

Eurasian Watermilfoil in the Briggs Lake Chain: 2016

Briggs Lake (#71-0146)

Julia Lake (#71-0145)

Rush Lake (#71-0147)

Big Elk Lake (#71-0141)

Summer Delineation Survey: July 26-28, 2016



Survey, Analysis, and Reporting by:

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Aquatic Ecologist – *Freshwater Scientific Services*



Certified Lake Manager
www.NALMS.org

Funding Provided by:

Briggs Lake Chain Association – *Clear Lake, MN*

Purpose of Survey

This survey was designed to locate and delineate areas of Eurasian watermilfoil (*Myriophyllum spicatum*, henceforth referred to as EWM) in Briggs Lake, Julia Lake, Rush Lake, and Big Elk Lake in the summer of 2016. This survey was conducted to (1) track any changes in the extent of the previously documented EWM infestation in Rush Lake, (2) assess whether EWM has spread to any other lakes in the chain, and (3) to help guide vegetation management planning in the coming years.

Survey Method

EWM Delineation Survey

Freshwater Scientific Services surveyed Briggs, Julia, Rush and Big Elk Lake between July 26 and July 28, 2016. During these surveys, we navigated a meandering transect over the portion of each lake that supported plants. In all, we surveyed a total path length of 29 miles across all 4 lakes. While navigating this search path, we used a combination of surface observations, sonar readings, and rake tosses to locate and delineate areas of EWM growth. Sonar and visual assessments were conducted continuously, with subsequent rake tosses to assess EWM abundance at locations where plants were not identifiable from the surface.

Results & Management Context

EWM in the Briggs Chain

During the July 2016 survey, we found EWM only in Rush Lake. This suggests that to this point, EWM has not spread to the other lakes in the chain. Although we did not find any large dense patches of EWM in Rush Lake during the 2016 survey, EWM was substantially more widespread than in past years. In particular, we found an isolated patch of moderately dense EWM in the far northeastern portion of the lake and numerous patches of light to moderate EWM along the southeastern shore. This expansion of EWM in the lake suggests that additional measures or more aggressive management will be required to prevent further expansion in Rush Lake and possible spread to other lakes in the chain.

