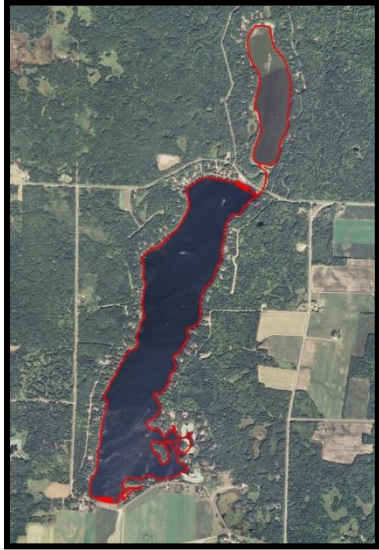


**Summary of Monitoring at Boat Landings for
Eurasian Water Milfoil (*Myriophyllum spicatum*) on
Pipe Lake (WBIC: 2490500) and North Pipe Lake (WBIC: 2485700)
Polk County, Wisconsin**



Project Initiated by:

Pipe Lakes Protection and Rehabilitation District



(EWM Scan – Berg 2007)

Landing Monitoring and Shoreline Surveys

Conducted by and Report Prepared by:

Endangered Resource Services, LLC

Matthew S. Berg, Research Biologist

St. Croix Falls, Wisconsin

May-October, 2015

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INTRODUCTION:

During the summers of 2007 and 2013, extensive point-intercept plant surveys found there was no Eurasian water milfoil (*Myriophyllum spicatum*) in the Pipe Lakes (Figure 1). As part of their Aquatic Plant Management Plan (APMP), the Pipe Lakes Protection and Rehabilitation District decided that monthly transect surveys at the lakes' landings would be a prudent measure considering the increasing number of neighboring lakes that have EWM infestations (Horseshoe, Echo, Beaver Dam, Kidney, Shallow, Lower Vermillion, and Duck).

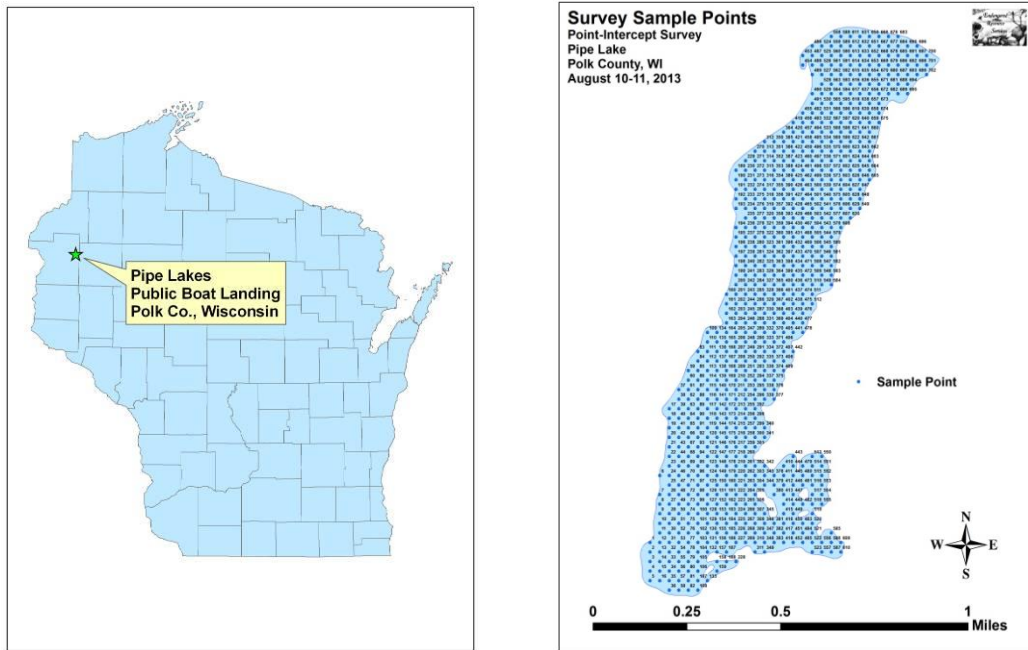


Figure 1: Pipe Lakes, Polk Co., WI and Point Intercept Points 2013

METHODS:

During the five month growing season from June-October 2015, we conducted landing inspections at least once a month at the north boat landing and the “unofficial” south landing on Pipe Lake (Figure 2). If conditions allowed us to see deep into the littoral zone (not raining/good water clarity/no people present swimming at the north beach), we conducted a boat survey to look for EWM. 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. As EWM primarily reproduces by shedding numerous vegetative fragments, we also walked along the shoreline to look for pieces of EWM that would likely wash up if plants were present.

