



# BEAR LAKE IMPROVEMENT BOARD NEWSLETTER

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### **Bear Lake Improvement Board Members:**

- Brian Harris, Pleasanton Twp. Rep.
- Don Brisbin, Chair, Riparian Rep.
- Bob Yates, Secretary, Bear Lake Twp Rep.
- Carver Edwards, Treasurer, Bear Lake Village Rep.
- Ken Hilliard, Manistee County Board of Commissioners
- Mark DiBenedetto, Manistee County Drain Commissioner

## 2010 AGENDA FOR BEAR LAKE

In 2009, one 11-acre herbicide treatment with the use of the systemic aquatic herbicides 2,4-D and Triclopyr was performed for the control of Eurasian Watermilfoil (EWM) in Bear Lake. Post treatment surveys in late 2009 provided evidence that the treatments were a great success, with no more reports of EWM in the lake! Although it is great news, we all must keep in mind that a lake's seed bank is highly unpredictable and a re-occurrence of EWM is always possible. Detailed whole-lake surveys will assure that any new EWM or other exotic species get treated before they create problems as the EWM did prior to 2008. In addition to the EWM, approximately 3 acres of Phragmites were treated behind the Blarney Castle gas station. Read more on Phragmites on page 3.

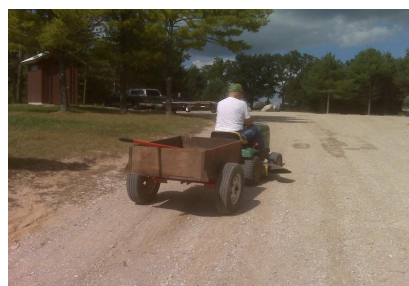
The native macrophyte communities within Bear Lake consist of good biological diversity and favorable growth forms for a healthy fishery, and thus management

options should aim to preserve these species to the extent possible. Looking ahead for the 2010 season, treatments will be conducted on an as-needed basis utilizing the best management option available. If in the event that EWM is found, systemic aquatic herbicides will be recommended to control this new growth.

Water quality parameters will also be monitored to evaluate the overall health of the lake throughout the season.

In addition, LEI staff will be monitoring the lake for any changes in algal community composition, since such changes have been recorded on otherwise healthy lakes of the region. At the end of the season, a detailed, summary report will be prepared and presented to the Bear Lake Improvement Board and will be available on the Bear Lake website at:

[www.bearlakemichigan.org](http://www.bearlakemichigan.org)



**REMEMBER: NEVER TO DUMP CLIPPINGS OR OTHER REFUSE NEAR THE LAKE! WHAT LIES LOOSELY NEAR THE LAKE MAY END UP IN THE LAKE!!!**

## 2010 MANAGEMENT METHODS FOR BEAR LAKE

In 2010, management methods for aquatic plant control (of exotic aquatic plant growth) will consist of selective systemic aquatic herbicide treatments.

Systemic aquatic herbicides will be strategically used to control and minimize Eurasian Watermilfoil (EWM) growth in late spring, since it is usually the first aquatic plant species to germinate and frequently overwinters. An aquatic herbicide treatment notice will be mailed to lakefront owners and explains the various types of aquatic herbicides that may be used during the 2010 treatment season, and any

possible watering or swimming restrictions (if any) that may be associated with their use. Additionally, any new Phragmites growth will be treated with systemic and contact herbicides.



*“Native Aquatic Plants are Critical for the Health of the Bear Lake Fishery and Freshwater Ecosystem”*

## THE IMPORTANCE OF NATIVE AQUATIC PLANTS...

Native aquatic plants may be submersed, floating-leaved, or emergent and may grow in ponds, lakes, and streams. A high biodiversity of aquatic plants is preferred to support a healthy fishery since the fish feed on macroinvertebrates that are dependent upon plants of different growth forms. Near shore aquatic vegetation is usually low-growing (due to higher wave energy) and supports many soft-bodied organisms such as snails and clams. Offshore vegetation is usually larger and serves as forage habitat for fish as well as housing for macroinvertebrates or other larger wildlife. Waterfowl often eat the seeds of native aquatic plants

as do small mammals such as muskrats or beavers.

In addition, native aquatic plants add oxygen to the lake water during the process of photosynthesis. Bear Lake contains 24 native aquatic plant species, which represents a very diverse aquatic ecosystem.

