

MEMORANDUM

Comfort Lake-Forest Lake Watershed District

To: Board of Managers

Date: July 27, 2017

From: Mike Sorensen

Subject: Lake Keewahtin Aquatic Invasive Species Survey

The following memo summarizes a Lake Keewahtin (formerly known as Sylvan Lake) aquatic invasive species survey that took place on July 27th, 2017.

Background

Lake Keewahtin is home to a very diverse native plant community, with more than 20 species documented in the 2015 Blue Water Science point-intercept survey. As such, it is of the utmost importance that new introductions of aquatic invasive species (AIS) be detected and managed early. District staff plan to perform yearly vegetation surveys of Sylvan Lake to inspect for new AIS. The intention of these surveys is not to identify all plant species growing in the lake, rather to quickly check for new AIS.

Methods

On July 27th, District staff completed an AIS survey of Sylvan Lake. Using the Minnesota Department of Natural Resources rake toss protocol, the vegetation at 25 sites around Sylvan Lake (Fig. 1). At each site a modified garden rake (Fig. 2) was tossed from the boat and retrieved via rope. The rake was inspected for AIS before discarding the plants and moving to the next site.

Results

The plant community appeared diverse, as documented in the 2015 report from Blue Water Science. No new invasive species such as Eurasian watermilfoil, flowering rush, or starry stonewort were detected during this survey.

No curly-leaf pondweed was observed during the survey, although it was observed in 2016 and in the late-spring of 2017. As was the case in previous years, the 2017 distribution and density of curly-leaf pondweed in Lake Keewahtin appeared to be limited by the growth of native plant species. Herbicide management of the curly-leaf pondweed is likely not needed, as its growth is currently being suppressed by native plant species.

Purple loosestrife was observed in large quantities around the shoreline of Lake Keewahtin (Fig. 3). The District is currently in its second year of a multi-year purple loosestrife biological control project. On May 31st, 2017, approximately 200 purple loosestrife beetles (*Galerucella* sp.) were released to complement the approximately 250 beetles and 1,000 weevils (*Nanophyes marmoratus*) that were

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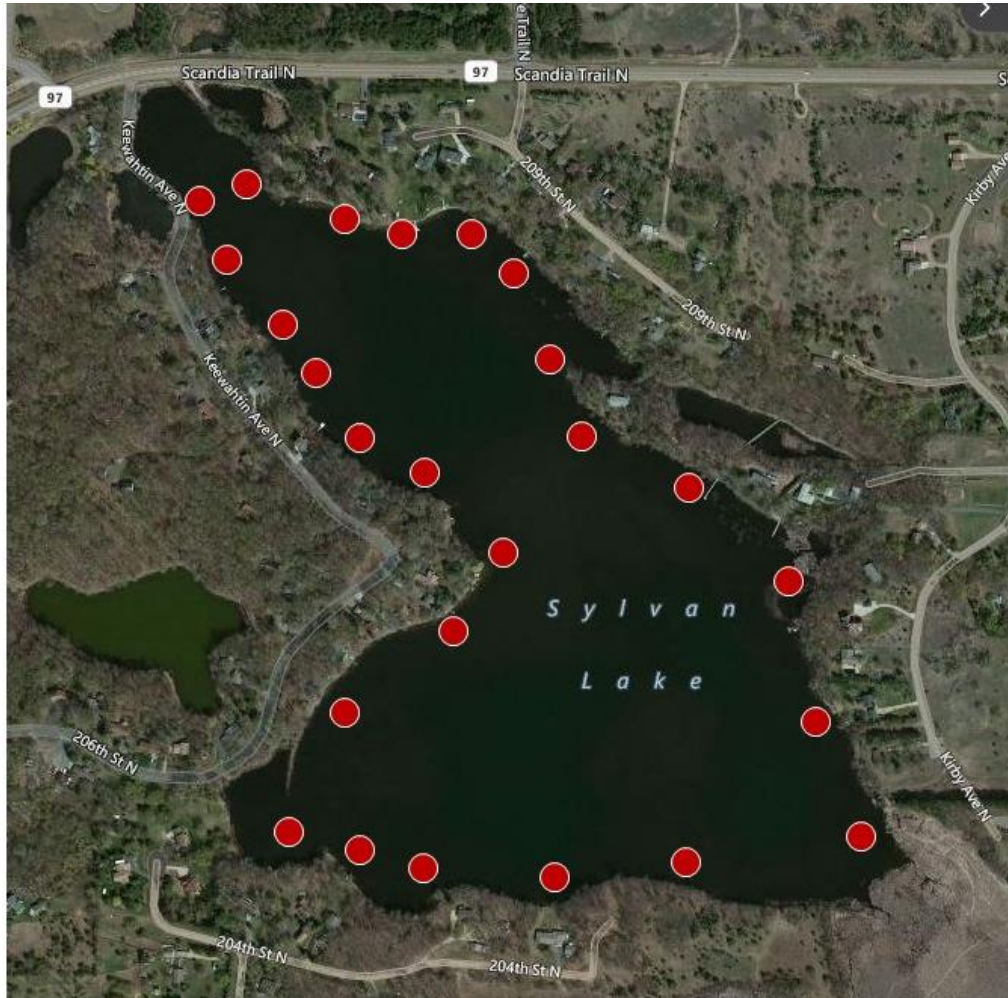
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released on June 14th, 2016. It is expected that several more years will be needed before the insects achieve densities that provide measurable control of the purple loosestrife.

