

II Starry Stonewort Survey 2026

Second Farm Island Underwater Survey For Starry Stonewort and Other AIS 2026

Ellie Joing and Laura Radniecki



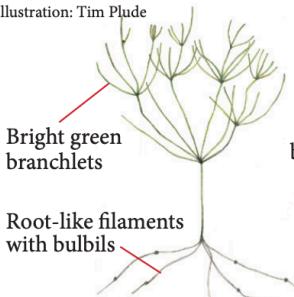
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Starry stonewort or *Nitellopsis obtusa* is what's known as an aquatic invasive species (AIS) in Minnesota. Invasive species damage our lakes by outcompeting native species for resources such as food, light and space while disrupting the natural occurrence of ecological cycles. In the instance of starry stonewort, the weeds form dense mats that choke out other native vegetation and block available sunlight (“An Invasive Species We Need to Watch”, 2019). These dense mats can also impede fish behavior like spawning and create nuisances for recreational users. Those who swim in infestive lakes have reported getting tangled in the mats of starry stonewort posing a danger to even the most experienced swimmers.

To identify starry stonewort by its morphology, look for its most notable feature: the star-shaped bulbils. These are typically 3–6 mm wide (about the size of a grain of rice) and often appear in clusters around nodes, sometimes buried in sediment. From each node, 4–6 bright

How to Identify Starry Stonewort (*Nitellopsis obtusa*)

Illustration: Tim Plude



Bright green branchlets

Root-like filaments with bulbils

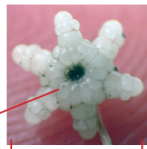


Photo: Paul Stawinski

bulbil

(3-5 mm wide)



STOP AQUATIC HITCHHIKERS!

Prevent the transport of invasive species.
Clean all recreational equipment.
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General Characteristics

- Usually bright green and smooth
- Star-shaped bulbils (see photo) are attached to clear, root-like filaments
- Length of leaf-like branchlets can be highly variable on a single plant

green branchlets radiate in a whorled arrangement, giving it a grassy appearance (MNDNR). Because bulbils may be inconspicuous early in the season, surveys

conducted in mid-summer through early fall—when biomass and bulbils are most visible—yield the best results.

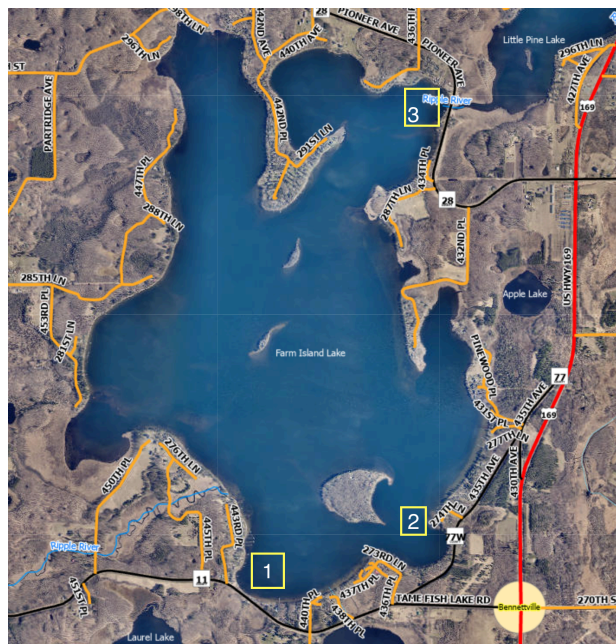
In order to help determine if Starry Stonewort has made its way to Farm Island Lake, Ellie Joing and dive partner Laura Radniecki surveyed the two boat launches and a third location on September 12th 2026. The survey was made possible thanks to the Farm Island Lake Association and Scott Steele for captaining the pontoon.

The Dive Plan

Predive

The survey focused on the two public access points on Farm Island Lake as well as another access point (Figure 1). Aquatic invasive species are most commonly introduced when boats travel between lakes and enter at public accesses. It is therefore logical to assume that if starry stonewort were introduced to Farm Island Lake, it would likely first appear at one of these sites.

