

# Spectacle Lake Eurasian Watermilfoil Delineation Survey

Isanti County, Minnesota

8/13/2022

A meandering delineation survey was performed on 8/13/2022 on Spectacle Lake in Isanti County searching for Eurasian watermilfoil and curlyleaf pondweed as a requirement for the Minnesota Department of Natural Resources. A total of 167 sites were sampled with a double-sided rake. Eurasian watermilfoil was very sparse throughout the lake, so the rake was tossed at deeper locations and locations where a milfoil species was observed. For every species sampled, an abundance rating was assigned based how much was sampled on the rake. The ratings are as follows:

0. Plant species absent
1. Plant species covers <25% of the rake
2. Plant species covers 25-75% of the rake
3. Plant species covers >75% of the rake

This rating scale was taken out of the Minnesota Department of Natural Resources Guidance for Delineating Aquatic Plants for Management.

Eurasian watermilfoil abundance ranged from 0 (absent) to 3 (>75% of the rake). The maximum depth where Eurasian watermilfoil was sampled was 8 feet. A total of 21 other species were sampled during the survey (See table 1).

Table 1: This table lists the plant species found within Spectacle Lake, the number of sites it was sampled at and rating count breakdown.

<b>Plant Species</b>	<b>Sites Found</b>	<b>3 Ratings</b>	<b>2 Ratings</b>	<b>1 Ratings</b>
Eurasian Watermilfoil	10	4	4	2
Suspected Hybrid Watermilfoil	56	30	17	9
Northern Watermilfoil	18	11	2	5
Curlyleaf Pondweed	0			
Largeleaf Pondweed	Observed			
Sago pondweed	Observed			
Flatstem Pondweed	Observed			
Coontail	Observed			
Chara spp	Observed			
Bulrush spp	Observed			
Ribbon Pondweed	Observed			
Variable Pondweed	Observed			
Slender Naiad	Observed			
Southern Naiad	Observed			
Canada Waterweed	Observed			
Whitstem Pondweed	Observed			

Longleaf Pondweed	Observed			
Arrowhead spp	Observed			
Clasping Leaf Pondweed	Observed			
White Water Lily	Observed			
Spatterdock	Observed			
Illinois Pondweed	Observed			

To summarize the survey, Eurasian watermilfoil was localized to a few locations throughout the lake. It was the most abundant north of the public water access (see figure 1). I propose one treatment area if the lake organization would decide to treat for Eurasian watermilfoil (see figure 2). However, northern watermilfoil was also found in Spectacle Lake. Northern water milfoil was found at 18 locations. These specimens did not have any characteristics for Eurasian watermilfoil. It seems that Eurasian and northern watermilfoil may have hybridized. Potential hybrid watermilfoil was found at 56 locations. All specimens that were suspected hybrid had a leaflet count under 12 pairs. However, other characteristics of Eurasian water milfoil were observed like pink stems. If genetic testing determines these specimens are hybrid water milfoil, I propose two areas to treat (see figure 4). Dense native plant stands were observed at all treatment (see figure 5), so that must be considered when a treatment plan is made. Overall, the native plant community dominated the plant community. Curlyleaf pondweed was not found during this delineation survey.