Southern Naiad, a common and beneficial native aquatic plant



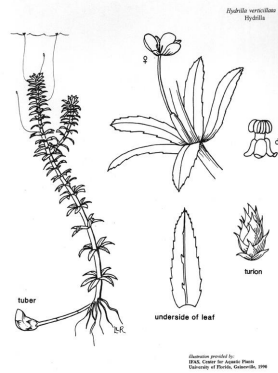
Illinois Pondweed, a common and beneficial native aquatic plant



# HYDRILLA—ANOTHER INVASIVE SPECIES ON THE MOVE

*Hydrilla* is a submersed, invasive aquatic plant common in tropical lakes and rivers. The plant grows very fast and reproduces via many different methods. Millions of dollars are spent annually on the control of *Hydrilla* in states such as Florida. A few years ago, it was discovered in Indiana and may be headed to Michigan. Conservationists are fighting hard to keep it out of Michigan lakes. Lakeshore Environmental Inc. (LEI) will be on the lake frequently to monitor the aquatic vegetation communities and develop management protocols for any invasive species that may invade Bear

Lake. If you find a plant that resembles *Hydrilla* (5 leaves in a whorl, with a barb at the leaf base; see figure to right), please call LEI immediately.



# PHRAGMITES....THE NEW SHORELINE INVADER

*Phragmites australis* (Common Name: Giant Common Reed) is an invasive, tall, wetland perennial, plant that has been rapidly invading wetlands and lake shorelines for the past few decades. It can grow to heights in excess of 18 feet and can crowd out favorable native shoreline aquatic emergent plant species, creating a monoculture that is not desirable to the local ecosystem. Often, it may be spotted by many in roadside ditches and in wet areas alongside disturbed areas.

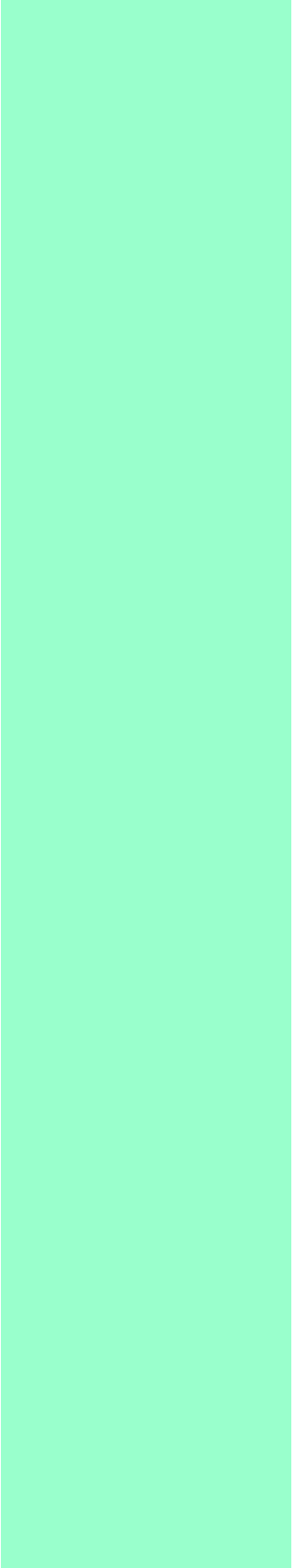
This plant has invaded many coastal wetlands in Michigan and is expensive to treat with systemic herbicides once it has taken over large areas of land.

When growing in small stands, it can be removed individually by hand-swiping of the plant with gloves, using the herbicides Glyphosate and Imazapyr (applied by a licensed applicator).

A photo of the plant is to the bottom right, showing the feather-like plume (seed head) and long, grassy stalk.

Lakeshore Environmental, Inc. will have much more information available on this invasive species on their website which will be updated soon!

*Phragmites australis*



Visit Our Website:  
[www.lakeshoreenvironmental.com](http://www.lakeshoreenvironmental.com)



Eurasian Watermilfoil  
(*Myriophyllum spicatum*)



Eurasian Watermilfoil  
canopy in a Michigan  
lake



Lakeshore  
Environmental, Inc.

803 Verhoeks Street  
Grand Haven, MI 49417

## SHORELINE ALGAE GROWTH

Green algae are the preferred food choice for the base of the freshwater ecosystem food chain; however, if there are too many nutrients available in the water column, algae may overgrow in areas where residents wish to recreate. Shoreline algal blooms are not just a problem in inland lakes; they are also problematic on the Great Lakes and cause unpleasant views, water quality degradation, and nuisance odors. Most of the algae that invades shorelines consists of filamentous green algae which resembles long, threads that attach to hard substrates such as rocks and seawalls.

Long-term reduction of the algae depends on nutrient reduction and implementation of watershed best management practices (BMP's).

Filamentous Green Algae on  
the Shoreline of an Inland  
Lake

