

2012 EWM TREATMENT

Approximately 23 acres of Eurasian water milfoil (EWM) were targeted for control using herbicide application methods in the Inland Lakes (Horn Lake, Little Horn Lake, Explosion Lake, and Reservoir Pond) and Townsend Flowage (includes the Mc Caslin Brook) during the spring of 2012 (Map 1). All treatments were conducted by Cason and Associates on April 24-25, 2012. The National Weather Service station at Antigo, WI on April 24th reported winds out of the north at approximately 5-10 mph in the morning and 10-15 mph later in the day. The winds on April 25th were reported as coming out of the east at 10-15 mph in the morning and 5-10 mph in the afternoon.

Spot treatment techniques, as described within the 2011 treatment report, are a type of control strategy where the herbicide is applied to a specific area (treatment site) such that when it dilutes from that area, its concentrations are insufficient to cause significant affects outside of that area. This treatment strategy has historically been used on the Inland Lakes and Townsend Flowage system, where individual EWM colonies have been targeted for control using granular 2,4-D. This strategy was also utilized during the spring of 2012 where 7.7 acres of EWM was treated with granular 2,4-D (Navigate®) at 3.0 ppm acid equivalent (ae).

During the spring of 2012, just over 15-acres of EWM were targeted for control within the McCaslin Brook. Because this treatment was targeting EWM growing in an area of high water exchange, a split application of liquid 2,4-D (DMA IVM®) spaced 24 hours apart (2.0 ppm ae + 2.0 ppm ae) was selected. This strategy was devised in an effort to help combat the rapid dissipation of herbicide in these areas of high flow and increase EWM's exposure time to the herbicide.

2012 EWM TREATMENT RESULTS

On August 13-14, 2012, two field crews (2 boats, 4 staff) from Onterra conducted an assessment of the 2012 treatment areas as well as the system-wide EWM peak-biomass survey (Map 2). Conditions were ideal for this survey: hazy sun and light winds.

Almost certainly due to the early ice-off and unseasonably warm summer, 2012 has been a banner year for EWM on many lakes in Wisconsin. As shown on Map 2, this appears to have been the case on this system as well. The small spot treatments appear to have been moderately effective, as many areas exhibited a density reduction of EWM. However, the majority of these sites contain EWM following the treatment. The most successful treatments were those that targeted EWM within protected bays of the system. Herbicide concentration and exposure times were likely greater in these areas due to lower water exchange rates.

The treatment strategy utilized on the McCaslin Brook was found to be extremely effective. Much of this area contained moderate and high densities of EWM during the summer before the treatment (Map 1), whereas only a few isolated EWM plants were located within this area in 2012 (Map 2). These results are promising since past treatments within this area have historically not been effective.

While the treatment strategy conducted on the system in 2012 was effective at reducing EWM within the treatment sites, the EWM population of the entire system expanded and increased in density greatly during 2012.