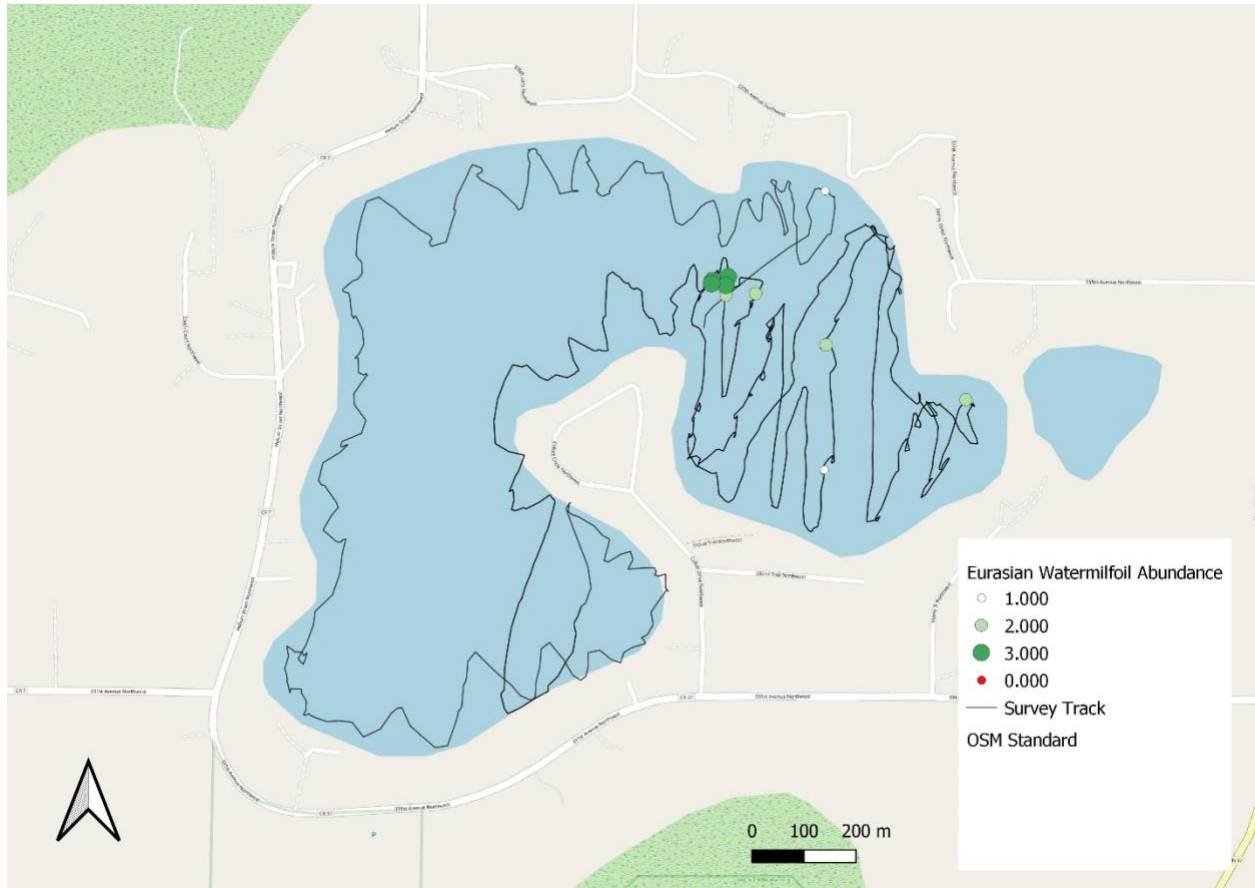


Figure 1: Eurasian Watermilfoil distribution and abundance in Spectacle Lake

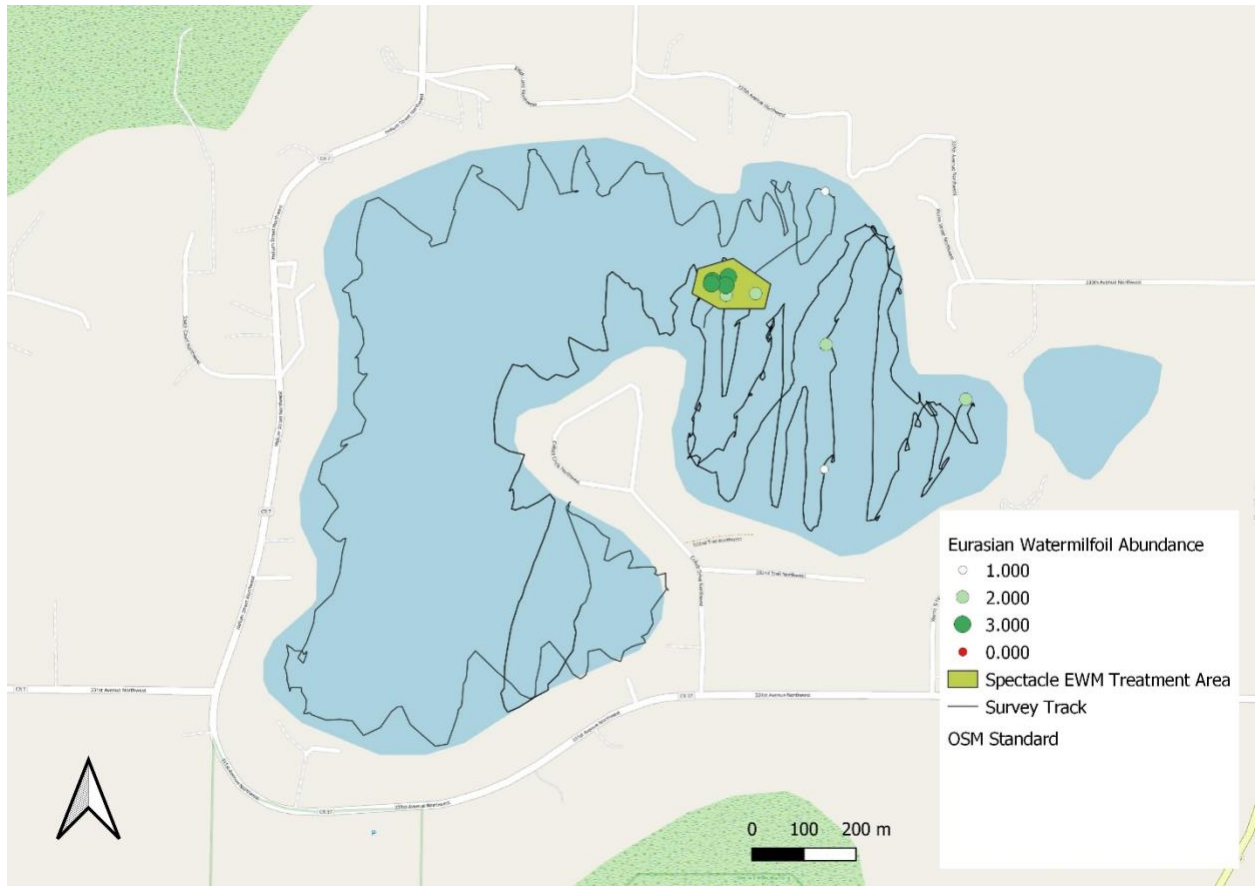


