

Aquatic Invasive Species Meandering Littoral Zone Surveys Silver Lake (WBIC: 1881100) Barron County, Wisconsin



Clean Boats/Clean Waters worker riding along during survey – 6/13/26



Aerial photo with survey tracks – 6/13/26

Project Initiated by:

The Silver Lake Association and the
Wisconsin Department of Natural Resources



Declining water levels – 9/6/26

Surveys Conducted by and Report Prepared by:

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June 13 and September 6, 2026

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INTRODUCTION:

Silver Lake (WBIC 1881100) is a 331-acre stratified seepage lake located in the Town of Lakeland in north-central Barron County (T36N R13W S23, 24, 25). The lake reaches a maximum depth of 91ft in the central basin and has an average depth of 38ft (WDNR 2026). Silver Lake is mesotrophic in nature and water clarity is good to very good with Secchi readings averaging 13.1ft over the last ten years (WDNR 2026). The shoreline is dominated by sand, gravel and rock with scattered patches of sandy muck; especially at depths beyond 10ft. The lake's only nutrient-rich organic muck occurs in the northwest bay (Bush et al. 1967) (Figure 1).

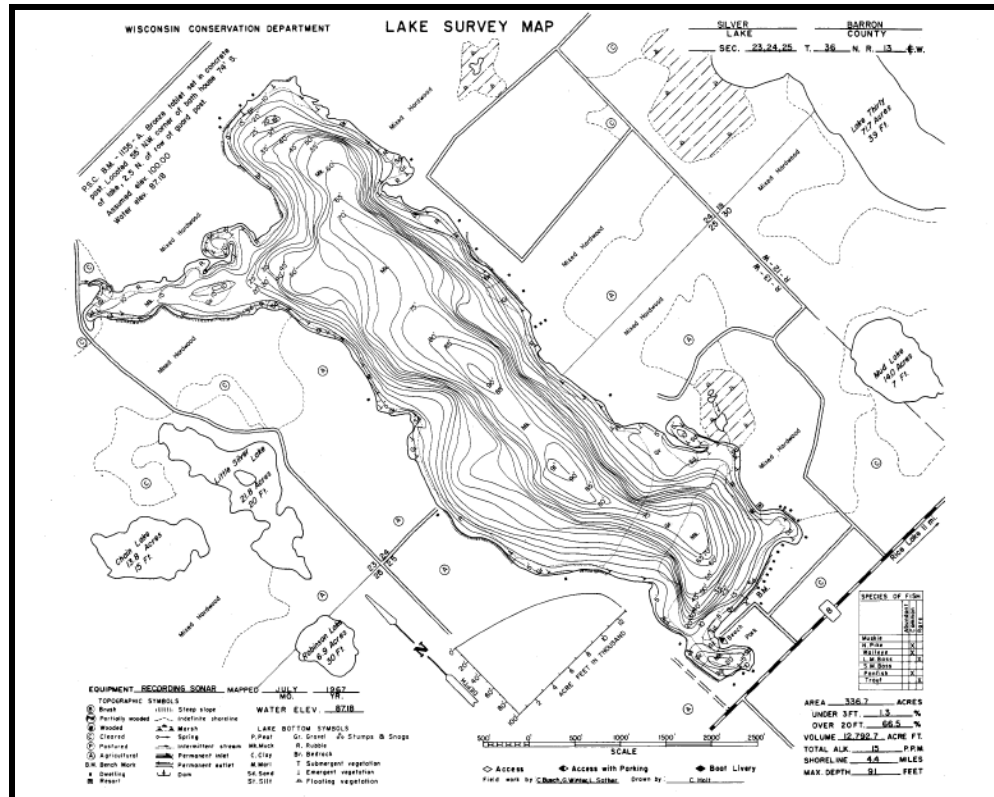


Figure 1: Silver Lake Bathymetric Map

BACKGROUND AND STUDY RATIONALE:

The Silver Lake Association (SLA) and the Wisconsin Department of Natural Resources (WDNR) authorized a full-lake plant survey in 2012 as a prerequisite to developing an Aquatic Plant Management Plan (APMP) in 2013. This survey found no evidence of Curly-leaf pondweed (*Potamogeton crispus*) (CLP), Eurasian water-milfoil (*Myriophyllum spicatum*) (EWM), or any other aquatic invasive plant species (AIS) in the lake with the exception of Reed canary grass (*Phalaris arundinacea*) (RCG) which was common on the lake's margins. In an effort to determine if the lake remained free of exotic species, the SLA applied for and received an AIS education grant to complete two littoral zone surveys during the summers of 2018-2020. Following the completion of this grant, the SLA decided to continue monitoring on their own in the summers of 2021-2026. This report is the summary of our June 13 and September 6, 2026 AIS shoreline surveys.