Figure 1: *Dive Locations of the three surveys.*



Starry Stonewort can grow up to 20 ft deep, the dive plan was to aim to stay at a depth of 4-12 feet since Starry Stonewort is most commonly found at depths of 3-13 feet (Kipp, 2024). When covering a large underwater area, scuba divers often employ consistent patterns to ensure goals can be met as efficiently as possible. There are 3 main types of search patterns when completing a search and recovery dive; Circular search, Expanding square search, and U pattern. A Basic U-pattern dive was chosen as it works best for covering large areas, following shorelines, and was the most practical to implement when surrounded by a weed density that could otherwise tangle lines.

The Dives

On Saturday, September 12th, 2026 at around 11 AM, the survey began at the northernmost point of Public Water Access at Location 1 referenced on Figure 1. The air temperature was 64°F with the water sitting at a nice 75°F. As the early afternoon progressed the air temperature rose to 71°F and the wind increased. The visibility was fair considering the time of year at an estimated 6 feet. The area around the southern boat launch (Location 1) is much deeper when compared to the northern site (Location 3). Due to this, and then the wind impact at location 2, the search area was larger at Location 1. A general U-pattern was employed at Location 1, near lakeshore homes north of the access, then following the shoreline to just south of the access.

After approximately 39 minutes of searching, Ellie and Laura surfaced having found no Starry Stonewort. The group then traveled via pontoon to Location 2. At Location 2 the dive

team attempted to search using a U pattern but due to the current and disturbance caused by increased wave action, it was hard for the divers to maintain any pattern much less direction. The pontoon also had a harder time staying near the divers. This dive lasted 14 minutes before being called due to motion sickness and safety concerns. No starry stonewort was seen in this location while the divers were under the surface. There was a large and surprising bowfin and some sunfish. The dive at Location 3 lasted 18 or so minutes and concentrated around the small pockets of deeper water (5.1-7 ft) surrounded by rocky shallows (1-5 ft). Lower lake levels this year made the survey in this area more difficult. No Starry Stonewort was observed.



Results

Of the estimated 358,711 square feet of lake bottom surveyed, no starry stonewort was observed. This indicates starry stonewort has not found its way into Farm Island Lake at this

time. However, another aquatic invasive species, Zebra mussels, were observed in large numbers at all locations. This was to be expected as zebra mussels have had a known presence in Farm



Island lake since 2018 and confirmed in 2020

(MNDNR). A sizable bryozoan was observed at

location 2 and is pictured to the left. Bryozoans are

freshwater invertebrates that improve water clarity

by filtering sediments and nutrients in the water

column. Water clarity overall was similar at all sites.

Many fish were observed amongst the vegetation at

all dive sites including bowfin, largemouth bass,

black bullhead, and lots of bluegills. Native aquatic

vegetation observed on the dives include Northern watermilfoil, Coontail, Water marigold, Sago pondweed, Eelgrass, and Water stargrass.

Conclusion

Starry stonewort is a persistent invader threatening Minnesota's freshwater ecosystems. Effective management requires early detection, accurate identification, and sustained suppression efforts. Unlike vascular plants, it reproduces only through fragmentation and bulbils—small, star-shaped structures that can survive buried in sediment. First confirmed in the state in 2015, it spreads rapidly through human activity, forming dense mats that outcompete native plants, impede fish spawning/habitat, and disrupt recreation. Starry stonewort is extremely difficult to

eradicate; so it is best to protect lakes so it never gets introduced in the first place. When it is detected early, professionals can contain the outbreak to a small area (Marohn, 2026). Being aware of this invasive species is a crucial step in preventing its spread and keeping lakes like Farm Island enjoyable for generations to come.

Remember; Clean, Drain, and Dry aquatic equipment! Just as we did with our dive equipment after the dive.



References

- “An Invasive Species We Need to Watch: Be Aware.” *Starry Stonewort*, 10 July 2019, starrystonewort.com/.
- Kipp, R.M. “Starry Stonewort (Nitellopsis Obtusa) - Species Profile.” *USGS Nonindigenous Aquatic Species Database*, 8 Aug. 2024, nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=1688.
- Marohn, K. (2026, September 21). *A Minnesota ‘lake killer’ surfaced 11 years ago. There’s still no long-term fix*. MPR News. <https://www.mprnews.org/story/2026/09/21/a-minnesota-lake-killer-surfaced-11-years-ago-theres-still-no-longterm-fix>
- “Starry Stonewort (Nitellopsis Obtusa).” *Minnesota Department of Natural Resources*, 15 Apr. 2025, www.dnr.state.mn.us/invasives/aquaticplants/starrystonewort/index.html.