

Nine Mile Creek Watershed District
12800 Gerard Dr
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Shady Oak is a highly recreated lake in the Nine Mile Creek Watershed District and City of Minnetonka. Unfortunately, this provides more opportunities for introducing and spreading of invasive species. Brittle naiad, now identified in 5 lakes in Hennepin County, is at a critical point of spread. The first detection of brittle naiad in Shady Oak was in summer of 2021 in three locations. In 2024, it has now spread through most of the shoreline areas. Our goal was to complete a chemical treatment and reduce its abundance enough to be able to spot treat for the following 3-4 years to keep it under control. This would significantly reduce the chances of recreational watercraft spreading it from Shady Oak to other waters in Hennepin County. To help achieve these goals, Nine Mile Creek Watershed District was awarded an AIS Prevention Grant from Hennepin County to support the treatment for brittle naiad.

Nine Mile Creek Watershed District and the City of Minnetonka are the main project participants as well as application consultants and treatment practitioners. Our expected outcome is to reduce brittle naiad frequency of occurrence within Shady Oak and prevent spread to other lakes.

Our work began with consultation with the Minnesota Department of Natural Resources (DNR) about the need for a lake vegetation management plan which would allow for whole lake treatments annually for up to five years. However, the plan to use fluoridone to treat the brittle naiad was predicted to have a significant enough effect, that the DNR allowed a variance permit to treat the whole lake for one year with follow up assessments on the extent of regrowth. This meant that spot treatments, which would have lesser impact on native aquatic plant abundance, would be needed instead of more intense treatments.

Barr Engineering developed a dosing plan for the fluoridone using monitored lake conditions and evaluated contractors able to conduct the treatment. Barr solicited quotes for the work and Pond and Lake Management (PLM) was recommended to the district for contracting for the treatment.

The initial sonar treatment by PLM was conducted in the first week of July followed by monitoring of the concentration of the herbicide. As anticipated, a bump treatment was conducted in mid-August to keep the herbicide concentration at the effective range, again followed by concentration monitoring. After monitoring showed sustained effective concentrations for the recommended exposure time, a delineation was conducted by Freshwater Scientific Services (FSS) on September 24th. It turned out that this herbicide would also be effective at treatment of the Eurasian watermilfoil especially since they were found in similar extents in the lake. Therefore, the surveyor simultaneously looked for EWM. In general, the survey found no surviving brittle naiad plants and the vast majority of the EWM plants were severely damaged and are not anticipated to survive the winter. These maps and report will be reported to the DNR to indicate outcomes of their permit.

In an effort to raise awareness of the AIS in the lake, especially brittle naiad, and how to prevent the spread, two educational signs were developed by NMCWD and installed by the City of Minnetonka at locations where watercraft are known to be launched and angling is popular.

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Figure 1: Educational signs prepped for installation at Shady Oak Lake