SURVEY METHODS:

We conducted a meandering littoral zone survey along the shoreline of the entire lake to look for aquatic invasive plant species in the zone of growth they would most likely be found in. During the June survey, we searched for the presence of Curly-leaf pondweed, Japanese Knotweed (*Polygonum cuspidatum*), and any other exotic/invasive plant species that may be present during the early growing season. The late summer survey focused on looking for Eurasian water-milfoil and Purple loosestrife (*Lythrum salicaria*) (PL). During this survey, we especially focused on the north and east shorelines as these are places that floating fragments introduced at the public boat landing would most likely get blown to by prevailing winds before settling to the lake bottom.

RESULTS AND DISCUSSION:

In June, we surveyed transects totaling 9.6km (6.0 miles) throughout the visible littoral zone, and in August we covered 9.8km (6.1 miles) of search lines (Figure 2) (Appendix D). **We did NOT find any evidence of Eurasian water-milfoil, Curly-leaf pondweed, Japanese knotweed, Purple loosestrife, or any other new aquatic invasive species anywhere in Silver Lake.**

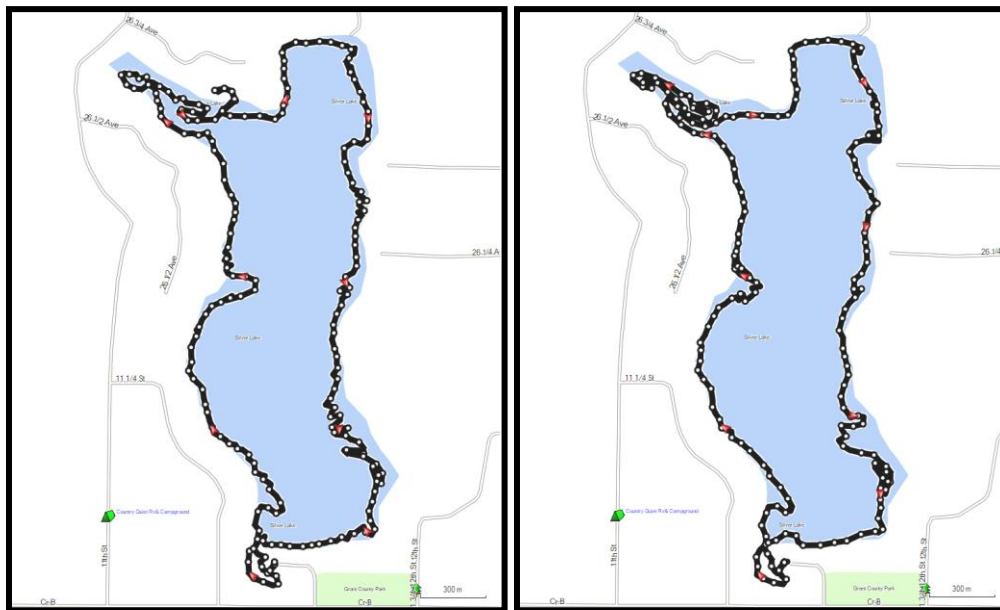


Figure 2: June and September 2026 Shoreline Survey Tracks

The only AIS we found during the surveys was again Reed canary grass. It was common at the shoreline and in shallow water, and, to a greater or lesser extent, we documented it on the margins of the entire lake. This species often invades shoreline areas when water recedes on seepage lakes as it's good at quickly colonizing this barren substrate. This was the case in both 2012 and 2026 when the lake's water levels fell sharply (Figure 3). This species can then persist when water levels rise. However, it often dies out within a few years after being fully submerged or becomes noticeably thinner if partially submerged. Currently, although its presence is not ideal, it occupies a narrow band inshore from other beneficial native emergent species like Creeping spikerush (*Eleocharis palustris*) and Northern manna grass (*Glyceria borealis*) (Figure 4).

