

## Eurasian Watermilfoil in the Briggs Lake Chain: 2017

**Briggs Lake** (#71-0146)

**Julia Lake** (#71-0145)

**Rush Lake** (#71-0147)

**Big Elk Lake** (#71-0141)

Surveyed July 12-14, 2017



### Survey, Analysis, and Reporting by:

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[www.NALMS.org](http://www.NALMS.org)

## 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 2017. 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 12 and July 14, 2017. During these surveys, we navigated a meandering transect over the portion of each lake that supported plants (generally <10 ft). In all, we surveyed a total path length of 25 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

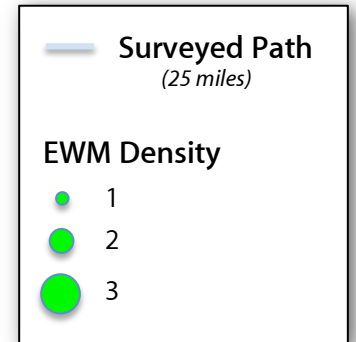
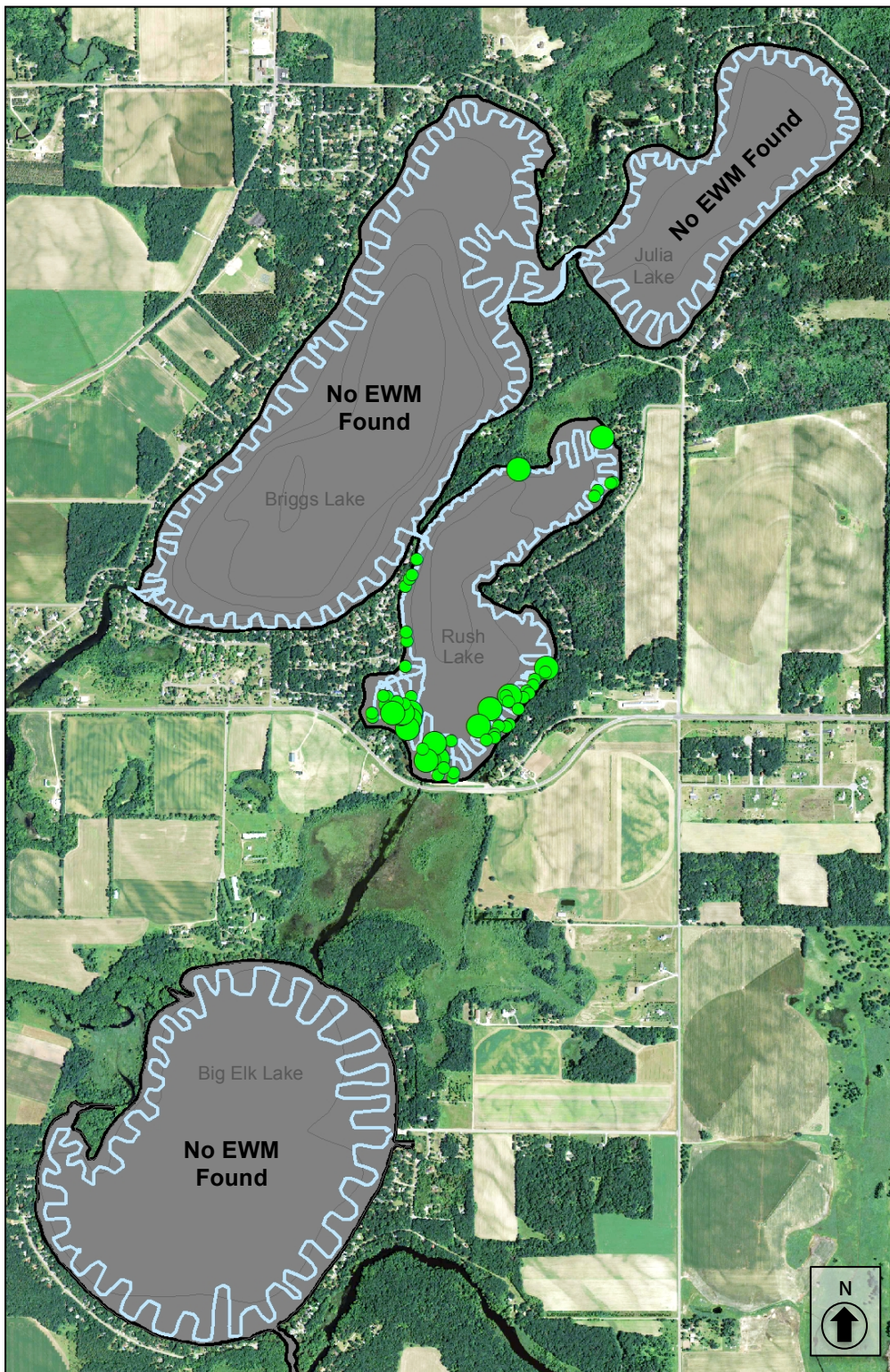
During the July 2017 survey, we found EWM only in Rush Lake. This suggests that to this point, EWM still has not spread to the other lakes in the chain. Overall, the extent and density of EWM in 2017 was similar to than seen in 2016 (generally patchy light to moderate-density growth), with a few areas showing reduced EWM (far northeast patch) and a few others showing a slight increase in the extent and density of EWM (southeast shore and far northern shore).