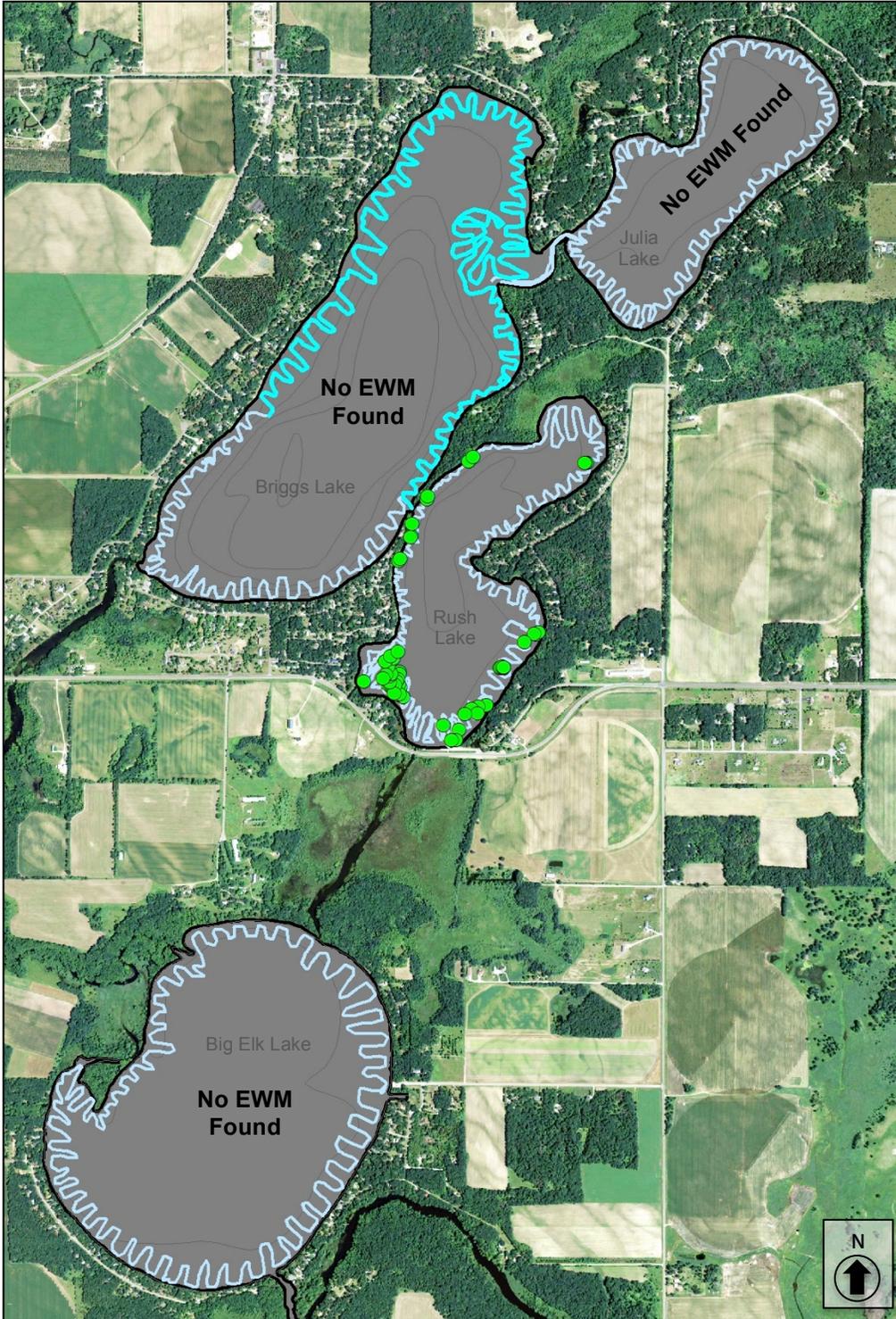
The expansion of EWM in Rush Lake and the persistence of the EWM patches near the Briggs-Rush channel suggests that the risk of spread to Briggs Lake is substantial. Accordingly, the patches near the channel should be aggressively managed and monitored.

Recommended Actions

- (1) More aggressive management of EWM beds with herbicides in 2016
- (2) Continued monitoring of the identified EWM patches in Rush Lake in 2017
- (3) Install signs at each end of the channels between the lakes asking boaters to reverse their motors before entering a new lake to remove any attached plant fragments
- (4) If herbicide treatments are not permitted in some of the designated plots, the BLCA should strongly consider having divers remove the EWM in those locations before the plants begin to autofragment (pull as soon as possible).

Briggs Lake Chain

2016 Eurasian Watermilfoil Search & Delineation Survey



— Surveyed Path
(29 miles)

● EWM Found

Surveyed: July 26-28, 2016
Surveyor: JA Johnson
Affiliation: Freshwater Sci. Serv.
Methods: Visual, Sonar, Rake