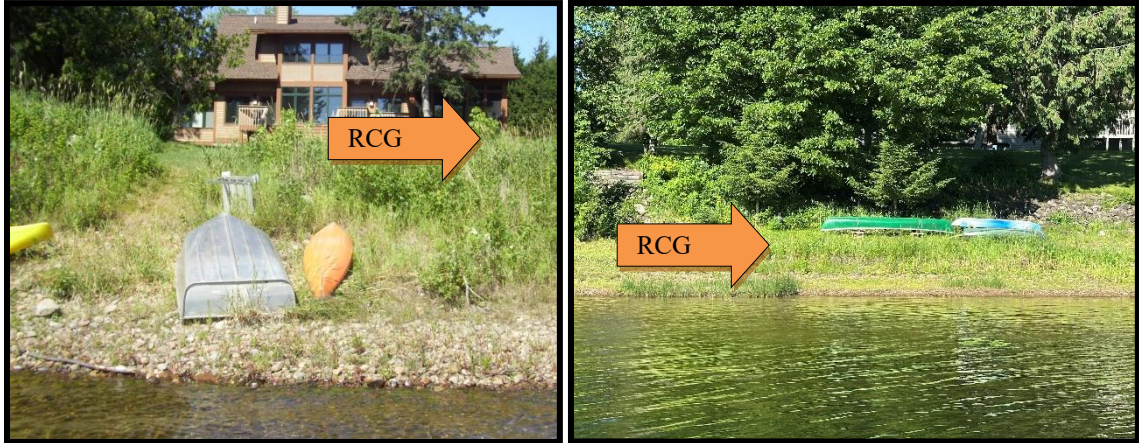


Figure 3: Terrestrial Reed Canary Grass in 2012 and 2026

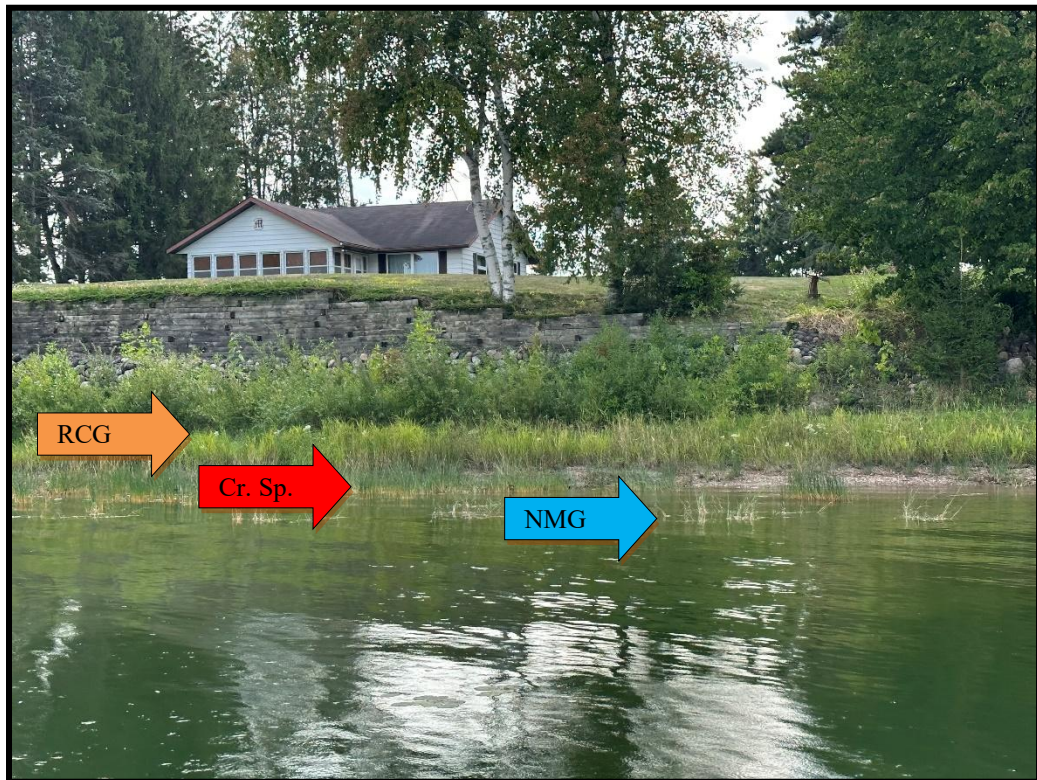


Figure 4: Emergent Community of Reed Canary Grass (unhealthy looking pale green – orange arrow), Creeping Spikerush (dark green with orange base – red arrow) and Northern manna grass (floating and emergent leaves – blue arrow)