Past management efforts appear to be keeping EWM at a fairly low level of infestation in Rush Lake, but the persistence of EWM patches near the Briggs-Rush channel and the apparent slow increase of EWM along the southeast shore suggest that the risk of spread to other lakes in the Briggs Chain is substantial. Although there are not many homes along the southeast shore, increases of EWM in this area would produce many more EWM fragments and likely lead to an increase in the rate of EWM spread within Rush Lake. Accordingly, we are recommending that these areas (plots 1 and 2) be managed aggressively in 2018. The older patches of EWM in the south and southwest portion of the lake appeared to be persisting but not increasing in extent or density. These areas (plots 3 and 4) are adjacent to the outlet dam, and present the greatest potential for spreading fragments downstream to Big Elk Lake. However, management options in these plots is limited by the presence of lilies, which can be damaged by the herbicides normally used to control EWM. We recommend that you talk to your AIS Specialist and applicator about whether there are other management options (other herbicides or different timing) that could be used to manage EWM in these plots without harming the lilies.

The remaining plots (5–7) are small and only supported a small amount of EWM in each plot. Small plots are much more difficult to treat effectively, as the herbicide rapidly disperses. Consequently, hand-pulling may be a more effective management strategy in these areas.

## Briggs Lake Chain

### 2017 Eurasian Watermilfoil Search & Delineation Survey



Surveyed: July 12-14, 2017  
Methods: Visual, Sonar, Rake  
Surveyor: JA Johnson



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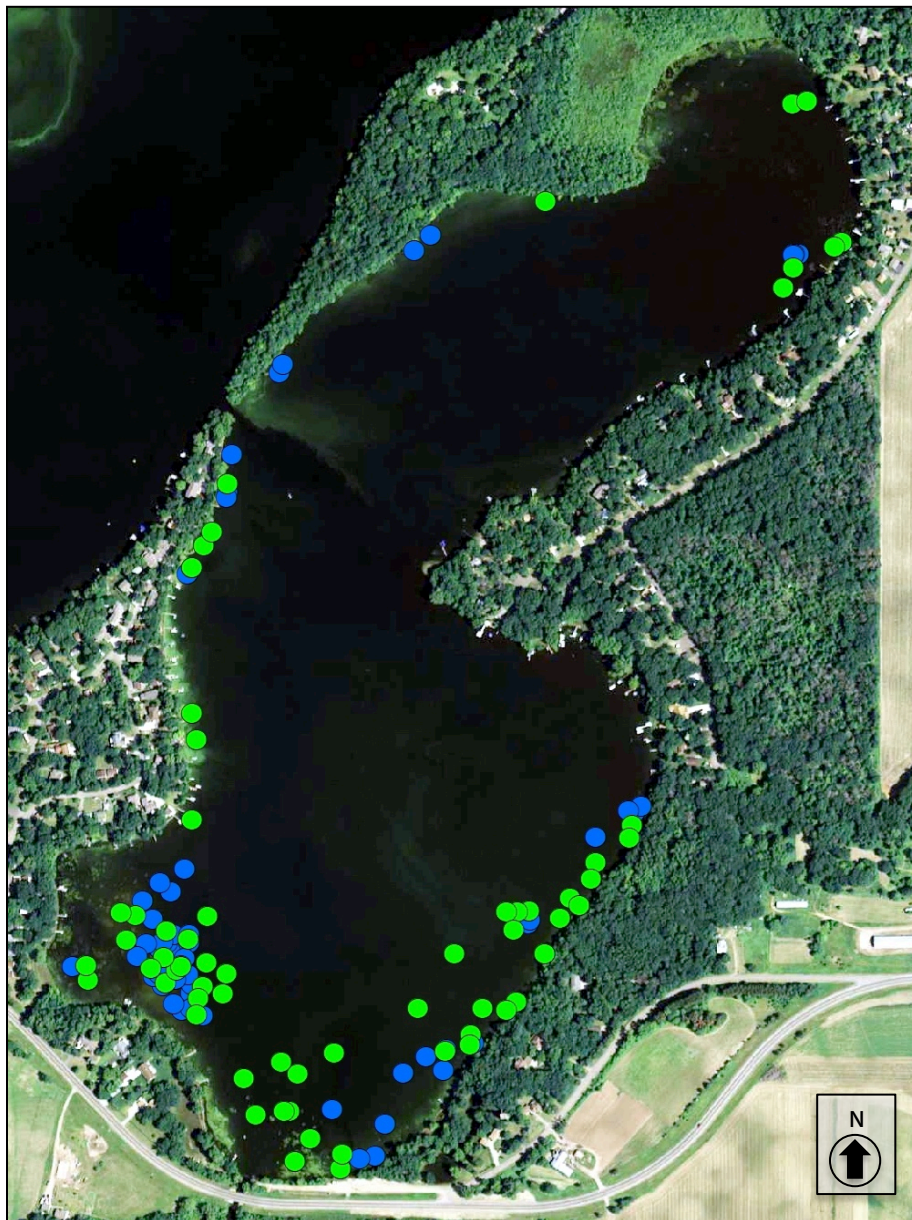
Map produced for the  
Three Lake Improvement District by:



15771 Creekside Lane  
Osseo, MN 55369  
[fixmylake.com](http://fixmylake.com)  
(651) 336-8696

## ***Rush Lake***

### ***Changes in EWM Distribution: 2016-2017***



#### **Eurasian Watermilfoil**

- 2017 EWM location
- 2016 EWM location

Surveyed: Jul 2016, Jul 2017

Methods: Visual, Sonar, Rake

Surveyor: JA Johnson



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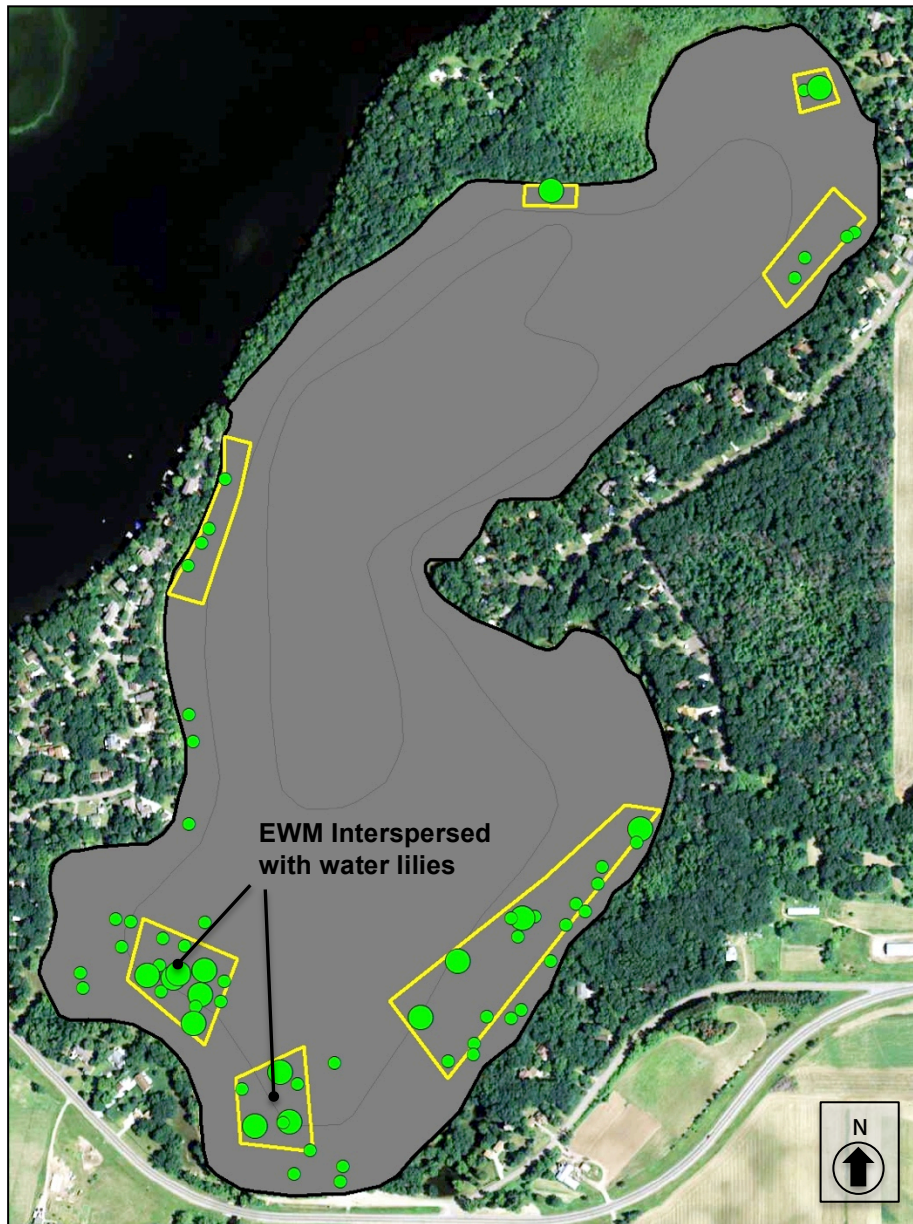
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## Rush Lake

