- Maintain District’s existing good relationship with Landowner and Land Manager for possible teaming on lake management and education opportunities. Work with county parks when the watershed is incorporated into the Big Marine Regional Park.

Long Range Goals - Year 2020

- Maintain a water quality rating of at least C.
- Achieve a five-year mean summer phosphorus concentration at or below 60 µg/L ± 4%.
- Maintain a mean summer secchi depth no less than 3.5 ft.
- 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	82003600
Section	17
Township	31
Range	20
Lake Area	24 acres
Subwatershed Area	858 acres
Outlet Elevation	939.0 (btm)
Low Water Level	938.86 (‘96)
High Water Level	942.38 (‘79)
Ordinary High Water	N/A
100-Yr. Flood Elev	943.0 (FEMA)
Greatest Depth	8 ft.
Control Structures: Stop log control structure at outlet	
Fish Species: Bass, Northern Pike, Sunfish, Carp, Bullhead	
Aquatic Nuisance Species: Purple Loosestrife (1999)	
CMSCWD References: WCD Water Monitoring Report (‘08) Mud-Turtle Lake Study (‘96) DNR Lake Water Level Report	

Implementation

Operational Priorities

- Routine Watershed Management
- Provide Input to the Big Marine Regional Park Planning Process

Education

Routine Watershed Education Program

Regulatory

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

Projects

Current:

- Routine Watershed Water Quality Monitoring
- Routine Watershed Best Management Practices (BMP) Program
- Ongoing BMP Monitoring
- Permitting Program

Future/Potential:

- Purple Loosestrife Control and Collections

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

Overall Assessment: Turtle Lake

Turtle Lake is a shallow lake that is part of the Carnelian Creek Flowage. The lake is completely surrounded by a large, private livestock grazing operation. The grazing operation uses rotational grazing to manage pasture lands. There is no public access to the lake. In the past the lake has been subjected to considerable nutrient-laden runoff and erosion due to historic logging and farming practices. When the District last monitored for in-lake phosphorus concentrations in 2003 concentrations were significantly worse than the MPCA shallow lake standard of (60µg/L). In 2008 the lake was better than the MPCA shallow lake standard of 1 m for sechi depth transparency.

Water levels in Turtle Lake are maintained by the Turtle Lake control weir. This weir was installed by the District as part of the District's 1985 Outlet project for the purpose of maintaining waterlevels in the upstream lakes and wetlands. The District operates the weir in accordance with a permit from the MN DNR.

Based on an Aerial Lakeshore Analysis study (1998), the greatest influence on the lake is runoff non-point source pollution. The most common issue was the lack of a natural vegetative buffer. The recommendations from that study are to investigate and correct all point and non-point sources of pollution to the lake and to create a forested buffer or a berm, adjacent to the shoreline, to reduce impacts of runoff from adjacent fields. The District has worked with the landowner to install fencing to exclude livestock from portions of the shoreland and outlet channel banks.

The overall water quality grade has increased steadily from F to C since 1991 based on the 2008 WCD Water Monitoring Report. Turtle Lake water quality appears to be highly dependent on the quality of discharge from Big Marine Lake and Carnelain Creek which flows through the Lake. Turtle Lake is undergoing routine watershed management.

