



Native Submerged Aquatic Plant (Cabbage) in Bass Lake on October 25, 2019.

Starry Stonewort Search for Bass Lake, Wright County, Minnesota, October 25, 2019

Prepared for:
Bass Lake Association



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Summary of the 2019 search: Two searchers from Blue Water Science, surveyed the boat access on October 25, 2019 on Bass Lake looking for occurrences of an invasive plant species, starry stonewort (Table 1, Figure 1). The searchers (Figure 2) spent a total of approximately 4 search hours. No starry stonewort was observed. Also no Eurasian watermilfoil nor zebra mussels were observed. Representative plant species are shown on the next page.

Table 1. Site data for the starry stonewort search on October 1, 2019.

	Rake Sampling and other searches	SSW	Bottom Conditions
Public Access	<ul style="list-style-type: none"> - 66 rake samples - Scuba diving within the public access area - A total of 4 hours of searching was conducted 	No SSW found	Organic sediments with some sand. Native plants abundant.

Starry Stonewort Search October 25, 2019
Bass Lake, Wright County



Figure 1. Location of the search sites.



Figure 2. The AIS search used scuba diving (top) and rake sampling from a boat (bottom).

Bass Lake Plant Conditions October 25, 2019



Northern watermilfoil



Elodea



Cabbage



Marsh marigold

Figure 3. Plants were actively growing in Bass Lake on October 25, 2019.

Starry Stonewort Information Sheet

INVASIVE **Starry stonewort**
Nitellopsis obtusa

KEYS TO ID

- Long, smooth branchlets are attached in whorls of 5 - 8
- Small, star-shaped bulbils form on clear threads at base of plant and may be found above or below the sediment surface
- Small, orange spheres called antheridia may be visible, these are male reproductive structures
- Typical branchlets are long; can be up to twelve inches
- Can form dense mats in water

LOOKS SIMILAR TO

- Native *Chara* (native)
- Native *Nitella* (native)
- Sago pondweed (native)
- Water stargrass (native)

WHERE TO LOOK

- In shallow, still water and near accesses

CURRENTLY FOUND




Actual size of bulbils
Below: orange antheridia





Figure 4a. [left] Starry stonewort identification page from the University of Minnesota Aquatic Invasive Species Research Center (MAISRC).

[left] Chara from Lake John, collected on June 22, 2017. Chara looks somewhat like starry stonewort.

NATIVE **Muskgrasses**
Chara spp.

KEYS TO ID

- Stems are typically rough and crunchy
- Thin branchlets form whorls around thin stems
- May produce bulbils, but not star-shaped
- May have musky odor

LOOKS SIMILAR TO

- Starry stonewort (invasive)
- Native *Nitella* (native)
- Sago pondweed (native)
- Water stargrass (native)
- Minnesota has nine *Chara* species

WHERE TO LOOK

- Fully submerged
- Along lake bottoms forming patches called meadows

CURRENTLY FOUND




Rough stems; whorled branchlets



Starry stonewort looks a lot like some growth forms of chara and nitella (Figure 4). Starry stonewort was not observed in Bass Lake on the October 25, 2019 search.

The northeast private access of Bass Lake has sandy sediments compared to the south side public access where sediments are more organic and softer.

Figure 4b. Chara identification page from the MAISRC.

Rapid Response Plan for Starry Stonewort

Starry stonewort has not been found in Bass Lake as of October 25, 2019. A rapid response plan, shown in Table 2, has a number of preventative steps as well as actions after a potential sighting..

Table 2. Tasks and assignments for an early detection and rapid response program for Bass Lake, Wright County, Minnesota.

	Bass Lake Lake Assoc.	Volunteers	Wright County	MnDNR	Others	Treatment Contractor	BWS
1. Early Detection							
1.1. Create website information.	X						
1.2. Designate contact person.	X						
1.3. Conduct training session for volunteer searchers.	Late summer	Late summer					Late summer
1.4. Conduct monthly targeted searches (late summer).	X						X
1.5. Press release if SSW is found.	X			X			
2. Rapid Response Assessment							
2.1. Conduct an initial exploratory search after the first report of a starry stonewort observation.				X			X
2.2. Organize and train lake resident searchers for a full search effort.	X						X
2.3. Conduct an expanded targeted search with diving (if needed).	X	X		X			X
3. Rapid Response Action							
3.1. Meet to determine treatment options.	X		X	X	X	X	X
3.2. Close public access, if necessary.	X		X	X	X		
3.3. Treat area with copper sulfate.						X	
3.4. Evaluate treatment.				X			X
3.5. Report all findings and results.	X			X			X



Figure 5. Rapid response assessment for zebra mussels in Christmas Lake in 2014. Some of the same approaches are used for starry stonewort.