

Eurasian water-milfoil (*Myriophyllum spicatum*) SCUBA Dive Monitoring Survey Tomahawk Lake – WBIC: 2501700 Bayfield County, Wisconsin

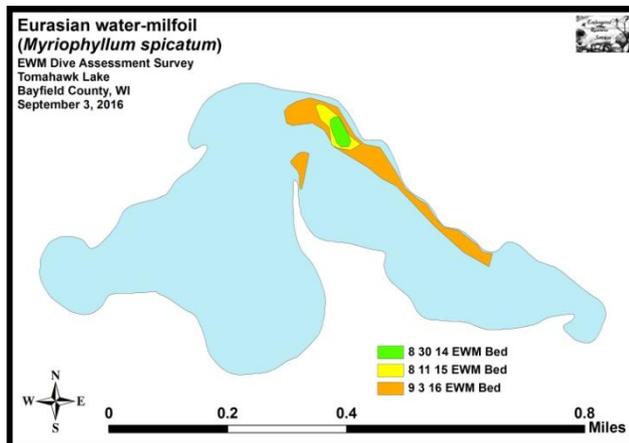
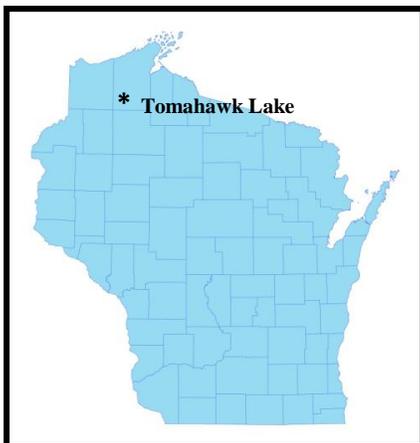


7ft EWM Towers Excluding Native Pondweeds (Berg 2016)



EWM (Berg 2007)

Project Initiated by: The Wisconsin Department of Natural Resources
and the Town of Barnes – Aquatic Invasive Species Committee



Tomahawk EWM Bed Map 9/3/16

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September 3, 2016

TABLE OF CONTENTS

	Page
LIST OF FIGURES	ii
INTRODUCTION.....	1
METHODS.....	2
RESULTS.....	2
2014-2015 Surveys.....	2
September 2016 Survey.....	3
DISCUSSION AND CONSIDERATIONS FOR MANAGEMENT.....	3
LITERATURE CITED.....	4

LIST OF FIGURES

	Page
Figure 1: Tomahawk Lake Bathymetric Map.....	1
Figure 2: EWM Locations on Tomahawk Lake – 6/17/15.....	2
Figure 3: EWM Locations on Tomahawk Lake – 8/11/15.....	3
Figure 4: EWM Locations on Tomahawk Lake – 9/3/16.....	4
Figure 5: Dense EWM Towers Excluding Almost All Native Vegetation – 9/3/16.....	4

METHODS:

Gerald “Gus” Gustafson, Tomahawk Lake resident, assisted with surface support for the survey. Entering the water at the boat landing dock, we dove meandering zigzag transects along the outside of the beds and across the 5-15ft bathymetric rings so as to scan the entire littoral zone. Upon finding EWM plants, Gus logged GPS waypoints on the outer edge of the bed. We then travelled back along the shoreline to determine how far in EWM was found.

Results:

2014-2015 Surveys:

During the August 30, 2014 survey, we found EWM was actively growing and expanding within a 0.69 acre bed centered around the location of the original infestation west of the park. By the June 17, 2015 survey, this had expanded to cover 0.81 acre (Figure 2). The core bed continued to thicken and expand throughout the summer of 2015 with many patches nearing canopy. The August 11, 2015 survey found EWM now covered 1.53 acres or approximately 44% of the 3.48 acres treated in 2013 (Figure 3).

