



## **INVASIVE SPECIES COMMITTEE (ISC) REPORT**

### **Onekama Township/ Portage Lake Watershed Committee**

**APRIL 4, 2017**

#### **Lake Management Plan 2016:**

The final copies of the Report for 2016 have been received. The draft of the report was reviewed by the ISC committee and corrections were made. Copies were distributed to the Township, Village and Library. The report is available online at [portagelakewatershed.com](http://portagelakewatershed.com). A summary report written by Herb Lenon is also attached and is posted on the PLWF website under "State of the Lake". 2017 could be an interesting year due to our unusual winter and the predicted early spring. The Executive Summary for the 2016 report is attached.

#### **Exotic Invasive Species Control:**

The Invasive Species Committee met on March 22, 2017 to review the final Lake Management report and to discuss the information obtained on controlling hybrid invasive cattails and prescribed burns. Al Taylor also attended and Herb Lenon was informed by email.

#### **Narrow-leaved cattails:**

Because of the extensive growth of the hybrid narrow leafed cattails at the East end of the lake, there has been discussion of possible treatments. These cattails are much more aggressive than our natives that are so beneficial to the lake. They are much taller, rapidly become a monoculture and they destroy the native habitat. Reports on BMP's for the management of narrow leaf cattails and hybrid cattail are being reviewed. At the meeting of the Northwest Invasive Species Network on March 15, 2017 this issue was discussed. There were many organizations present.....ISN, DEQ, DNR, GTRLC, TC Conservancy, Manistee District Conservancy, MDOT, LRBOI, TC Watershed Center, Americorp, and others. Consensus was that there is not enough data available at this time on the best method of treating and/or if they should be treated.

The committee is continuing our research on what is being done in Michigan and other states. We are working with our Lake Manager and with Wetlands and Wildlife. We will summarize our findings and prepare a report for the Township when our study is completed..

Possible options:

1. Do nothing, network with others, and evaluate treatments
2. Continue to collect data on current methods of treatment
  - a. treat chemically and do a burn
  - b. just do a prescribed burn
  - c. treat chemically and cut (cut above water, below water)
  - d. remove dead leaves (promotes native growth, removes toxins that are in the leaves)
  - e. cut above water, cut below water
  - f. mow (several times during growth season) ...will this stimulate growth?

Places being contacted:

1. UP Best practice study of 3 different methods-  
[eclarke@saulttribe.net](mailto:eclarke@saulttribe.net)
2. Kalamazoo test results - study of the Kalamazoo Nature Conservancy (KNC)
3. Grand Valley research - speaker at the Watershed Summit TC - October 2016
4. Stewardship Network - January 2017 program
5. DNR/DEQ - MI and other states

Prescribed burn - permits, applicators, control, DEQ, Lake Manager etc.

#### **Other Research Projects:**

This will be the 3<sup>rd</sup> and last year of our research project to study our specific **hybrid Eurasian watermilfoil** species and the results of treatments with different agents and strengths. The project is being done with a research grant by Northern Michigan University and Professional Lake Management.

In 2016 we did a research study with Oakland University on **swimmer's itch** in Northwest Michigan lakes. The preliminary report has been received and is attached. As a follow up to this study, the PLWF will be gathering ongoing data on the number of occurrences of SI during the summer of 2017.

Submitted by,

Mary Reed, Chair  
(ISC: Herb Lenon, Ted Lawrence, Jim Simons, Chuck Reed)

## Executive Summary 2016 Lake Management Report

Portage Lake has been managed over the past eight years with goals of identifying and reducing the presence of exotic species throughout the Portage Lake watershed, tracking plant trends, improving water quality readings and protecting Portage Lake into the future. The following report breaks down the specifics of the previous management, the management of the 2016 season and the need for future management. In 2016, just over 21 acres of EWM, Phragmites, Purple Loosestrife and Narrow leaf cattails were controlled via chemical control methods. Extensive lake mapping, vegetation mapping and water quality testing was also performed. The abundance of healthy native plants in Portage Lake increases the long term stability of the lake. While some water quality parameters have maintained themselves with little change over the years, other parameters have shown some fluctuations. One of the most important parameter to test is Total Phosphorus and in 2015 and 2016, all lake and shoreline basin samples came back below recent years, showing a decline and a very positive outlook for Portage Lake. Some of these fluctuations in other parameters include showing that the tributaries around Portage Lake are bringing excess nutrients into the lake. This information is vital in determining the areas within Portage Lake that need to be focused on reducing nutrient loading to help reduce the productivity in Portage Lake. The ability of Portage Lake to produce algae and aquatic plants is directly related to the overall health and use of Portage Lake. While the main goal of the management is to protect the long term ecological health of the lake, it is also important to protect the recreational, aesthetical and financial aspects of the lake as well. All of these factors play into the management efforts on Portage Lake which need to be continued into next season. Portage Lake was selected to be a sampling lake in PLM's DNR Grant study in 2015. PLM has partnered with Michigan Tech University in a 3-year study to genetically test milfoil plants to determine the plant response to various chemical herbicides. This exciting study is still underway but

## State of the Lake Report, 2016

### By Herb Lenon (Summarized from BreAnne Gravil's PLM Report, 2016) Invasive Species and Lake Management Committee

This is the 8<sup>th</sup> year of monitoring and managing Portage Lake, starting in the fall of 2008. Invasive exotic plant species in and around the lake are controlled by chemical treatments and water quality of the lake is monitored from spring to fall. Included are tributary streams and storm drains to evaluate inputs into the lake concerning potential threats. Our goal is always to maintain or improve the lake ecosystem so as to provide the best recreational, aesthetical, and financial benefits of the lake including a healthy fishery.

#### A. **Lake Monitoring** –This involves several components:

**Aquatic Vegetation (Macrophytes) surveys:** Complete aquatic plant surveys of the lake were conducted on June 8, June 24, July 27, August 23, and September 28. This included the State of Michigan AVAS (Aquatic Vegetation Assessment Survey) Method (June 24<sup>th</sup>) which gives distribution and densities of each species found and provides an excellent way to track plant species over time.

#### **Results:**

- 17 native plant species – an excellent beneficial diversity and density is maintained and increased some from 2008 when invasive species were beginning to take over the plant diversity.
- 2 exotic invasive plant species: Eurasian Water Milfoil (EWM) and Curly Leaf Pondweed.
- 2 emergent exotic invasive (shoreline) species: Phragmites and Purple Loosestrife.

The high density of native plants continues to confirm the selectivity of the herbicides used to control invasive plant species.

#### **Exotic Invasive Species Control:**

Invasive species were treated in June and August.

**EWM** – herbicide treatment was significantly down this year relative to every previous year except the 1<sup>st</sup> year (2009) and 2011, which was probably a fluke. The hybridization of the EWM with native milfoil developed 2-3 years ago being more resistant to herbicide, thus, requiring higher applications of herbicides.

The acreages treated each year are as follows: 2016 – 21.35 acres, 2015 – 79.35 acres, 2014 – 176.05 acres, 2013 – 129.75 acres, 2012 – 145 acres, 2011 – 22 acres, 2010 – 86 acres, 2009 – 161.5 acres.

**Curly Leaf Pondweed** – it mostly dies off naturally by mid-summer and, thus, is not much concern and is not specifically treated.