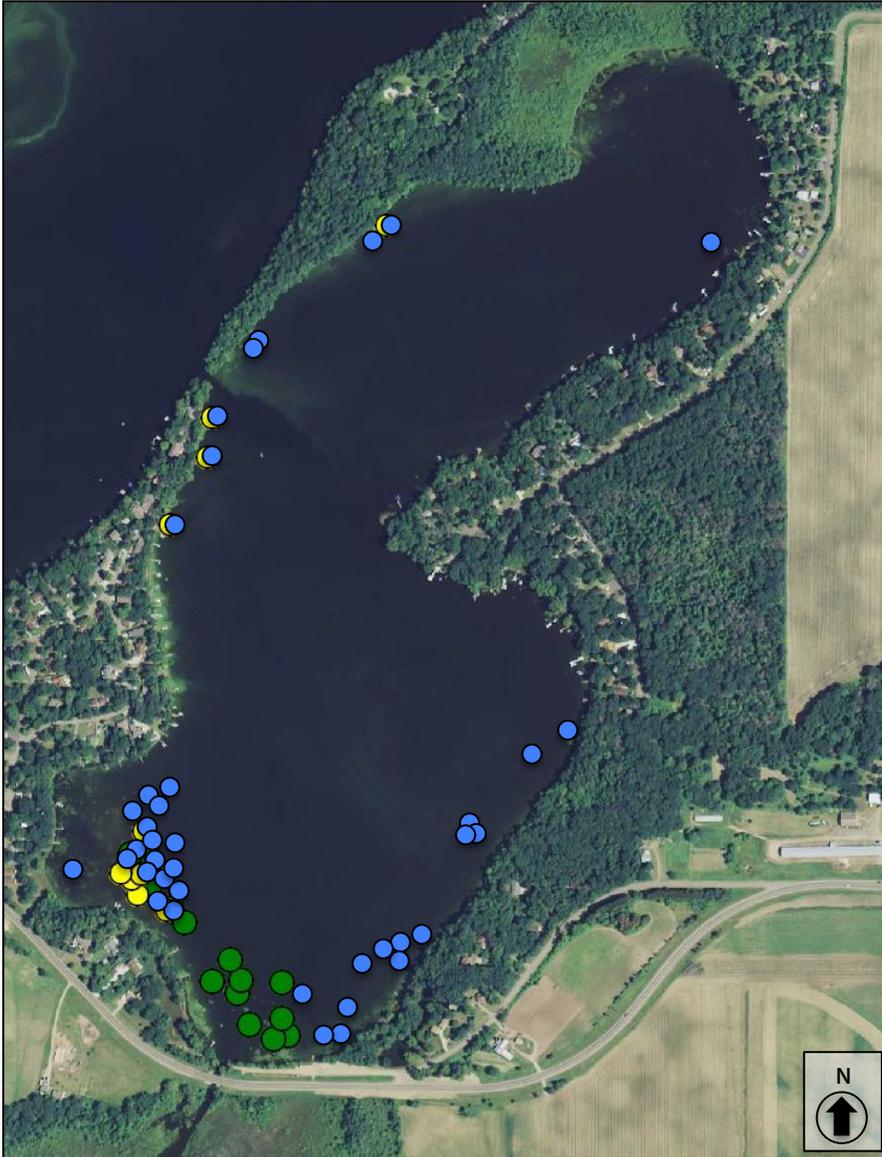
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Osseo, MN 55369
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(651) 336-8696