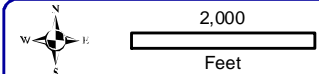
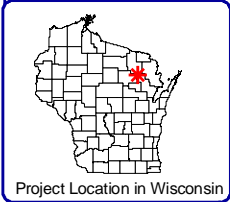
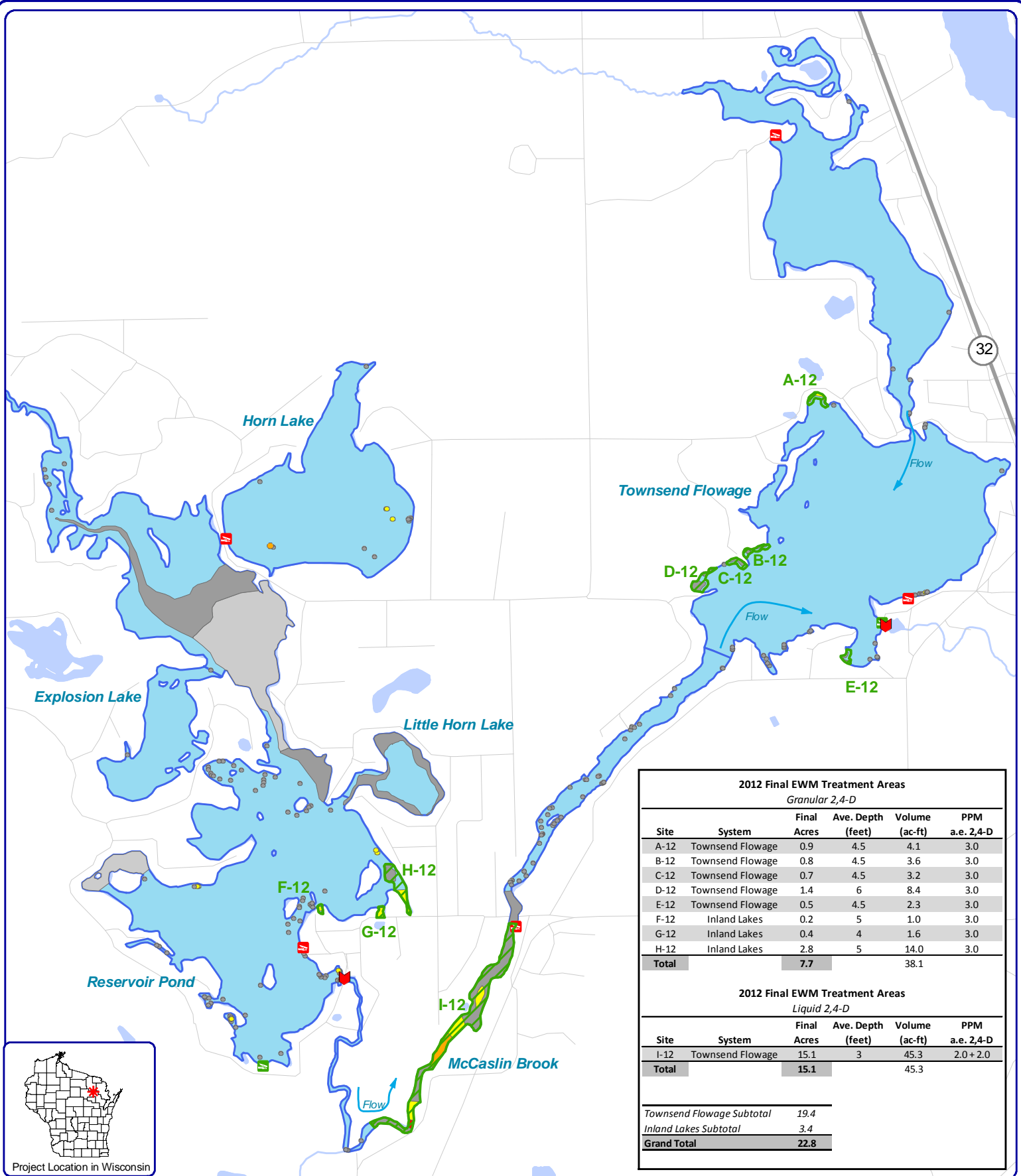
2013 RECOMMENDED EWM CONTROL STRATEGY

A partial water level drawdown is underway on the system, allowing repairs to the Reservoir Pond dam to be made over the winter of 2012-2013. In conjunction with lowering the Reservoir Pond for dam repairs, the Townsend Flowage system's water levels were lowered for EWM control. Both the Inland Lakes and the Townsend Flowage have been drawn down approximately 6 feet. The Townsend Flowage is scheduled to be refilled first, occurring as soon as the ice is off the flowage in early-spring of 2013. The Reservoir Pond will not be refilled until after the frost is out of the ground, likely beginning about 3-4 weeks following ice-out.

Winter drawdowns have been shown to be effective at reducing EWM when the plants are frozen and/or desiccated (completely dried out). Onterra has just finished its third year of monitoring a drawdown in Price County. This 560-acre flowage contained EWM frequencies of over 36% prior to the 6-foot winter drawdown. For the second consecutive summer following the drawdown, the EWM frequency has been below 1%.

A drawdown of 6 feet would likely result in significant EWM control, provided that the areas of the lake containing EWM were dry and/or frozen for a significant amount of time during the winter. Weather conditions that would help this process would be a long, cold winter with minimal snow cover. Some concerns have been brought forth from interested stakeholders about the ability to refill the system during the spring following the drawdown. The conditions listed above that would be beneficial for EWM control would be those that would make the refilling process more difficult and lengthy.

At this time, an herbicide control strategy is not being proposed for the spring of 2012. Comparing the 2012 EWM peak-biomass survey results (Map 2) with a survey conducted in the summer of 2013 will allow for an understanding of how the drawdown affected the EWM population within the system. This will be useful information for future planning.

