# Executive Summary

Horseshoe Lake (WBIC # 2630100) is a 398-acre, mesotrophic, stratified, seepage lake located on the border of Polk and Barron Counties in northwest Wisconsin. Routine monitoring by Barron County Soil and Water Conservation Department staff in the fall of 2006, discovered suspicious vegetation that resembled Eurasian watermilfoil (EWM). Wisconsin Department of Natural Resources (WDNR) vouchering later identified the suspicious plant as hybrid watermilfoil (HWM) a cross between the native northern watermilfoil (*Myriophyllum sibiricum*) and the non-native invasive Eurasian water milfoil (*Myriophyllum spicatum*). HWM is considered and aquatic invasive species, much the same as one of its parent plants, Eurasian water milfoil. Since its discovery in 2006, the Horseshoe Lake Improvement Association (HLIA) has been actively trying to control its spread in the lake. Physical removal through scuba diving and limited chemical herbicide application has been used to control HWM in Horseshoe Lake with mixed success. In the spring of 2010, the level of HWM in the lake was more than double the level identified during a fall survey the previous year. Two additional aquatic invasive species, curly-leaf pondweed and purple loosestrife have also been identified in the lake.

As a part of two WDNR Rapid Response grant funded projects, the HLIA contracted with various entities to complete a full lake early season and mid-summer aquatic plant survey, limited control work, and prepare a five-year Aquatic Plant Management (APM) Plan focused on control of the aquatic invasive species in the lake. This document is the completed APM Plan for Horseshoe Lake. It covers a period of five years beginning with the 2011 season. It has six major goals listed below.

- Reduce the total amount of HWM in Horseshoe Lake to less than 5 treatable acres by 2015
- Implement a complete set of monitoring programs to determine the impacts of HWM management on target plants, non-target plants, water quality, and water contamination (residual testing)
- Implement management activities to control other aquatic invasive species that are present in the lake
- Determine annually if native plant management is necessary in Buckholtz Bay to provide nuisance or navigation relief to property owners in the area
- Complete educational and informational activities designed to keep lake owners and users informed and involved in Horseshoe Lake management activities
- Improve access to Buckholtz Bay and Mudd Lake Bay for land owners, resource professionals completing plant surveys, and herbicide applicators as necessary

Each of these goals is accompanied by several recommendations and the actions necessary to complete them. A 5-yr time line is provided that identifies when actions are to be undertaken. The HLIA intends to apply for an Aquatic Invasive Species Established Infestation Control grant in February of 2011 to support the actions included in this APM Plan.