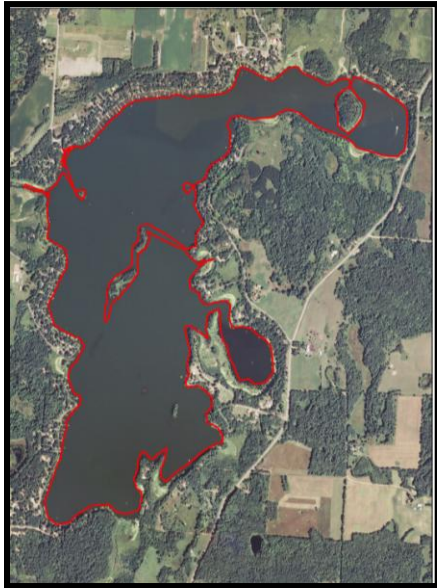


Summary of Monitoring at Boat Landings and Water Inlets for Eurasian Water Milfoil (*Myriophyllum spicatum*) on Wood (Big Wood) Lake (WBIC: 2649800) Burnett County, WI



October 2016 Shoreline Survey Transect Path



Purple Loosestrife in Bloom

Project Initiated by:
The Big Wood Lake Association



EWM Scan (Berg 2007)



Purple Loosestrife on Islands Showing Beetle Damage 10/6/16

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June-October, 2016

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INTRODUCTION:

During the summers of 2006 and 2013, extensive point-intercept plant surveys found no evidence of Eurasian water milfoil (*Myriophyllum spicatum*) in Wood Lake (Figure 1). As part of completing an Aquatic Plant Management Plan (APMP), the Wood Lake Association and Harmony Environmental decided that monthly transect surveys at the lake's boat landings and water inlets would be a prudent measure considering the increasing number of neighboring lakes that EWM has invaded (Round Lake, Long Trade, Big Trade, and Little Trade Lakes). These surveys will be conducted annually until the next full point-intercept survey. At that time, this, and the rest of the items in the lake's APMP, will be reexamined.

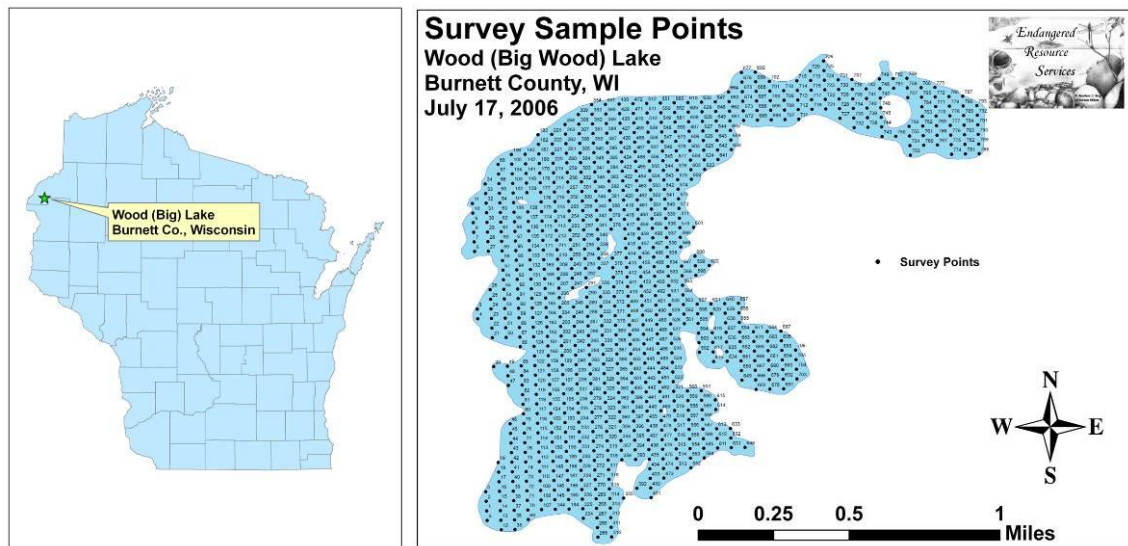


Figure 1: Wood Lake, Burnett Co., WI and Point Intercept Points 2006

METHODS:

During the 2016 aquatic macrophyte growing season (June-October), we conducted five landing inspections at the Thoreson Park and east boat landings, and at the Wood River and Spirit Creek Inlets (Figure 2). Using three 100-150m parallel transects approximately 15, 30 and 45m from shore; we motored at idle speed looking for any evidence of EWM's characteristic red growth top. Once we had finished the three transects, we returned to our starting point using a stitch pattern that crossed back and forth over all three lines to look for any plants we may have missed between the transects. During the June and October surveys, we also conducted a boat survey along the shoreline of the entire lake to look for EWM in the zone of growth it would most likely be found in (Figure 3). We especially focused on the north and west shores as these are places that floating fragments would likely get blown to by prevailing winds before settling to the lake bottom.

