

**Project Name** | Snailseed Pondweed Survey

**Date** | 03/01/2023

**To / Contact info** | BCWD Board of Managers

**Cc / Contact info** | Karen Kill, District Administrator

**From / Contact info** | Mike Majeski, Jimmy Marty

**Regarding** | Population Assessment for Snailseed Pondweed at Lynch Lake

## Background

[Snailseed pondweed](#) (*Potamogeton bicupulatus*) is a state endangered aquatic macrophyte known from only 13 lakes in Minnesota. Surprisingly, this species was discovered in Lynch Lake during an aquatic macrophyte survey conducted by EOR in 2014 as part of the Northern Chain of Lakes Watershed Restoration and Protection Strategy (WRAPS) project. Considering the extreme rarity of this species in the state, EOR recommends conducting a targeted snailseed pondweed survey at Lynch Lake to determine the current extent of the population and number of individual plants, document species associations (i.e. other aquatic plants that are growing adjacent to the pondweed), and determine dissolved mineral concentrations from water samples to gain an understanding of the water quality conditions that support this species in Lynch Lake. In general, snailseed pondweed tends to occur only in clear, soft water lakes with silty or sandy substrates. Determining the water quality composition will also guide long-term management goals for Lynch Lake such as potentially setting lake-specific water quality standards and to maintain a clear-water state. Documenting the population will also be critical to prevent disturbance to this species if future in-lake management activities are proposed such as treatments for invasive species, mechanical harvesting, or “weed clearing” by residents should future development occur along the lakeshore.

Snailseed pondweed is very similar to several other narrow-leaved pondweeds and will likely require consultation with a pondweed expert to confirm the identification. The identification of the plant found in 2014 was confirmed by Dr. Robert Haynes. Samples of any plants found in 2023 will also be shipped to Dr. Haynes for positive identification.

## Meander Surveys

### *Lynch Lake*

Mike Majeski and Jimmy Marty will conduct a meander survey of the littoral zone where the species was originally found. Of particular interest will be a survey of the north bay where numerous plants were observed that appeared to be this same species, though no samples were collected at that time. The main goal of the survey will be to determine species distribution and the total number of plants for long-term population monitoring. GIS polygons of identified populations will be submitted to the MNDNR for inclusion into the Natural Heritage Information System (NHIS) database which houses data from rare species found in the state.

### *Goggins Lake*

During an aquatic macrophyte point-intercept survey of Goggins Lake in late August 2022, an aquatic plant that appeared similar to snailseed pondweed was observed but could not be positively identified at the time due to the condition of the plant. A search will be conducted in the same location in 2023 and, if observed, a plant sample will be collected for identification and shipped to Dr. Haynes.

## 2023 Scope of Services

The following scope identifies the hours and costs associated with conducting meander surveys at Lynch Lake and Goggins Lake and drafting a memo that summarizes the data and findings from the

field surveys. Included in the scope will be time for coordination with the MNDNR and Dr. Haynes to identify plant samples collected during the surveys and analysis of water samples collected from the lakes. The estimated completion date for the plant survey is July 31, 2023 with the memo completed by October 31, 2023.

<b>Task</b>	<b>Hours</b>	<b>Estimated Cost*</b>
Meander Surveys & Sample Collection (two staff in a canoe)	16	\$2,432
Collaboration with DNR and Dr. Haynes, WQ Analysis	5	\$815
NHIS Data Submission, GIS Mapping, and Memo	12	\$1,719
<b>TOTALS</b>	<b>33</b>	<b>\$4,966</b>

\*includes mileage & expenses

### **Requested Action**

1. Approve this Scope of Services in the amount of \$4,966 to conduct rare plant surveys at Lynch Lake and Goggins Lake in 2023.

From Account 950-0002 Lynch Lake Fish/Veg Management