

2023 Aquatic Invasive Species Sentinel Survey II (Diver Survey & Lakewide Search)

Cedar Lake (#01-0209)
Aitkin & Crow Wing County, MN

Diver Survey: August 5, 2023
Lakewide Search: September 13, 2023



Survey, Analysis, and Reporting by:
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Purpose of Survey

These surveys were conducted to document and assess the presence of any new aquatic invasive species (AIS) in Cedar Lake (#01-0209), with a focus on locating areas with invasive aquatic plants (particularly curlyleaf pondweed, Eurasian watermilfoil, starry stonewort, and flowering rush). This information will help guide prevention planning and AIS management in the lake.

Survey & Analysis Methods

AIS Sentinel Survey II

This September survey was identical to the lakewide search conducted in July 2023, but timed to coincide with the typical peak abundance of Eurasian watermilfoil, starry stonewort, and flowering rush. During this survey, we once again navigated a search path over nearshore portions of the lake (27-mile search path, generally out to the 5-ft contour), while using a combination of surface observations, rake tosses, and sonar readings to locate and delineate any areas of invasive aquatic plants. At each location where we found AIS, we used a hand-held Garmin GPS unit (GPS-MAP78) to record coordinates, and documented water depth, plant height, and invasive plant abundance (density rating; 1 to 3 scale as described below).

Score	Visual	Rake
1	Low Density / Solitary plants	1-2 stems
2	Moderate Density / Dense patches	3 to 9 stems
3	High Density / Uniform matted AIS	10+ stems

We entered the recorded locations, water depths, plant heights, and density ratings into desktop GIS software and projected results over aerial imagery of the lake. We then delineated the boundaries of any invasive plant beds, and calculated the area, mean water depth, and mean density within any delineated beds (using point data).