Rush Lake

Changes in EWM Distribution: 2014-2016



Eurasian Watermilfoil

- 2016 EWM location
- 2015 EWM location
- 2014 EWM location

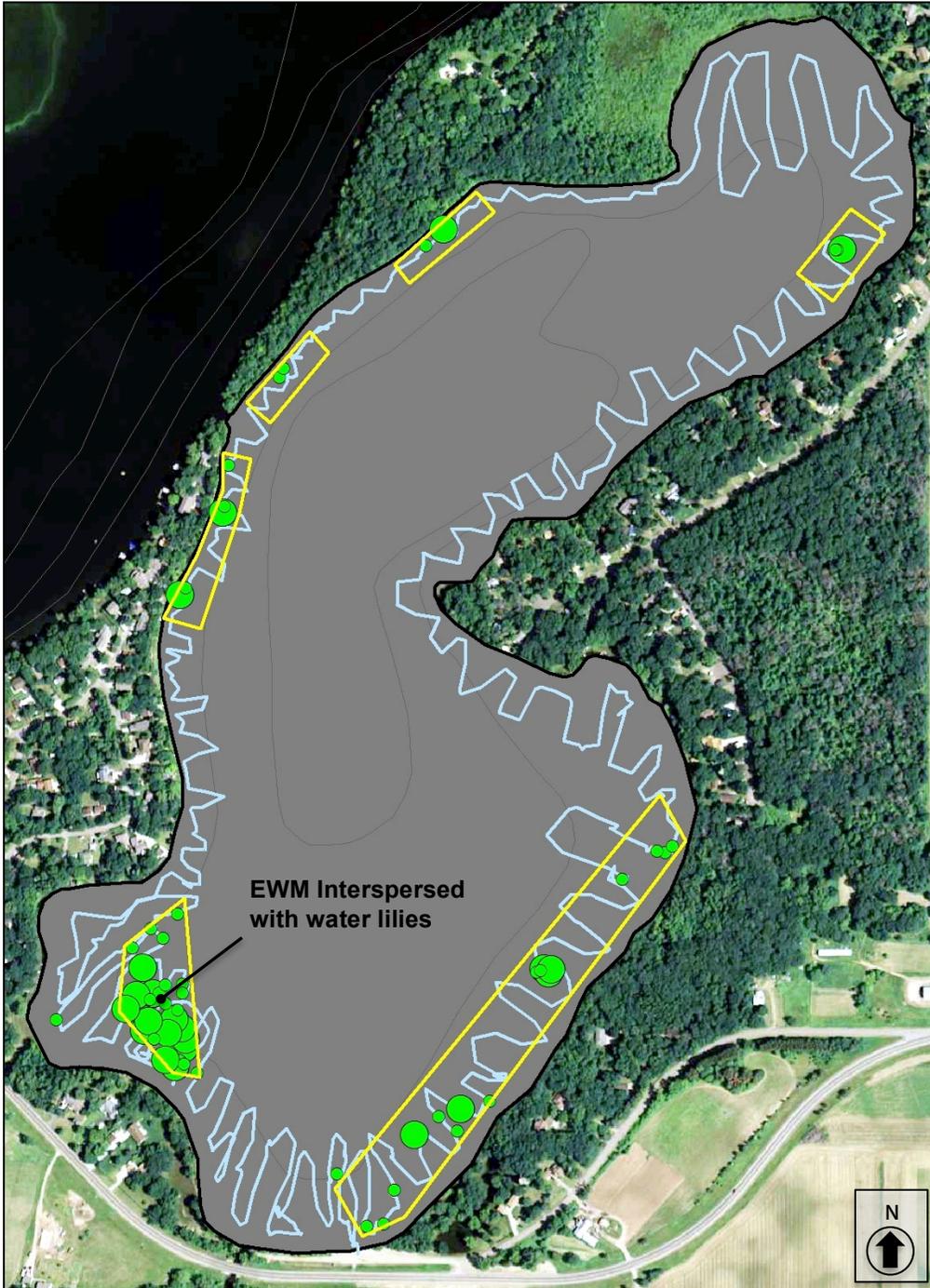
Surveyed: Aug 2014, Sep 2015, Jul 2016
Surveyor: JA Johnson
Affiliation: Freshwater Scientific Services
Methods: Visual, Sonar, Rake

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Rush Lake

2016 Eurasian Watermilfoil Search & Delineation Survey



— Surveyed Path

EWM Density

- 1 (solitary plants)
- 2 (dense patches)
- 3 (uniform matted)

