

**Summary of Boat and Dive Monitoring at Boat Landings for  
Eurasian Water Milfoil (*Myriophyllum spicatum*) on  
Pipe Lake (WBIC: 2490500)  
Polk County, Wisconsin - Summer 2009**



(Koshere, 2007)



**Project Initiated by:**

Dick Hollar; Pipe Lakes Protection and Rehabilitation District



(Koshere, 2007)



(EWM Scan - Berg, 2007)

**Landing Monitoring Conducted by and Report Prepared by:**

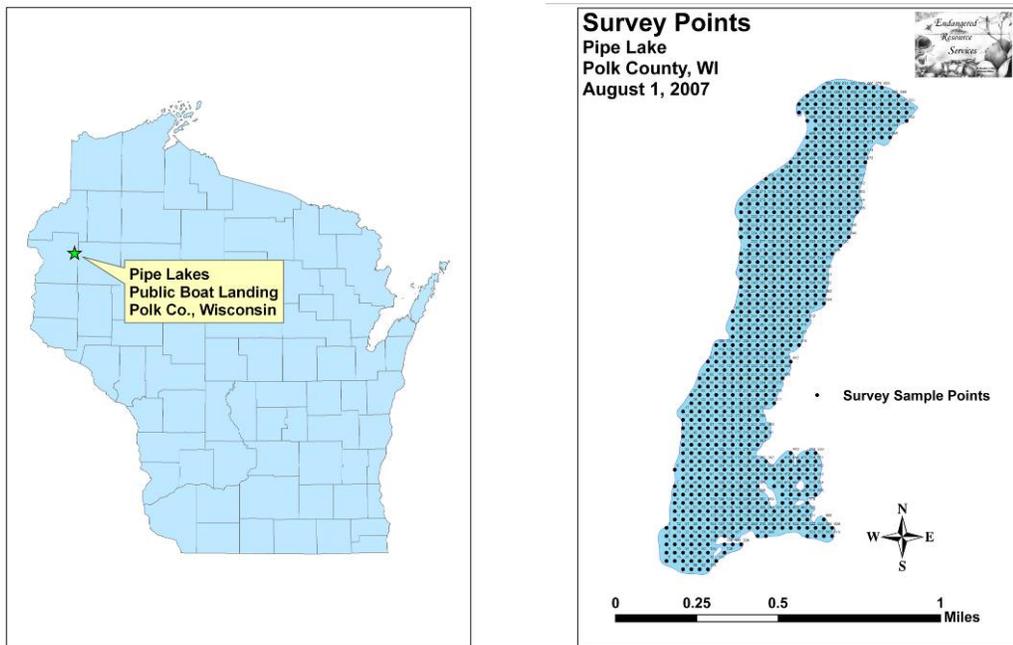
Endangered Resource Services, LLC  
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October 21, 2009

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## INTRODUCTION:

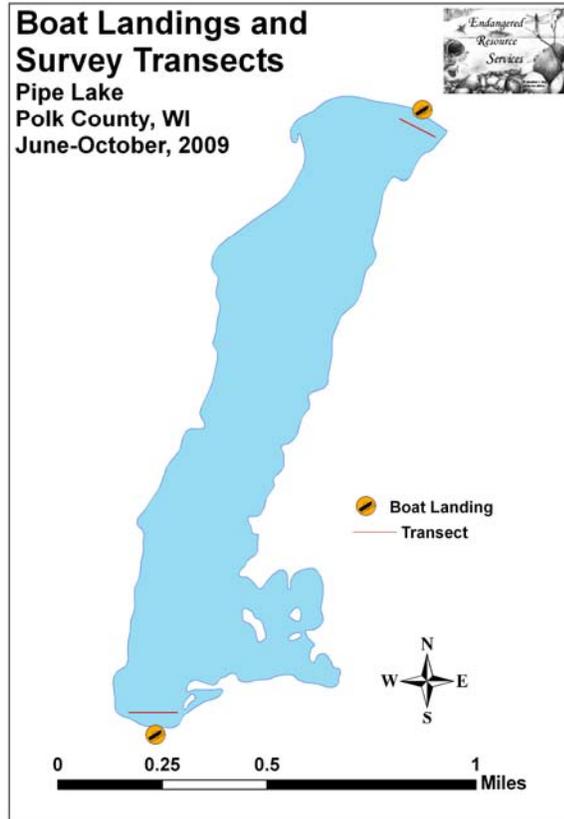
During the summer of 2007, an extensive point intercept plant survey found there was no Eurasian water milfoil (*Myriophyllum spicatum*) in the Pipe Lakes (Figure 1). As part of completing an Aquatic Plant Management Plan (APMP), the Pipe Lakes Protection and Rehabilitation District, Cedar Corp. and ERS, LLC decided that monthly transect surveys at the lakes' boat landings would be a prudent measure considering the increasing number of neighboring lakes that EWM has invaded (Horseshoe, Echo, Beaver Dam, Lower Vermillion, etc.). 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 lakes' APMP will be reexamined.