A similar survey will be performed at least one time next summer to check on curly leaf pondweed distribution and look for new populations of AIS.

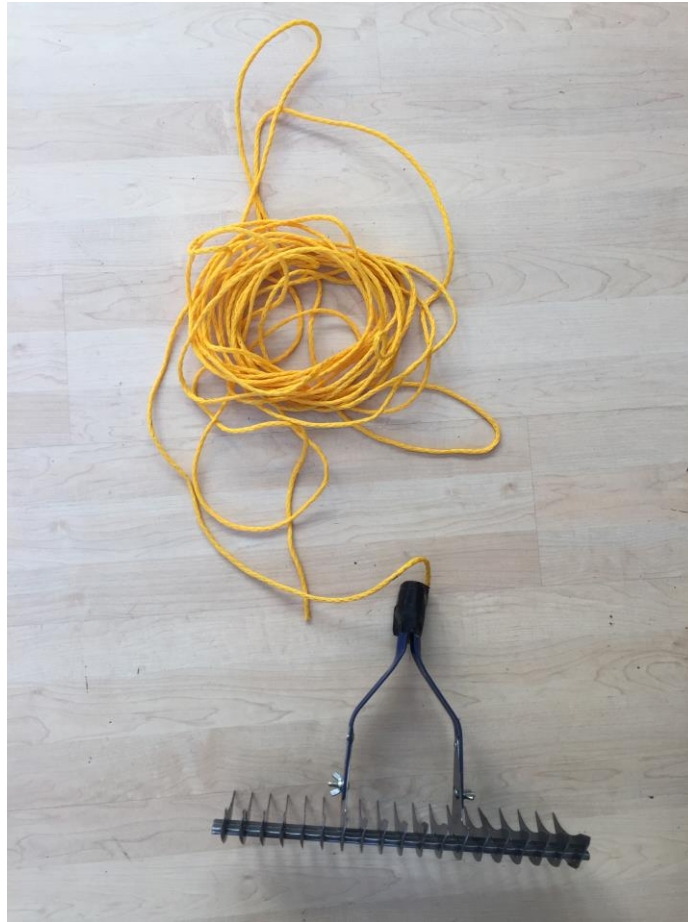
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Figure 1. Sylvan Lake plant sample locations from 6-24-2016 survey. Curly leaf pondweed was detected at the location with a yellow border on the northwest side of the lake. No other aquatic invasive species were detected during this survey.



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Figure 2. Modified garden rake used for aquatic vegetation sampling



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Figure 3. Dense stands of purple loosestrife were observed at several locations around the lake.