As in the past, we noted that Silver Lake **does NOT** have any Northern water-milfoil (NWM) – a native species that is closely related to EWM and common in most local lakes. Despite their superficial resemblance, EWM and NWM can be told apart by their number of leaflets – NWM has <24 whereas EWM normally has >26 (Figure 5). EWM also tends to have a bright red growth tip on the top of the plant whereas NWM has a bright lime green growth tip. In the fall, NWM forms winter buds on the tips of shoots whereas EWM has none. For tips on how to identify milfoil species, see Appendix II.

Although Silver Lake has no milfoil species (with the exception of the diminutive Dwarf water-milfoil (*Myriophyllum tenellum*) which doesn't have leaflets and is almost unrecognizable as a milfoil – see milfoil guide in Appendix III), the lake's northwest bay continues to support moderate amounts of two somewhat similar looking beneficial native species: Spiny hornwort (*Ceratophyllum echinatum*) (Figure 6) and Common bladderwort (*Utricularia vulgaris*) (Figure 7). Both species primarily occur in water <1.5m over organic muck substrates. Hornwort can be told from the milfoils as it has leaflets that fork repeatedly, while bladderworts have tiny “bladders” along their forked leaflets where these carnivorous plants trap and digest minute aquatic animals like mosquito larvae.



Eurasian water- milfoil



Northern water-milfoil

Figure 5: Eurasian and Northern Water-milfoil Identification (Berg 2007)

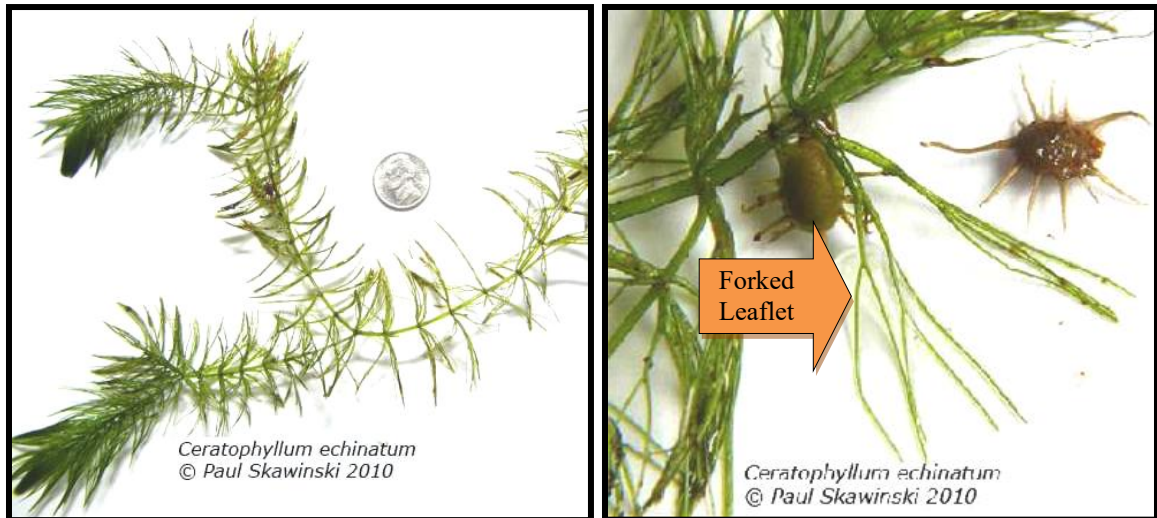


Figure 6: Spiny Hornwort Identification (Skawinski 2010)

