Curly-leaf Pondweed Delineation Survey
Lake Edward (18.3050)
Crow Wing County, Minnesota
Conducted May 26, 2026

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May 26, 2026

Purpose of this aquatic plant survey

The purpose of this curly-leaf pondweed survey is to identify and delineate curly-leaf pondweed sites where management of the invasive aquatic plant may be considered during 2026 and in the future. Central Minnesota Aquatics, Inc. has performed this delineation survey for Lake Edward Conservation Club.

Introduction

Lake Edward (DOW #18.3050) is located approximately 1 mile north of Merrifield in Crow Wing County. Lake Edward has a maximum depth of about 75' and about 60% of the lake (1,200 acres) has a water depth less than 15' "littoral area". The shoreline length is about 11 miles and the surface area is about 2,575 acres.

Brief Curlyleaf Pondweed Survey History

Lake Edward Conservation Club has invested several thousands of dollars in surveying efforts for Lake Edward throughout recent years and they continue to invest their time and hard earned dollars in protecting Lake Edward from aquatic invasive species. The surveys were utilized for the monitoring of zebra mussels, Eurasian watermilfoil and the density increases and spread of the established curlyleaf pondweed. Central Minnesota Aquatics, Inc. has performed surveys and provided survey reports for limited areas of Lake Edward during 2018, 2019, 2020 and 2021. Curlyleaf pondweed, which is an invasive plant species, has been identified within Lake Edward during the last three years surveys and the abundance has been classified as light and sparse.

Daniel Swanson performed a Curly-leaf Pondweed Delineation Survey on May 23, 2022 and identified 16.0 acres of treatable curlyleaf pondweed. His survey report was utilized to apply for a DNR Invasive Aquatic Plant Management Permit and permit # 2022-0315 was issued by DNR. Treatment was performed within these 16.0 acres on June 1, 2022. A post treatment inspection was performed by Central Minnesota Aquatics and no unaffected curlyleaf was identified and a beautiful growth of native plants was present.

Central Minnesota Aquatics performed a curly-leaf pondweed delineation survey on May 4, 2024 and there was only one (1) curly-leaf pondweed plant identified at the public boat access. Because no curly-leaf pondweed was located anywhere else no treatment was recommended.

Central Minnesota Aquatics performed a curly-leaf pondweed delineation survey on May 9, 2025 and no curly-leaf pondweed, Eurasian watermilfoil or starry stonewort was identified. Because no curly-leaf pondweed was identified no treatment was recommended for 2025.