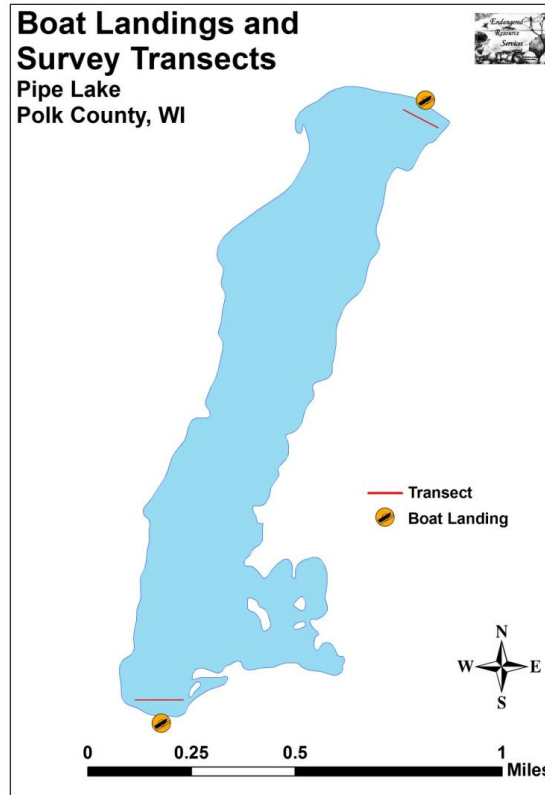


Figure 2: Boat Landings and EWM Survey Transects 2015

Following the boat inspection, if conditions warranted, we also surveyed using SCUBA/snorkel gear and compass along those same transects. Because Pipe Lake is essentially an elongated bowl and it was easy to do, on the first survey in June and the final survey in October, we 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. We also surveyed North Pipe Lake at these times.

RESULTS AND DISCUSSION:

In late May, Dick Hollar and Greg Warner – PLPRD - informed us that, on May 23rd, a boat that had previously been in Big Blake Lake launched at the north landing before inspectors could stop them. Unfortunately, the trailer had a considerable amount of Curly-leaf pondweed (*Potamogeton crispus*) on it. Although CLP plants are unlikely to have turions (reproductive buds) or seed this early in the growing season, the potential introduction of this exotic invasive species is troubling. Because of this, we also made an early informal visit (north shoreline only) to the lake on May 31st to look for any evidence of surviving plants. Following this trip, we conducted six additional transect surveys on June 17th, July 7th, August 8th and 29th (both August dates were used as training dives with six or seven additional volunteers each day), September 20th, and October 10th. We also conducted whole lake shoreline surveys on Pipe and North Pipe on June 17th and October 10th (Figure 3). Fortunately, we did **NOT** find any evidence of CLP, EWM or any other aquatic invasive species in or adjacent to Pipe Lake other than the previously reported Reed canary grass (*Phalaris arundinacea*).