□ EWM Plots

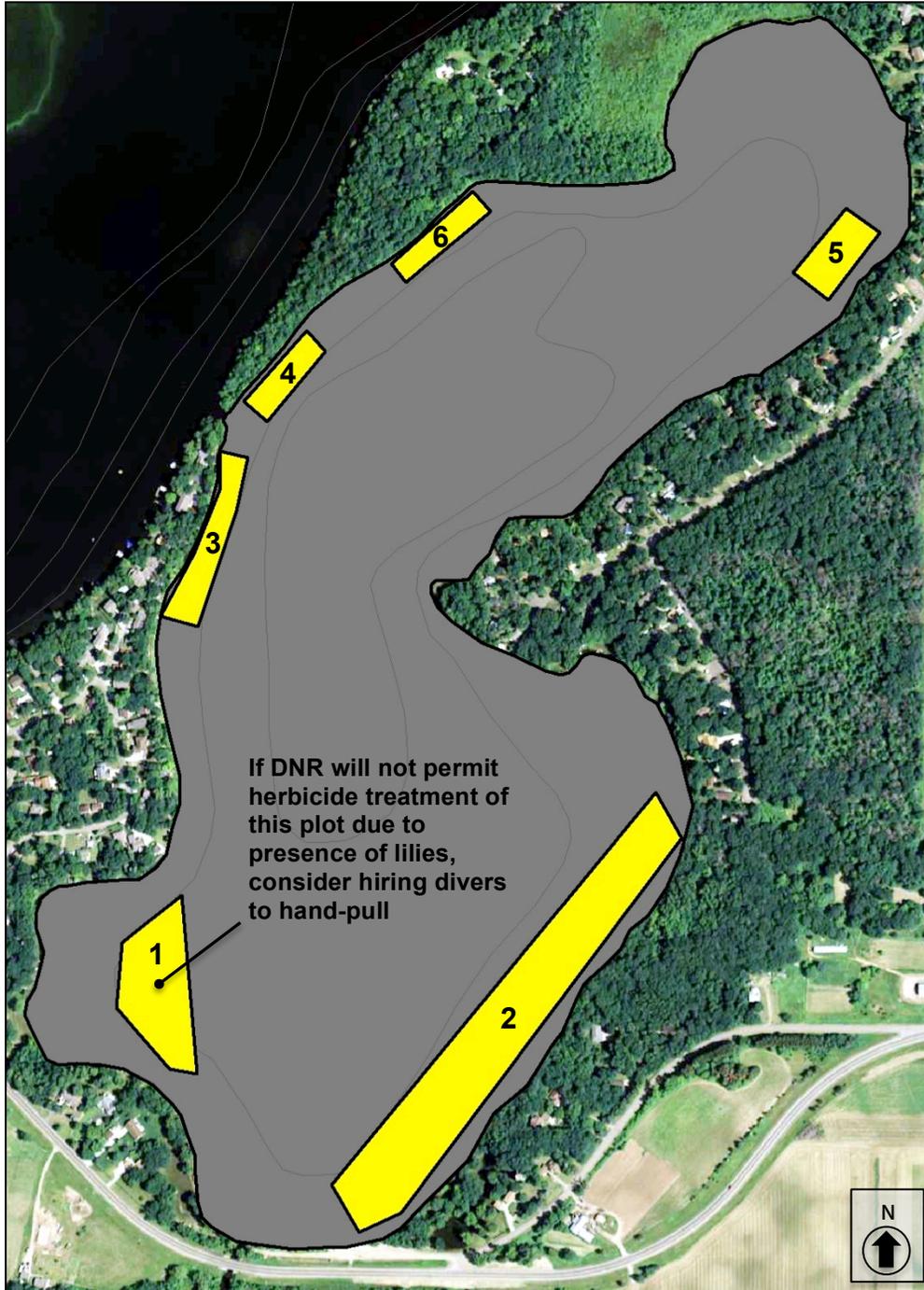
Surveyed: July 26-28, 2016
Surveyor: JA Johnson
Affiliation: Freshwater Sci. Serv.
Methods: Visual, Sonar, Rake



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Rush Lake 2016 Eurasian Watermilfoil Search & Delineation Survey



 **Potential Treatment Plots**

Plot *	Area (acres)	Mean Depth (ft)
1	3.0	4.1
2	9.9	3.4
3	1.6	3.0
4	0.9	3.3
5	1.2	4.4
6	0.9	2.1

Total 17.5

* Plots are numbered in the recommended order of priority for management (1=highest) based upon plot size, EWM density, and potential for impairment and spread to other lakes in the chain.

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Online Resources & Contacts

Minnesota Administrative Rules for Aquatic Plant Management
<https://www.revisor.mn.gov/rules/?id=6280>

Minnesota DNR – Aquatic Plant Management Regulations & Permit Application Forms
<http://www.dnr.state.mn.us/shorelandmgmt/apg/regulations.html>

List of Herbicide Retailers and Applicators in MN
http://files.dnr.state.mn.us/assistance/backyard/shorelandmgmt/apg/companies_selling_approved_aquatic_herbicides.pdf

Milfoil Genetic Testing (for verifying native, Eurasian, or hybrid milfoil)
<http://www.gvsu.edu/geneticidentification/pricing-8.htm>

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