Figure 2: Eurasian watermilfoil proposed treatment areas in Spectacle Lake

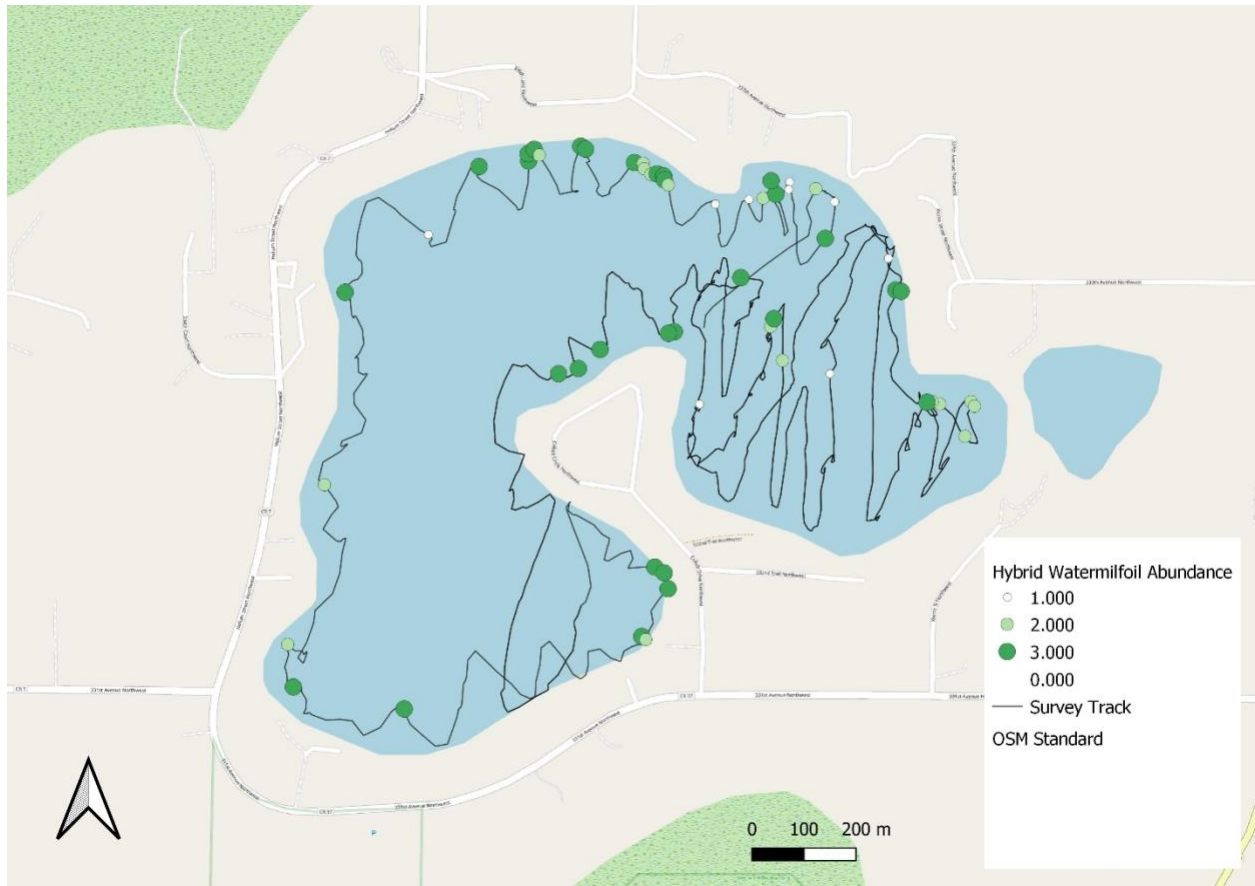


Figure 3: Potential hybrid watermilfoil distribution and