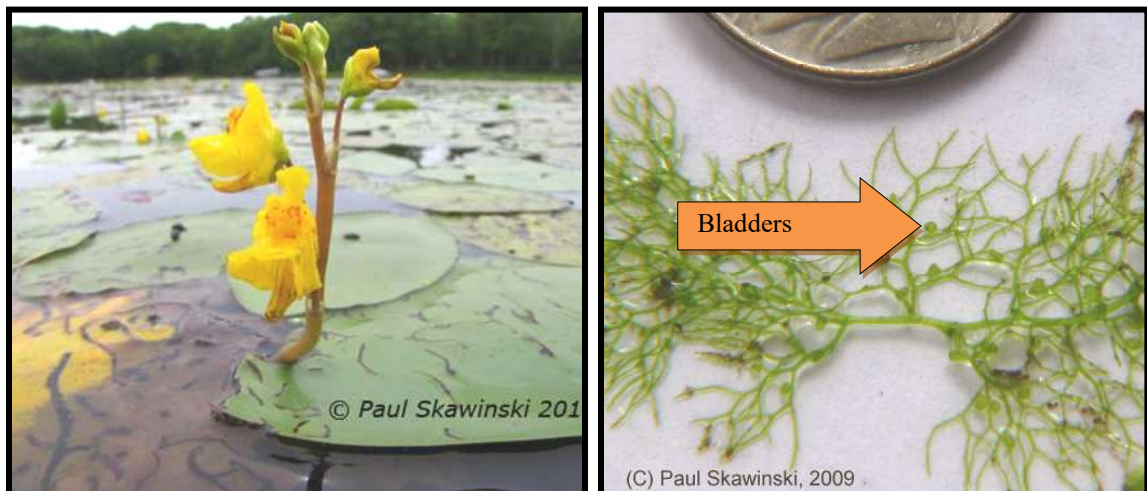


Figure 7: Common Bladderwort Identification (Skawinski 2010)

Water smartweed, a Purple loosestrife lookalike, was scattered around much of the lake where it grew both as a terrestrial and as an emergent (Figure 8). It was especially common in the southeast bay and the adjacent wetland where it dominated the plant community. This native species can be told from Purple loosestrife by having bright pink finger-length flowers (not fuchsia and candle length as in PL). Its leaves are also thumb-sized or bigger and are arranged alternately along the stem (not finger-sized or smaller and arranged oppositely along the stem).



Figure 8: Water Smartweed (terrestrial and emergent) on Silver Lake

CONSIDERATIONS FOR FUTURE MANAGEMENT:

With Eurasian water-milfoil growing in eight other nearby Barron County Lakes (Sand, Beaver Dam, Kidney, Duck, Shallow, Horseshoe, Lower Vermillion, and Echo), continuing the lake's Clean Boats/Clean Waters monitoring is likely a prudent idea. Similarly, at least annual landing and/or shoreline inspections is also worth considering. Although once introduced, it is unlikely an AIS like EWM will ever be eliminated from the lake, early detection and prompt management can potentially slow its spread and minimize both economic and ecological impacts once an infestation has occurred.

If any lake resident or boater discovers a plant they suspect may be a new AIS, we strongly encourage them to immediately contact Matthew Berg, ERS, LLC Research Biologist at 715-338-7502 for identification confirmation. Ideally, a specimen, a jpg, and the accompanying GPS coordinates of the location should be included. However, even a texted picture of the plant in question held in hand is often enough to confirm identification. Likewise, residents are encouraged to reach out with **ANY** other plant species they are simply curious about and might want identified.

LITERATURE CITED

Busch, C, G. Winter, L. Sather, and C. Holt. [online]. 1967. Silver Lake Bathymetric Map. https://apps.dnr.wi.gov/doclink/lakes_maps/1881100a.pdf (2026 September).

WDNR. [online]. 2026. Citizen Monitoring Lake Water Quality Database – Silver Lake. Available from <https://dnr-wisconsin.shinyapps.io/WaterExplorer/?stationid=033100> (2026 September).