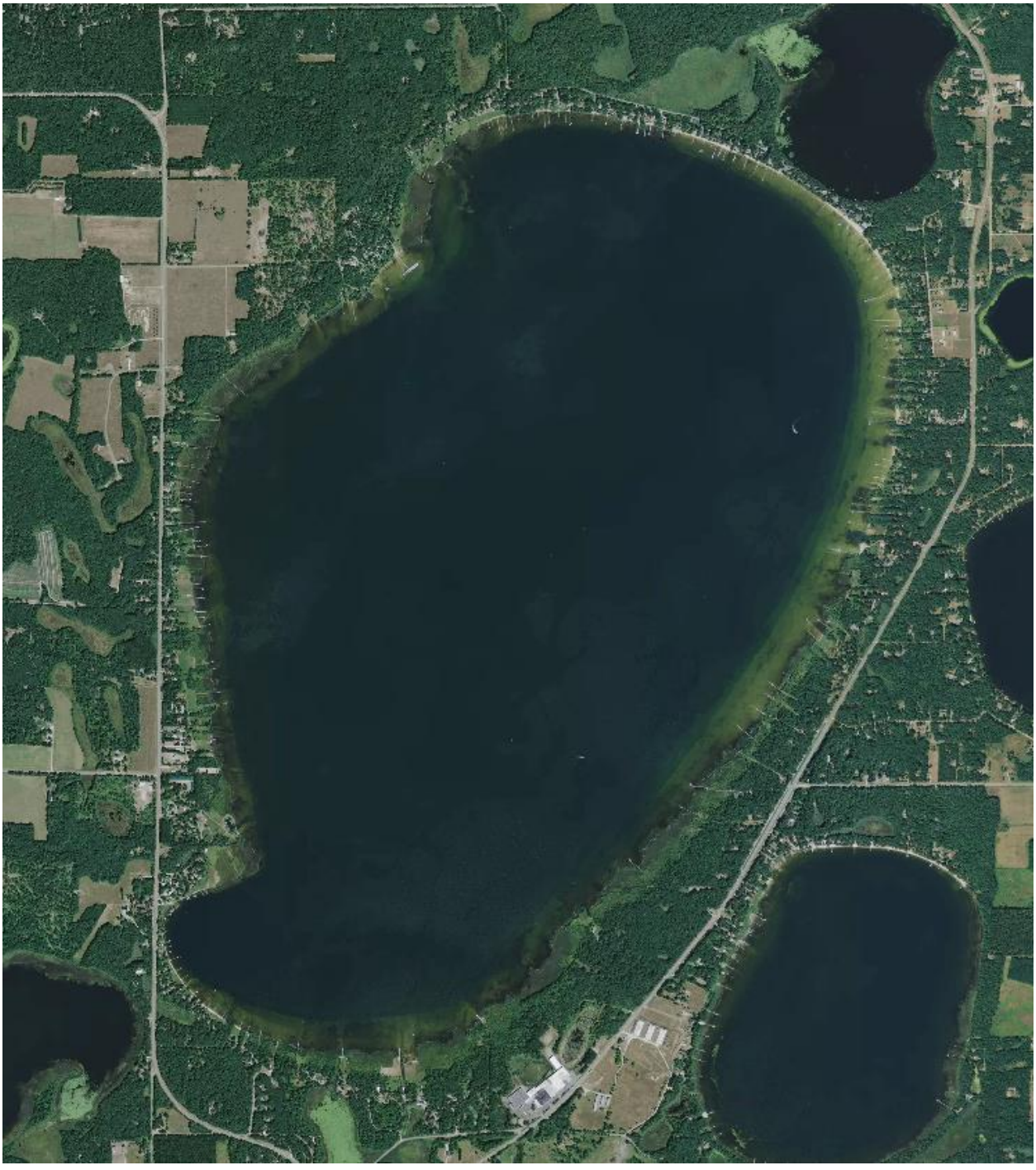

Photo 1. Lake Edward, Central Minnesota Aquatics, Inc.

Invasive Aquatic Plant Delineation Survey Information for May 29, 2026

This survey was conducted from a boat. Plants were attempted to be documented by visually sighting them in the water, utilizing a two-sided aquatic plant sampling rake, underwater graph equipment and underwater viewing equipment. Also, downward and side imaging sonar equipment was utilized. The lake water temperature about two feet below the waters' surface was between 64-76 degrees Fahrenheit, the air temperature was variable between 70 and 80 degrees. The Secchi disc reading was over 25 feet. Due to the extremely clear water the lake bottom was easily viewed down to about 15 feet of water depth. Abundant curly-leaf pondweed in depth ranges from 10-18 feet, was identified within about 50 acres of Lake Edward with no Eurasian watermilfoil or starry stonewort being identified within the survey areas. A GPS receiver was used to create a survey track log and to mark identified curly-leaf pondweed observations.

Photo 2. Survey conditions May 29, 2026 on Lake Edward

Photo 3. The surface water temperature at the public boat access was 64.1 degrees at 10:08 a.m.

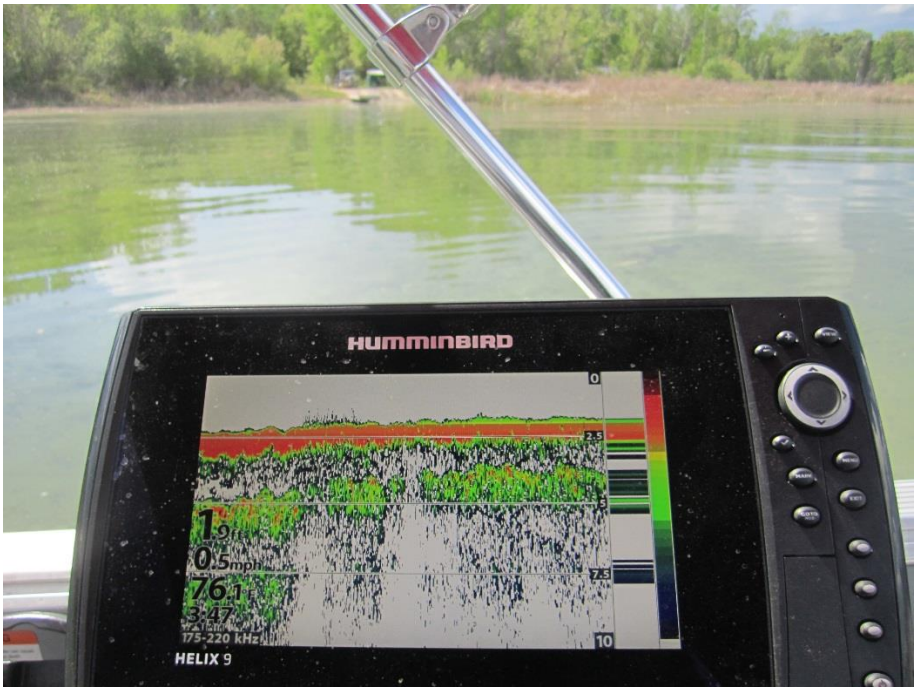

Photo 4. The surface water temperature at the public bboat access was 76.1 degrees at 3:47 p.m.

Following is the survey boat track log in red, the survey boat traveled about 20.14 nautical miles and the survey area was about 165 acres in size. Approximately 50 acres of curly-leaf pondweed was identified, indicated by the yellow dots, and it is recommended to try and plan for 2027 treatment of this area. A brief 2027 spring survey is recommended for confirmation.