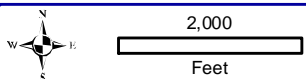
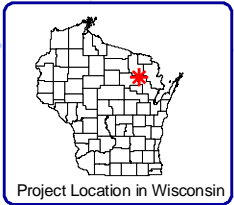
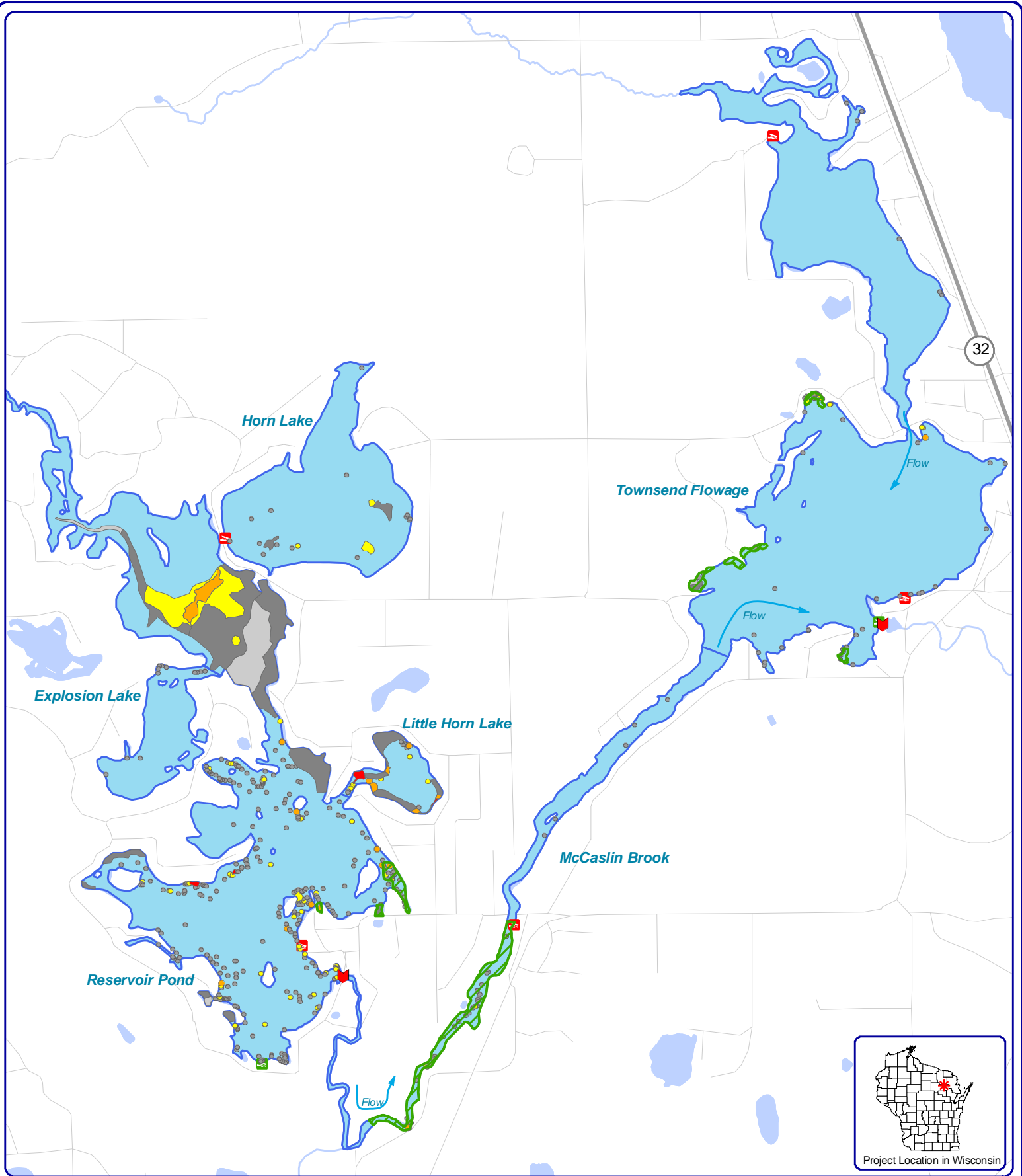


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Sources:
 Data: Roads and Hydro: WDNR
 Aquatic Plant Survey: Onterra, 2011
 Map Date: October 17, 2012
 Filename: Map1_InlandLakes_Sum11PB_72012Promisat

- Legend**
- Highly Scattered
 - Scattered
 - Dominant
 - Highly Dominant
 - Surface Matting
 - Single or Few Plants
 - Clumps of Plants
 - Small Plant Colony
 - Spring 2012 Final Treatment Areas

Map 1
 Townsend Flowage/Inland Lakes
 Oconto County, Wisconsin
**Summer 2011 EWM Survey &
 Spring 2012 Treatment Areas**



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Map 2
 Townsend Flowage/Inland Lakes
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**Spring 2012 Treatment Areas
 & Summer 2012 EWM Survey**