### 2017 Eurasian Watermilfoil Management Plots



#### EWM Density

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

□ EWM Plots

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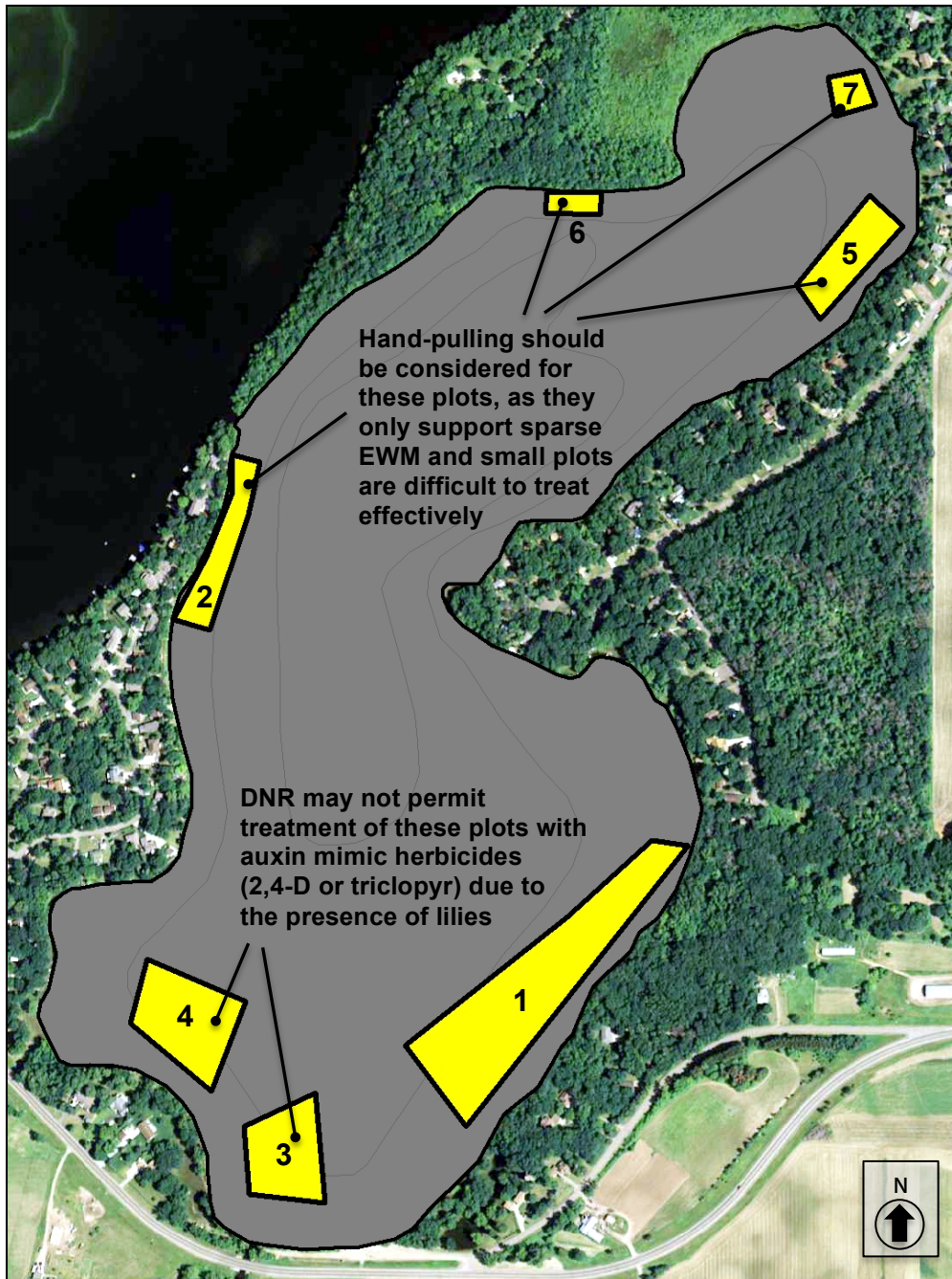
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## Rush Lake 2017 Eurasian Watermilfoil Management Areas



 Potential Treatment Plots

Plot *	Area (acres)	Mean Depth (ft)
1	6.9	2.1
2	1.6	2.0
3	2.2	1.9
4	2.7	2.4
5	1.7	2.5
6	0.4	1.5
7	0.5	1.8

**Total 16.0**

\* Plots are numbered in the recommended order of priority for management (1=highest) based upon plot size, EWM density, 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](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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