

**Lake Status**

**Overall Strategy:** Impaired Watershed Management

**Water Quality Rating:** C: Secchi – 5.3 ft.; TP – 49 µg/L

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

**Water Quality Trend:** Secchi & TP – N/A

**Shoreland Classification:** Natural Environment

**Subwatershed Land Cover:** 31% developed, 16% forests and woodlands, 0.5% grassland/shrubland/sparse vegetation, 12% lake and open water wetlands, 31% planted or cultivated, 9% wetlands.

**Resource Goals**

**Short Term Goals – Year 2015**

- Achieve a five-year mean summer phosphorus concentration at or below 60 µg/L ± 4%.
- Achieve a mean summer secchi depth no less than 5 ft.
- Work with existing Lake Association for teaming on 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 55 µg/L ± 4%.
- Achieve a mean summer secchi depth no less than 6 ft.
- Revise goals based on the CMSCWD Lake TMDL Study.
- Consider area’s importance to the Blanding’s turtle.

**DNR Fisheries Lake Management Plan (2006)**

- Long Range Goal: Provide bluegill with a PSD at 70% and RSD7 at 30% with maintaining the northern pike PSD at 100% and RSD25 at 75%.
- Operational Plan:
  - Lake survey in 2011; population assessment in 2017.
  - Monitor winter oxygen levels.
  - Stock panfish or largemouth bass after winterkill.
  - Monitor aeration system.
- Mid Range Objective: Maintain the present bluegill PSD at 60% and RSD7 at 26% with northern pike PSD at 100% and RSD25 at 75%.
- Potential Plan:
  - Improve public access.
  - Chemical reclamation and restocking.
  - Acquire land for and install a fishing pier.
  - Creel/recreational use survey.



**BASIC FACTS**

<b>DNR ID</b>	82005900
<b>Section</b>	11
<b>Township</b>	32
<b>Range</b>	20
<b>Lake Area</b>	75 acres
<b>Subwatershed Area</b>	755 acres
<b>Outlet Elevation</b>	N/A
<b>Low Water Level</b>	977.68 ('07)
<b>High Water Level</b>	983.69 ('96)
<b>Ordinary High Water</b>	983.90
<b>100-Yr. Flood Elev</b>	N/A
<b>Greatest Depth</b>	25 ft.

**Control Structures:** N/A

**Fish Species:**

Black Bullhead, Black Crappie, Bluegill, Golden Shiner, Largemouth Bass, Northern Pike, Pumpkinseed Sunfish, White Sucker, Yellow Perch (2005)

**Aquatic Nuisance Species:**

Curlyleaf Pond Weed

**CMSCWD References:**

WCD Water Monitoring Report ('08)  
 Goose Lake Management Plan ('05)  
 DNR Lake Water Level Report  
 DNR Lake Information Report  
 CMSCWD Lake TMDL Phase I Report ('08)

## Implementation

### Operational Priorities

Impaired Watershed Management per TMDL Study Recommendations

### Education

- Impaired Watershed Education Program per TMDL Study Recommendations
- Encourage voluntary landscaping in the nearshore area around the lake, emphasizing the use of native plants and natural features to enhance and restore lakeshores to provide erosion control, enhance fish and wildlife habitat and provide an attractive alternative to manicured lawns or structural controls.

### Regulatory

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

## Projects

### Current:

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

### Future/Potential:

- Lake Vegetation Management Plan
- TMDL Implementation Plan Projects.

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

## Overall Assessment: Goose Lake

Goose Lake is a small, lake with poor water quality compared to metro area norms. Land use within the Goose Lake watershed is currently dominated by undeveloped, single family residential and agricultural land uses. Areas of commercial, park, and institutional land uses are also found in the contributing watershed. The lake has a public access maintained by the City of Scandia. Primary uses of the lake are boating and fishing. The Goose Lake Association operates an aeration system in the winter to help maintain oxygen levels and prevent winter kill of fish.

The Town of New Scandia developed the Goose Lake Management Plan (Plan) in 2005 initiated by the Goose Lake Association in response to concerns regarding water quality, water levels and lake use. The Plan includes issues regarding the lake, lake goals and objectives, and a comprehensive management plan to achieve the goals. The Plan suggests that internal loading is a significant factor in the water quality of Goose Lake. It appears that phosphorus from both runoff and internal sources are significant in terms of the measured phosphorus content of Goose Lake. In-lake phosphorus concentrations typically exceed the MPCA lake standard of (40µg/L) and the lake is therefore listed as impaired. Observation and anecdotal accounts indicate that there are abundant native aquatic plants inhabiting the shallow waters of Goose Lake. There are no known occurrences of exotic plant species, such as Eurasian watermilfoil or curlyleaf pondweed.

Goose 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 Goose Lake TMDL is 2015. According to the TMDL Phase I Report, the overall algae community in Goose Lake is dominated by blue-green algae, indicating a high potential for noxious blooms of algae that are largely unpalatable to grazers. The plankton community composition suggests both high nutrient input to Goose Lake and an unbalanced piscivore and planktivore community. The WCD 2008 Water Monitoring Report indicates a water quality grade of 'C'. Based on the impaired condition of Goose Lake, this watershed is undergoing impaired watershed management.