abundance in Spectacle Lake.

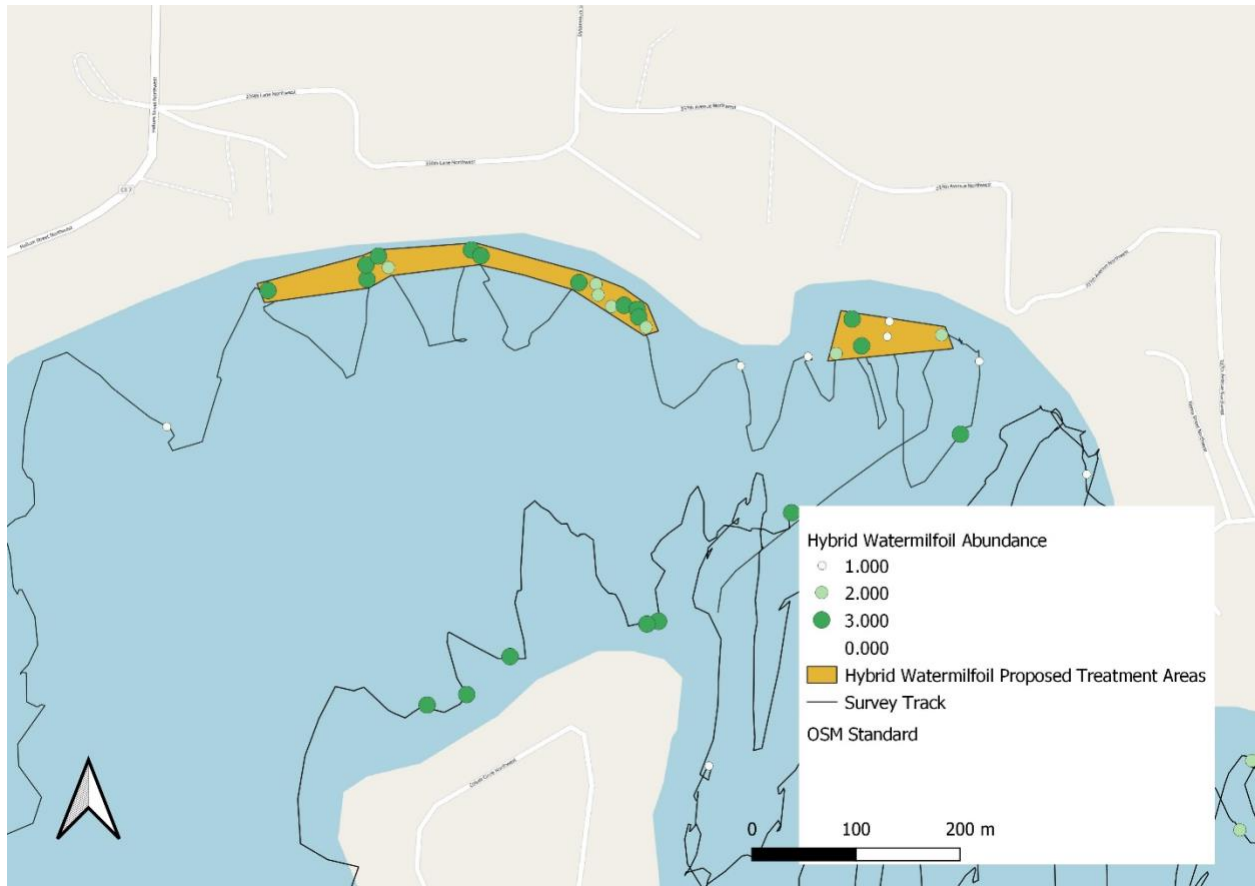


Figure 4: Proposed hybrid watermilfoil treatment areas pending genetic analysis in Spectacle Lake.