**Figure 1: Pipe Lakes, Polk Co., WI and Point Intercept Points 2007**

## METHODS:

During the five months from the June-October 2009, we conducted landing inspections once a month at the north boat landing and the “unofficial” south landing on Pipe Lake (Figure 2). If conditions allowed (not raining and/or no people present swimming in area), we initially conducted a boat survey of the area. 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.



**Figure 2: Boat Landings and EWM Survey Transects 2009**

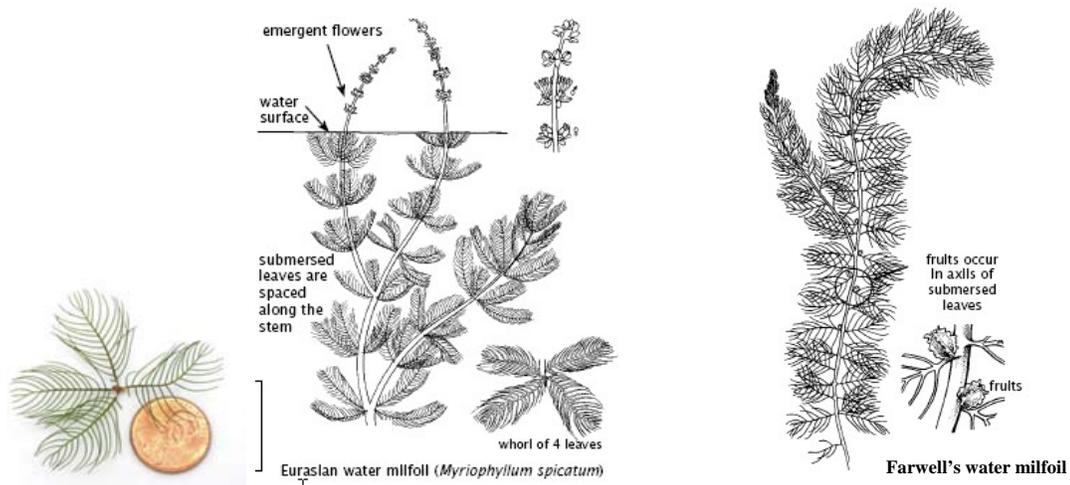
Following the boat inspection, we surveyed using SCUBA gear, compass and an underwater vehicle along those same transects with the return to start again using a stitch pattern to maximize coverage of the area. Because Pipe Lake is essentially an elongated bowl and it was easy to do, on the first and final surveys of the year, 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.

## **RESULTS AND DISCUSSION:**

During the summer of 2009, we conducted transect surveys on June 9<sup>th</sup>, July 10<sup>th</sup>, August 9<sup>th</sup>, September 7<sup>th</sup> and October 5<sup>th</sup>, and shoreline surveys on June 9<sup>th</sup> and October 11<sup>th</sup>. We did not find EWM or any other aquatic invasive species in or adjacent to Pipe Lake. Water clarity was consistently 10+ feet making for very good visibility for both boat and SCUBA surveys. Water levels at Pipe had fallen dramatically since 2008 returning to the drought conditions of 2007. Aquatic plants were uncommon as many areas that previously supported some of the lake's denser plant beds were out of water. Beds of Large-leaf pondweed (*Potamogeton amplifolius*) that were previously common at deeps around 5ft in the far south bay had almost entirely disappeared. Apparently the several foot drop in water levels created unsuitable growing conditions for this and other pondweeds. The lack of vegetation did, however, make for easy searching conditions. During the July 10<sup>th</sup> inspection, we took advantage of these ideal conditions and used

Pipe Lake to train seven other SCUBA volunteers in how to search for EWM using transects. This training was then used to help other lakes in northwestern Wisconsin find and eliminate EWM.

We again found Farwell's water milfoil in the sheltered bays in the southeast corner of Pipe Lake where it forms a small number of dense underwater beds in shallow water over thick organic muck. It can be told from EWM by its normal number of leaflets numbering <16 whereas EWM normally has >26 leaflets (Figure 3). EWM also has an emergent flower stalk where Farwell's flowers are scattered along the stem and look like tiny nuts. During our September visit, we collected several specimens and sent them to a molecular geneticist from Grand Valley State in Michigan. He requested the samples of this rare native milfoil because Farwell's is known from only a handful of lakes throughout the upper Midwest. His research is trying to understand why this species and others associated with it are rare despite being widely distributed.



**Figure 3: 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:

During our visits to the Pipe Lake, we were impressed with the AIS knowledge of land owners and boaters in general and Clean Boats/Clean Waters volunteers in particular. The lake association's commitment to educating the people who use the lake would appear to be a model for lakes in the area. We recommend that landing inspections continue to occur into the foreseeable future. Early detection of EWM provides the best chance to contain and possibly eliminate the plant from a lake 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. A fresh specimen, jpg photograph and GPS coordinates of where the specimen was obtained would aid in the identification of any suspect plant.