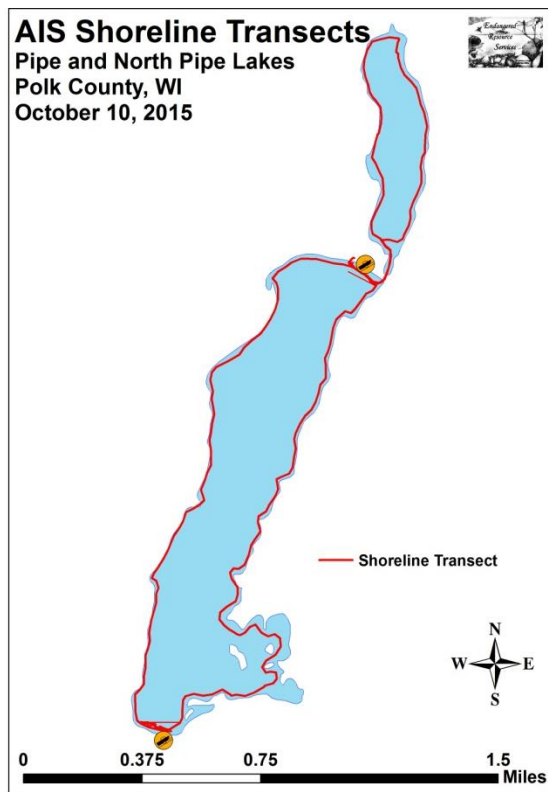


Figure 3: October 10, 2015 Full Shoreline AIS Survey

As in the past, the only branched/feathery aquatic plant we found in the lakes was Farwell’s water milfoil (*Myriophyllum farwellii*) – a valuable habitat producing native plant that is relatively uncommon in the state. It continues to grow in dense beds in the sheltered bays of the southeast corner of Pipe Lake in shallow water over thick organic muck (especially near the beaver lodge on the east side of the northeast island). Farwell’s is also found scattered through North Pipe Lake, but here it is very uncommon and never bed forming. Farwell’s water milfoil can be told from Eurasian water milfoil in that it has leaves with leaflets numbering <16 whereas EWM normally has >26 leaflets (Figure 4). EWM also has an emergent flower stalk where Farwell’s flowers are scattered along the stem and look like tiny nuts.

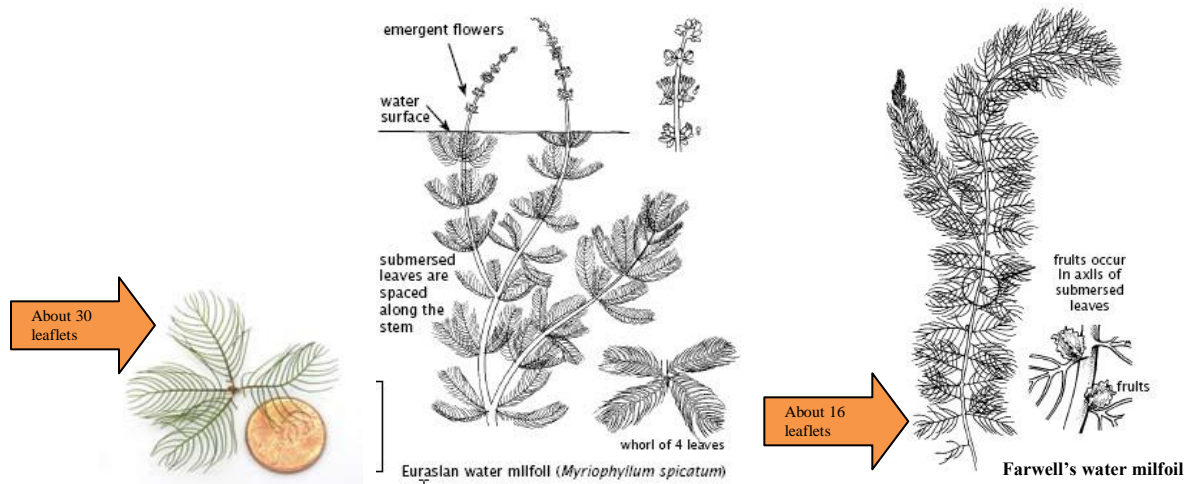


Figure 4: EWM and Farwell's Water Milfoil Identification
 (Hill et al. in Maine's Field Guide to Aquatic Invasive Species and Crow and Hellquist 2006)

CONSIDERATIONS FOR FUTURE MANAGEMENT:

The south shore landing (posts with signs driven into the ground to instruct people not to trespass/to use the north public landing instead) was closed in 2014, and we saw no evidence that people were using this area in either 2014 or 2015. We can continue to monitor this area in the future, but perhaps efforts would be better focused along the entire north shoreline where fragments from EWM would likely be blown by the prevailing summer winds. If residents or boaters discover a plant they even suspect may be CLP or EWM, we again encourage them to immediately contact us (Matthew Berg, ERS, LLC Research Biologist) at 715-338-7502 and/or Pamela Toshner or Alex Smith, Regional Lakes Management Coordinators in the Spooner DNR office at 715-635-4073 for identification confirmation. A fresh specimen, JPG photograph, and GPS coordinates of where the specimen was obtained would aid in the identification and location of any suspect plant(s).