

## 2021 Eurasian Watermilfoil Delineation

**Big Elk Lake** (#71-0141)  
Sherburne County, MN

Surveyed July 16, 2021



### Survey, Analysis, and Reporting by:

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## *Purpose of Survey*

This survey was designed to locate and delineate areas of Eurasian watermilfoil (EWM) in portions of Big Elk Lake (#71-0141) where EWM was found in Sept 2020. This information will help to guide EWM management in the lake, and is required as a part of the DNR permitting process for herbicide treatments.

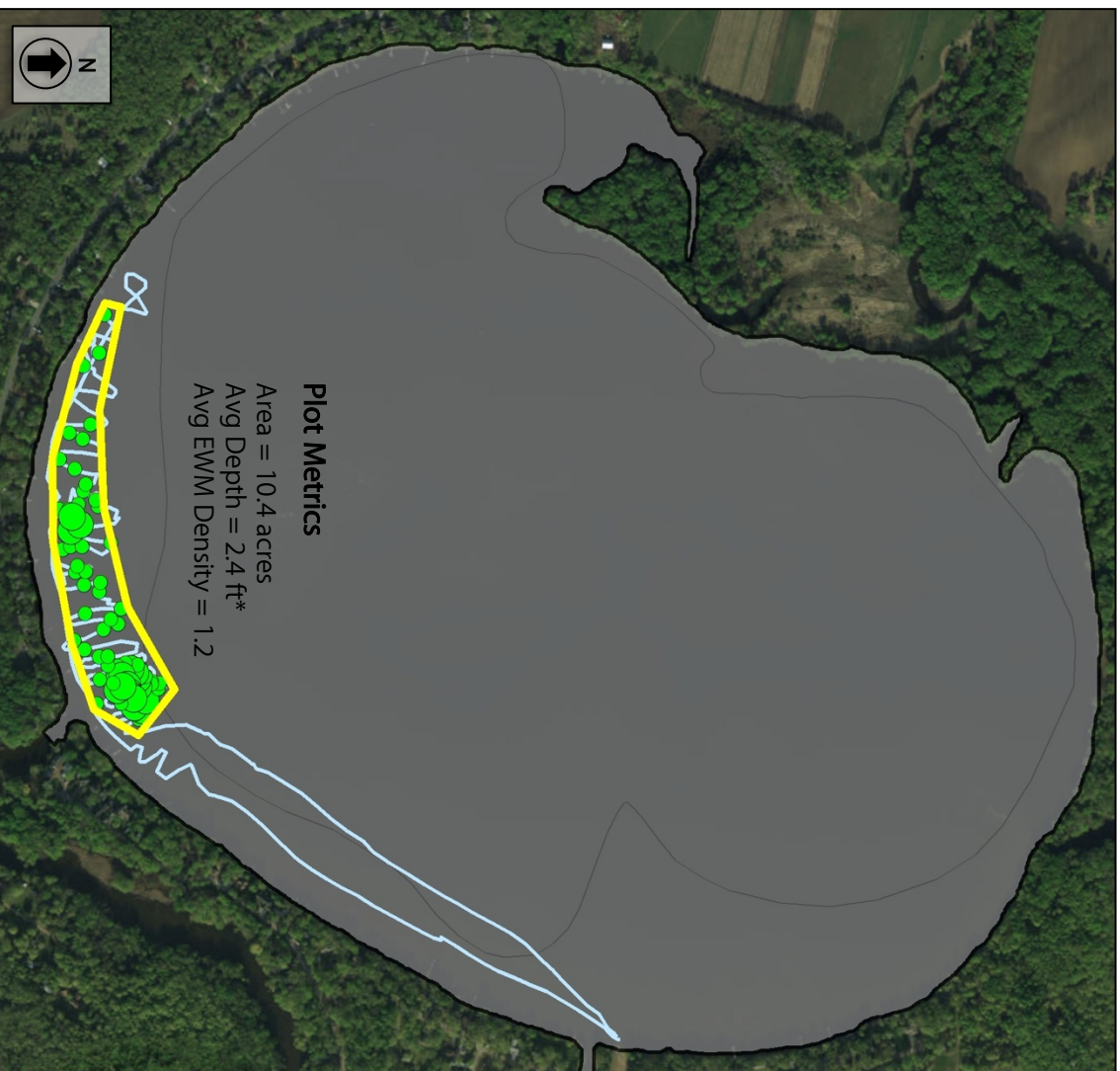
## *Survey Method*

### **EWM Delineation Survey**

For this survey, Freshwater staff navigated a meandering path over the southern portion of the lake where EWM was found in 2020. While navigating this search path, we used a combination of surface observations, rake tosses, and sonar readings to assess EWM abundance. Due to low water levels at the time of the survey, we were unable to launch our normal survey boat. Consequently, we conducted the 2021 survey using a kayak. We used a hand-held Garmin GPS unit (GPS-MAP78) to record each of the locations with EWM, and documented water depth, native plants present, EWM plant height, and EWM abundance (rake density rating; 1 to 3 scale as described below). The recorded water depths, EWM plant heights, and rake densities were linked to the appropriate GPS locations and then mapped using desktop GIS software.

<b>Score</b>	<b>Visual</b>	<b>Rake</b>
<b>1</b>	Light / Solitary plants	1-2 stems
<b>2</b>	Moderate / Scattered dense patches	3 to 9 stems
<b>3</b>	Dense / Uniform dense growth	10+ stems

# Big Elk Lake (#71-0141) Eurasian Watermilfoil Delineation Survey: July 16, 2021



**Eurasian Watermilfoil**

- Surveyed Path (kayak)
- ▭ Proposed Management Plot

**EWM Density (1-3)**

- 1
- 2
- 3

**Note:**  
Water level in the lake was very low at the time of the survey. To ensure proper herbicide dosing, the hired herbicide applicator should reassess the mean depth in the plot prior to treatment. Furthermore, if water remains low, the applicator may need to use a small boat, as we were unable to launch our survey boat due to very low water levels.

**Surveyed:** July 16, 2021  
**Method:** Visual, Rake, Sonar  
**Surveyor:** JA Johnson  
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## *Online Resources & Contacts*

Minnesota Administrative Rules for Aquatic Plant Management

<https://www.revisor.mn.gov/rules/?id=6280>

Minnesota DNR – Aquatic Plant Management Regulations & Permit Application Forms

<http://www.dnr.state.mn.us/apm/index.html>

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