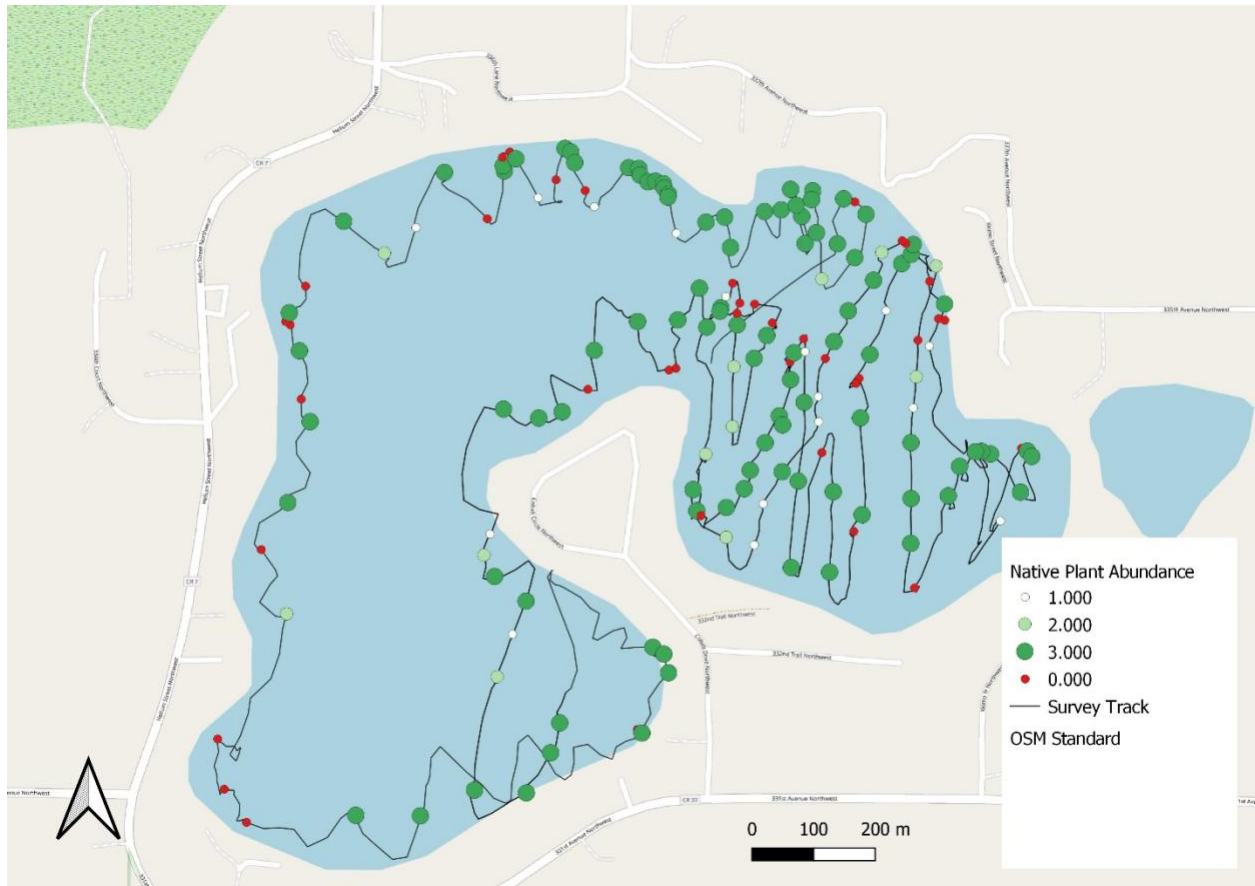


Figure 5: Native aquatic plant distribution and abundance in Spectacle Lake.