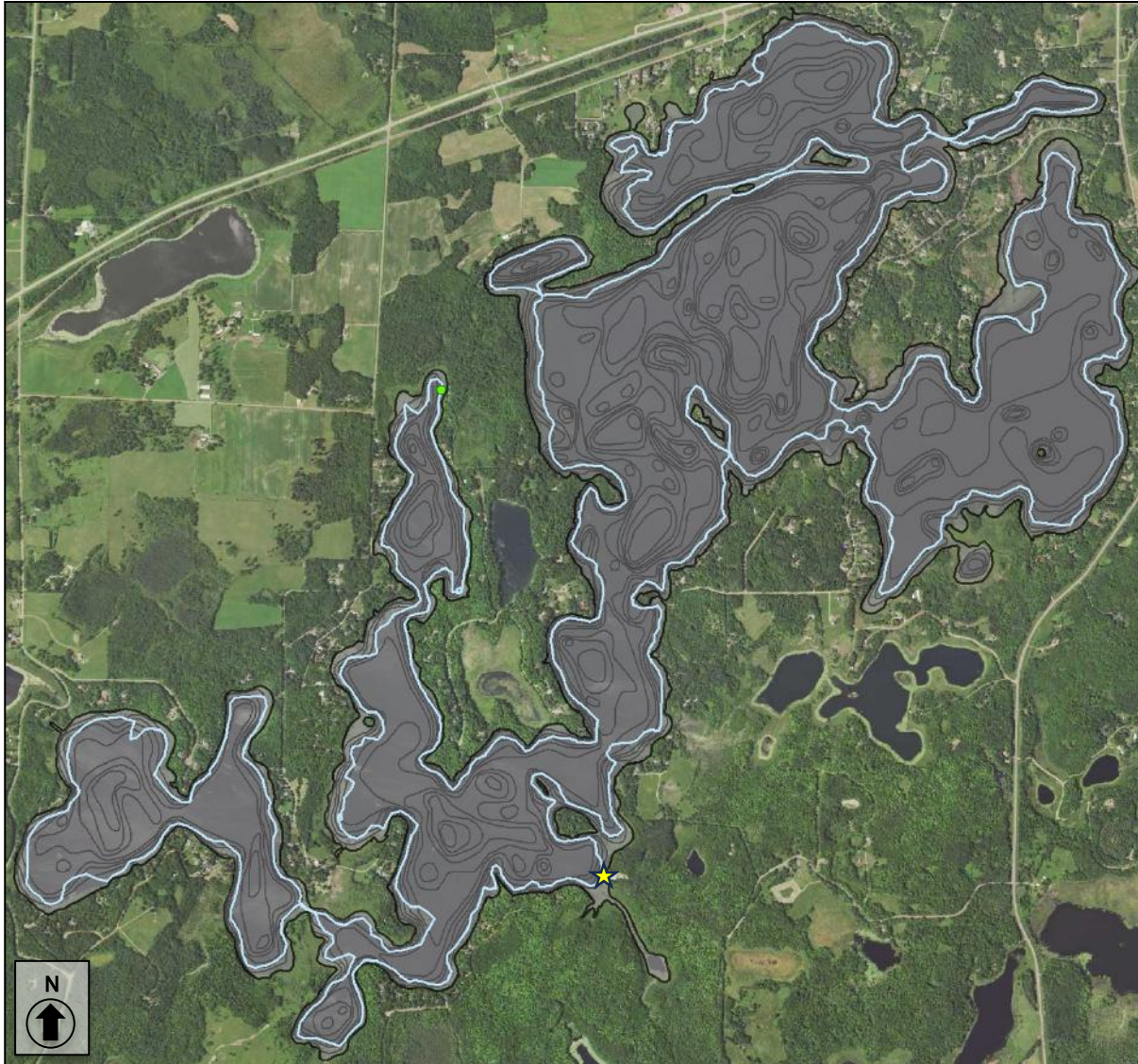
Diver Survey at Boat Ramp

On August 5, 2023, we conducted an intensive, systematic diver search around the public boat access site. This search included inspections of the boat ramp, dock, prop-scoured area, and the area of dense plants immediately surrounding the boat ramp.

Survey Results

We did not find any new aquatic invasive species during the late-summer boat survey or diver survey. However, we did find two curlyleaf pondweed plants growing at one of the locations where we found CLP earlier in the summer (near the beaver dam at the north end of the long southwestern bay). These CLP plants appeared to be from late summer sprouting of buried turions. No management is necessary this fall, but this location should be monitored in the spring of 2024 to determine the best management strategy (manual removal or herbicide). We did not find any CLP in the northern portion of the lake.

Cedar Lake (#01-0209) AIS Sentinel Survey / Diver Survey



AIS Sentinel Survey II

- Surveied Path (27 miles)

Curlyleaf Pondweed Density

- 1
- 2
- 3

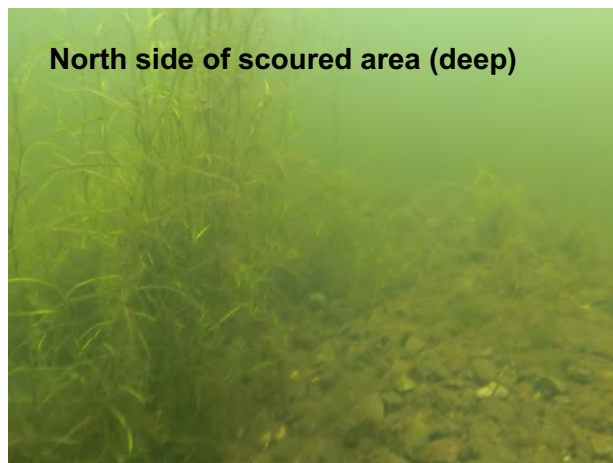
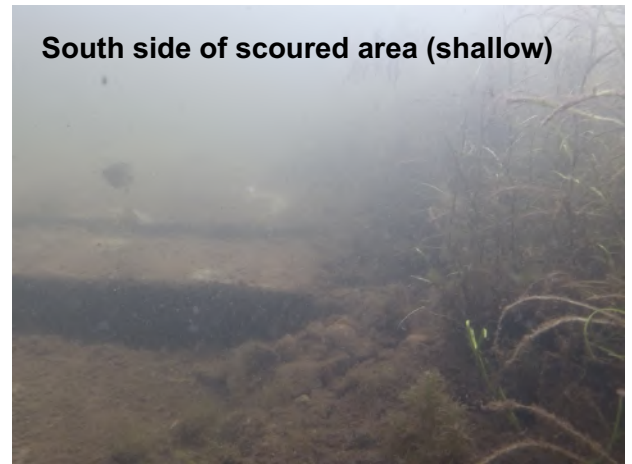
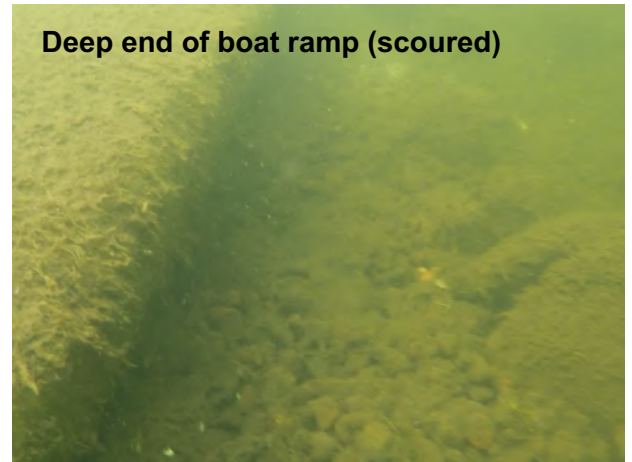
★ Diver Survey Site

Surveyed: Aug 5 & Sep 13, 2023
Methods: Visual, Rake, Sonar, Diver
Surveyor: JA Johnson




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Diver Survey Photos (Surveyed: August 5, 2023)



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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