LOCATION: Goose Lake is located in the City of White Bear Lake. The subwatershed includes residential, industrial, and commercial properties as well as a portion of a golf course. Highway 61 divides the lake into east and west basins, connected by two culverts under the highway. The lake outlets at the northern end of West Goose into the OAK KNOLL POND, also known as Wood Lake, is located South of East Goose Lake near White Bear Avenue. It feeds into Goose Lake and is therefore an important part of Goose Lake’s improvement. Records and aerial imagery indicate that Oak Knoll is a natural pond that has adapted over time from agriculture to suburban uses.

LAKE SUMMARY: Goose Lake is on the State Impaired Waters list due to high nutrient levels. A unique combination of factors affect the lake: historical discharge of treated waste water, frequent water ski traffic, stormwater runoff, eroding shorelines and channels that drain into the lake, and occasional input of water into West Goose from a nearby business. Studies show that internal loading is the main reason for the lake’s impairment, which has been caused by the historical discharge (1930’s-60’s, see reverse page) and the lake’s modification from a wetland into a lake due to development.
NUTRIENT SUMMARY:

- Nutrient levels are above state standards for both East and West Goose Lakes. The lakes produce large amounts of algae each summer due to high Chl A levels. The presence of blue-green algae is a common occurrence in the summer, especially on East Goose Lake.

- According to the Total Maximum Daily Load (TMDL) plan for East and West Goose Lakes, there are total phosphorus (TP) reductions needed. East goose is required to reduce TP by 91% and West Goose by 70%.

- Part of Goose Lake’s nutrient issues come from historical waste water dumping the City in the 1930’s-60’s. Pieces of trash such as tires have also been found in the lake, indicating a history of negligence regard to Goose Lake.

- Feasibility studies for alum treatment have been conducted to bind the nutrients that are coming from within the lake bottom. VLAMWO is now seeking the funding to do so.

STATE STANDARDS: Goose Lake To-Do List: Much has been completed to understand and support Goose Lake. The next steps require community and stakeholder collaboration.

- TP: Total Phosphorus
- Chl A: Chlorophyll-A

- Hwy 61 channel restoration
- Shoreline restoration
- Alum treatment
- Subwatershed improvements

SEDIMENT STUDIES:

Sediment cores taken in 2017 determined that sediment from the lake bottom may play a minor role in contributing to cyanobacterial algal blooms. Sediment cores also indicated that frequent resuspension from recreation contributes to raised phosphorus levels and turbidity (sediment) in the water column.

FISH & VEGETATION SURVEYS:

A fish survey was conducted in 2017 as a follow-up to rough fish removal in 2015. Bullhead were removed in 2015 to decrease the impact these fish have, which is resuspension of sediment and nutrients. It seems to be working. The bullhead population has remained very low while other fish like bass and crappie have increased. Vegetation studies indicate that Goose’s vegetation is sparse due to algae that prevents plant growth. VLAWMWO is working with stakeholders to find a balance between lake usability and water quality.

Visit VLAWMWO’s online project map for a complete list watershed projects. Find the “project map” link under the “projects” tab.

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