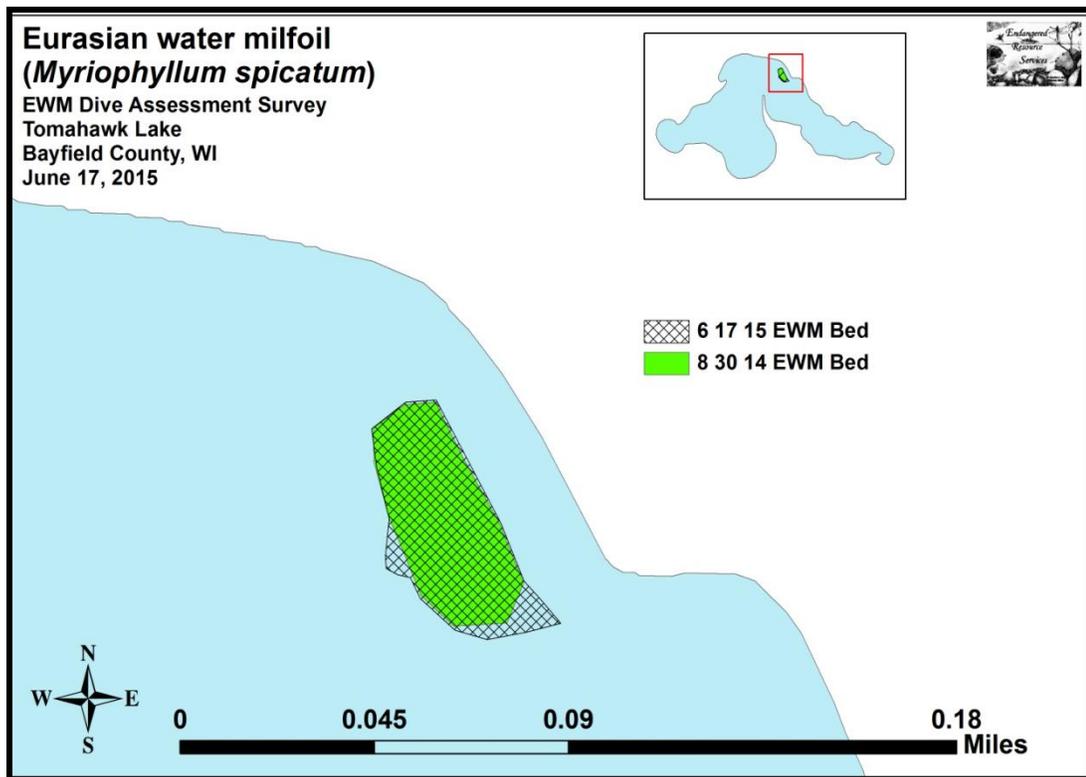


Figure 2: EWM Locations on Tomahawk Lake – 6/17/15

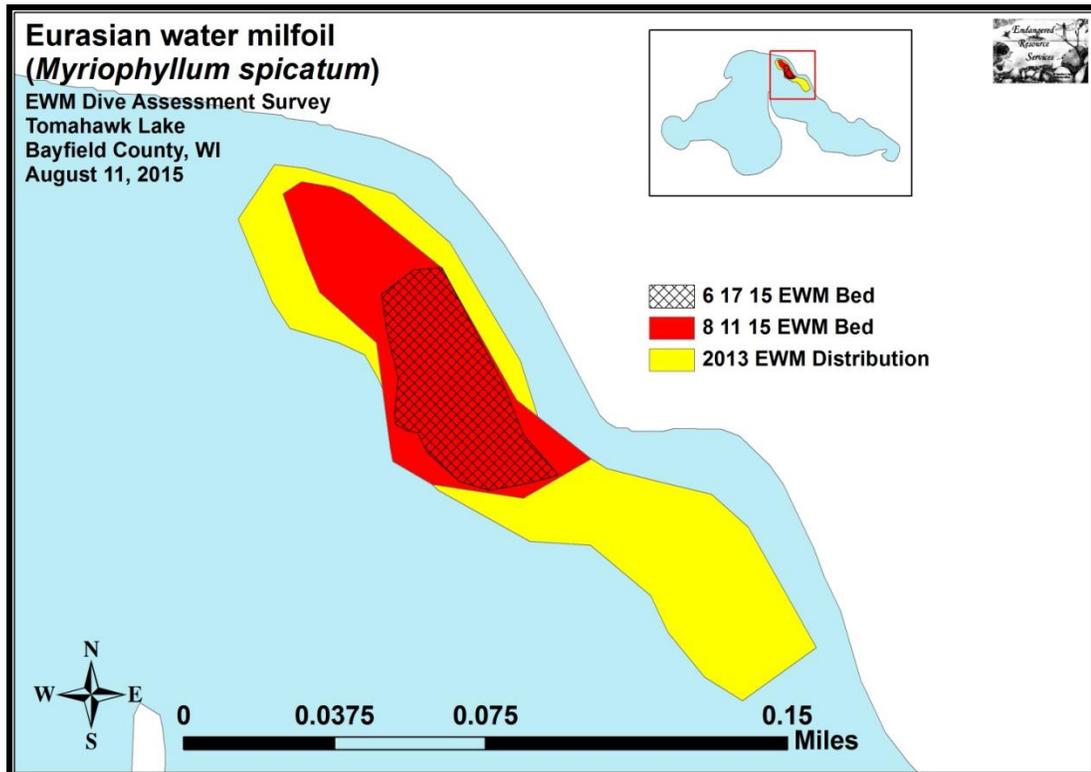


Figure 3: EWM Locations on Tomahawk Lake – 8/11/15

September 2016 Survey:

The summer of 2016 was a time of significant EWM expansion on the lake. By September 3rd, we found EWM had spread down the majority of the northeast shoreline and now covered 7.40 acres – more than twice the size of the 2013 treatment area (213% of the 2013 total) and was almost five times the size of the bed mapped in August 2015 (484%). Additionally, we found a second bed had established on the point southwest of the original infestation, and it covered 0.59 acre bringing the total area with significant EWM to 7.99 acres (Figure 4). Equally troubling was the rate at which EWM was excluding native vegetation. Where there had been at least patches of native pondweeds within the boundaries of the August 2015 bed, we found a dense canopied monoculture of EWM in 5-8ft of water in 2016 (Figure 5). As would be expected, we noted the density and percent cover decreased radiating outward into the newly mapped areas. However, the rate of fragmentation and expansion in these areas was spectacular with plants barely 2ft tall already dropping side branchlets. Based on this and the 10’s/perhaps 100’s of floating fragments we saw throughout the eastern bay, we full expected another significant expansion next year and wouldn’t be surprised to see EWM established throughout the entire littoral zone by the end of 2017.

Discussion and Considerations for Management:

The TOB now has a functional Diver Assisted Suction Harvest (DASH) system that will be available for use in the summer of 2017. But, due to the significant expansion of EWM in 2016 and the potential for further expansion in 2017, a bed or potentially lake-wide herbicide treatment may be necessary to “reset the clock” to the point a DASH system could keep up with expected EWM growth. Ideally, if an active management strategy is decided upon, it will begin/occur as early in the 2017 growing season as possible before the infestation can spread further.

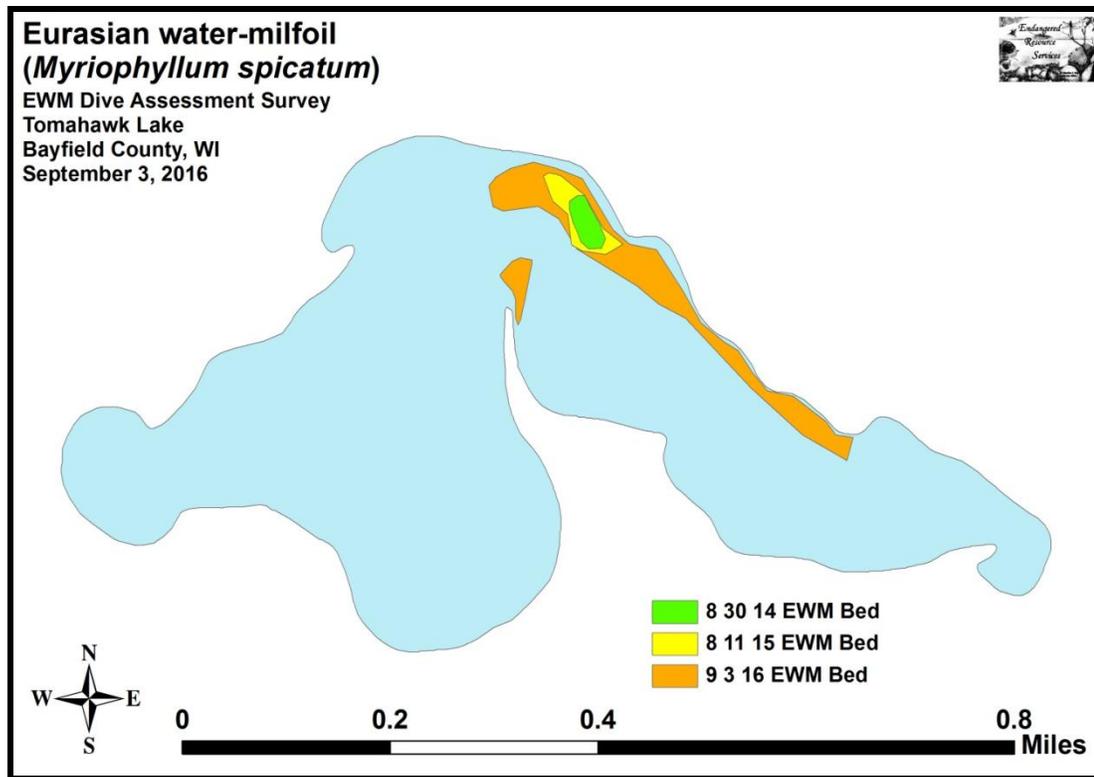


Figure 4: EWM Locations on Tomahawk Lake – 9/3/16

3



**Figure 5: Dense EWM Towers Excluding Almost All Native Vegetation
 Tomahawk Lake – 9/3/16**

LITERATURE CITED

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