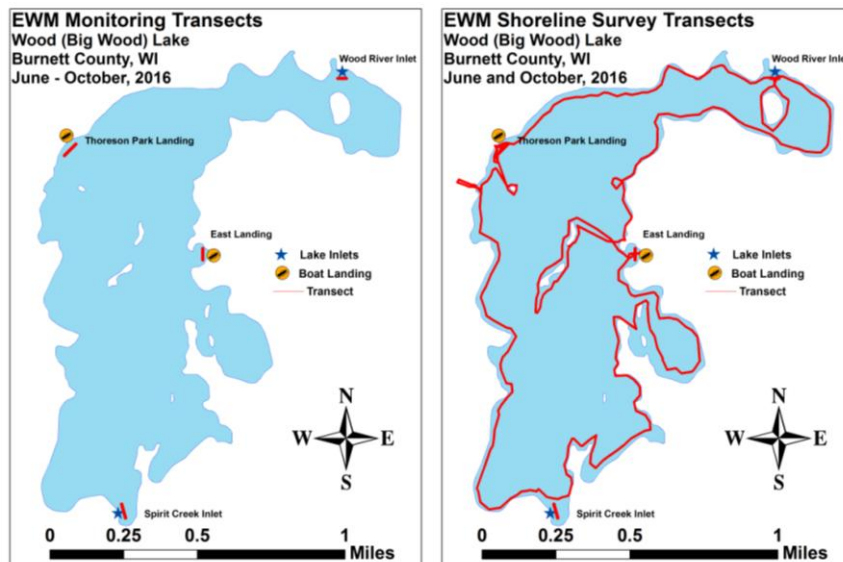


Figure 2: 2016 Boat Landing, Inlet and Shoreline AIS Survey

RESULTS AND DISCUSSION:

We completed landing transect surveys on June 4th, July 1st, August 4th, September 6th, and October 5th. We also did whole shoreline surveys on June 4th and October 5th. **We did NOT find EWM anywhere in Big Wood Lake.** However, the lake continues to have moderate amounts of the very similar looking native Northern water milfoil (*Myriophyllum sibiricum*). NWM is widely distributed throughout Big Wood in all habitats, but does best over sandy and organic muck. Despite its superficial resemblance to EWM, Northern water milfoil can be told apart by its leaflets numbering <24 whereas EWM normally has >26 (Figure 3). EWM also tends to have a bright red growth tip on the top of the plant whereas NWM has a bright lime green growth tip. In the fall, NWM also forms winter buds on the tips of shoots whereas EWM has none. These buds were readily visible during the October survey (Figure 4).



Eurasian water milfoil



Northern water milfoil

Figure 3: EWM and Northern Water Milfoil Identification (Berg 2007)



Figure 4: Overwintering Turions on Dying Northern water milfoil – October 2016

Purple loosestrife (*Lythrum salicaria*), another exotic invasive plant, continues to be scattered in wetlands adjacent to and along the immediate shoreline of the lake. Although it prefers mucky soils and is most common among the Cattails (*Typha* spp.) and Northern wild rice (*Zizania palustris*) near the Spirit Creek Inlet, we noticed scattered plants popping up midlake as well. The 10's of PL plants growing in a monotypic stand on the south end of the north wooded island midlake were again present. Fortunately, the *Galerucella* beetles raised by Grantsburg High School students in 2015 managed to survive the winter, and they were visible on plants throughout the summer. Although these imported beetles can serve as an effective biocontrol, as in late summer 2015, their surviving numbers appeared to be somewhat low. Because of this, it is unclear at this time if the beetle population will persist long-term as there simply may not be enough Purple loosestrife for them to feed on. Despite their low numbers, the beetles did appear to be significantly impacting the plants as the majority of PL leaves were full of feeding holes, and only a few were in good enough shape to flower. It should be noted that we removed all flowering PL plants on the island during both our August and September surveys.



Figure 5: Purple Loosestrife on South End of North Midlake Island Showing Galerucella Beetle Herbivory 10/6/16

CONSIDERATIONS FOR FUTURE MANAGEMENT:

With EWM growing in nearby Round, Long Trade, Big Trade, and Little Trade Lakes, we continue to recommend that landing inspections occur on a regular basis into the foreseeable future. Early detection of EWM provides the best chance to economically contain the plant once an infestation has occurred. We also encourage any lake resident or boater that discovers a plant they even suspect may be EWM to immediately contact Matthew Berg, ERS, LLC Research Biologist at 715-338-7502 and/or Pamela Toshner, Regional Lakes Management Coordinator in the Spooner DNR office at 715-635-4073 for identification confirmation. If possible, a specimen, a jpg, and accompanying GPS coordinates of the location should be included.

Although Galerucella beetles are present and appear to be spreading throughout the system, residents are still encouraged to remove any Purple loosestrife that shows up along their shorelines. Despite considering an additional beetle release in 2016, we did not find enough PL in any place on the lake to justify one as beetles are unlikely to survive in the very low PL density areas that currently exist. In 2017, we will continue to monitor the situation and work with Grantsburg High School to raise additional beetles if conditions warrant.