Photo 5. Boat survey track log for May 26, 2026

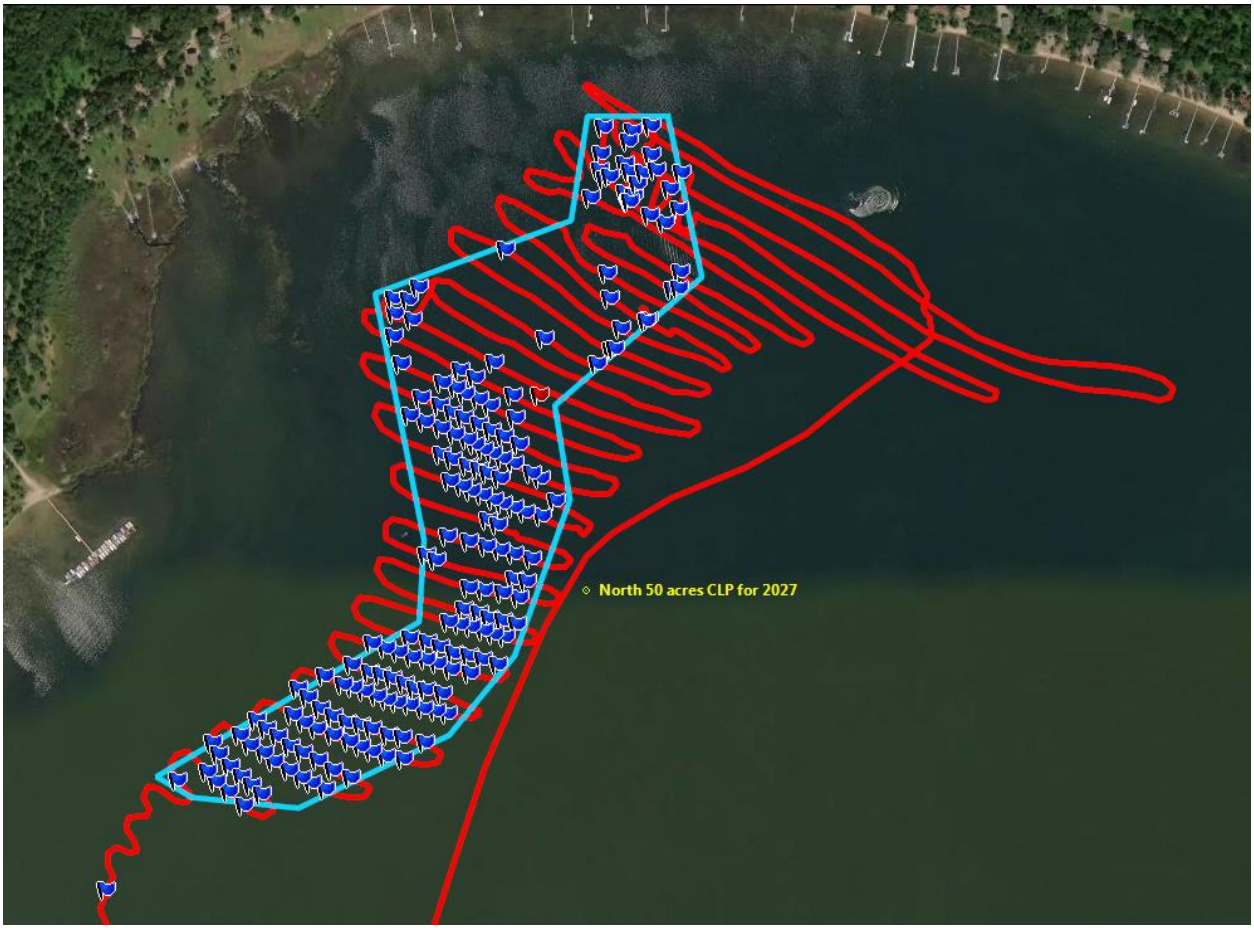

Photo 6. Boat survey track log, North Bay 50 acres enlargement, from May 26, 2026

Curly-leaf pondweed was identified in a water depth of between about 10–18 feet, plants ranged from about 6 inches to 60 inches in height with curled leaves and very few native plants were present at the time of the survey. Curly-leaf pondweed plant densities ranged from light to very abundant. No turions were identified on curly-leaf pondweed stems or terminally. Plants appeared to have spread through stolon growths, roots creeping along the lake bottom, and not basal turions or seeds. Growth appears to have been occurring under the winter ice.

No curly-leaf pondweed was identified in the south bay.

Following are three curly-leaf pondweed photos from the North Bay:

2026 Observations and Conclusion

The 2025-2026 winter was again fairly warm with less than average snowfall. Lake Edward's water clarity was about 23 feet in 2025 and it increased to about 26 feet in 2026, maybe from the increased zebra mussel population. About fifty (50) acres of curly-leaf pondweed was identified within the north part of Lake Edward and it appears that the water clarity may have greatly contributed to the increased curly-leaf pondweed area and density. It is recommended to try and plan for treatment of 50 acres of curly-leaf pondweed during spring of 2027, a brief pretreatment survey to confirm presence is necessary for accuracy of DNR permitting.

Continued spring surveys are highly recommended for monitoring and treatment efforts.