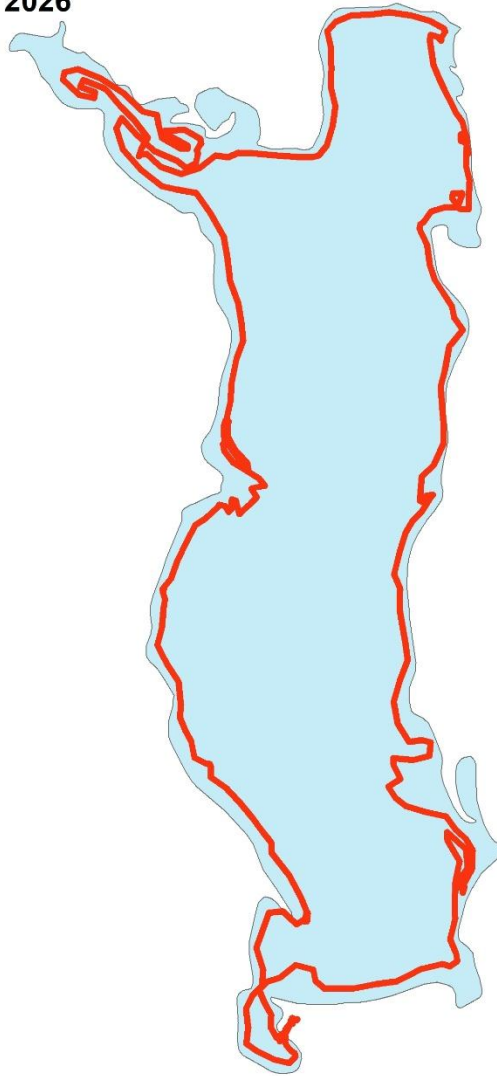
WDNR. [online]. 2026. WDNR Lakes Information – Silver Lake. Available from <https://apps.dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=1881100> (2026 September).

Appendix I: Silver Lake June and September Survey Tracks

AIS Visible Littoral Zone Survey
Silver Lake
Barron County, WI
June 13, 2026



AIS Visible Littoral Zone Survey
Silver Lake
Barron County, WI
September 6, 2026



Appendix II: Milfoil Identification Guide

Eurasian water-milfoil vs. Northern water-milfoil

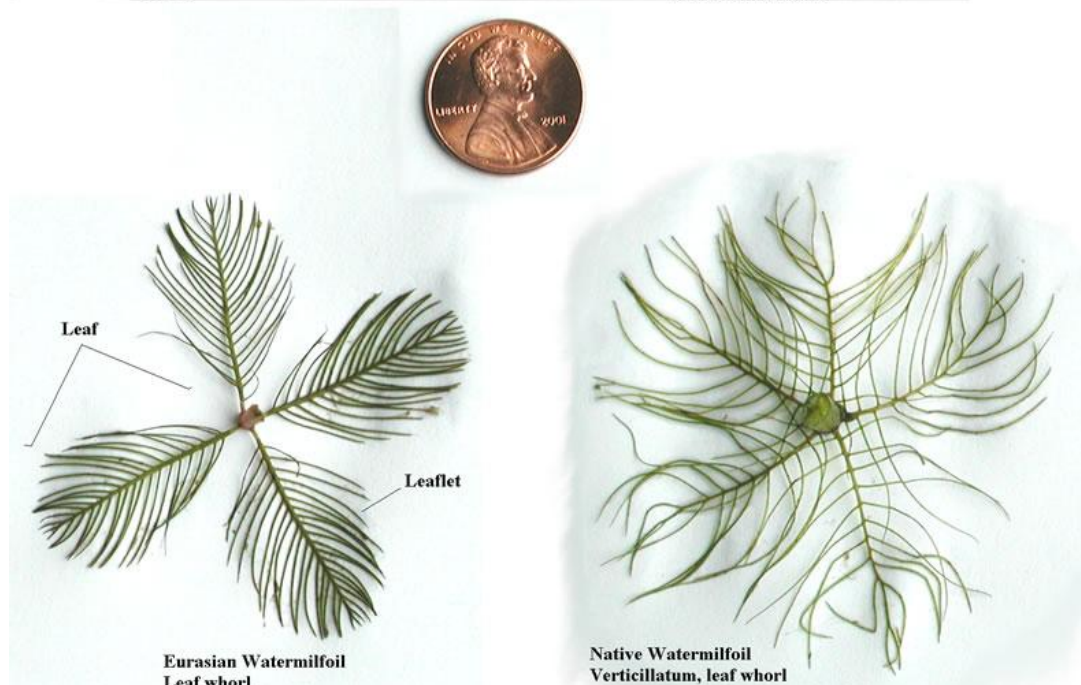


EWM Leaflets >26 NWM Leaflets < 24



EWM Leaflets Limp out of Water - NWM Leaflets Stiff Out of Water

Eurasian water-milfoil vs. Whorled water-milfoil



Dwarf water-milfoil



Plants spread by rhizomes, have no leaflets and are usually <6in.



“Turf” of DWM breaking free of the bottom on Silver Lake – 9/6/26