



Portage Lake Newsletter

Japanese Barberry *Berberis thunbergii*

Japanese Barberry is a beautiful ornamental shrub with bright red berries, and colorful changing leaves in the fall. Landscapers were drawn to this shrub in Japan and brought it over in the late 1800's because of its dense canopy and ability to trim. Be careful if you have this shrub because it is extremely invasive. These shrubs can produce massive amounts of seeds which are eaten by birds and animals and then transported away contributing to the infestation. Seeds from Japanese barberry are viable for years and can grow in many different habitats. Japanese Barberry is a monoecious plant where flowers have both male and female parts making it able to self-pollinate. One plant can colonize on its very own!

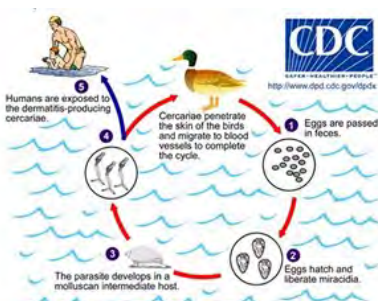
Japanese Barberry has no natural predators in North America and is protected by thorny stems and resistance to many different habitats. This shrub chokes out native plants in areas that it is introduced this is why it is an invasive species. It is always beneficial to have as many native plants as possible but with the introduction of an invasive that possibility is threatened and those natives may be lost.

Research has suggested that Japanese Barberry has a very close relationship with deer ticks. Nymph Deer ticks use the white footed mouse as a host in growth because the mouse burrows under these shrubs. While the tick is getting a blood meal the white footed mouse can transfer Lyme disease if it is infected through its blood. Once the nymph molts to an adult, the adult can then feed on humans, dogs or any other animal possibly transferring Lyme disease as well. If you get rid of Japanese barberry you can also potentially reduce the populations of ticks. For more information, check out <http://naturechange.org/2017/04/27/japanese-barberry-blacklegged-ticks-on-the-thorns-of-a-dilemma/>



Swimmer's Itch Survey Status

As part of a project involving over 20 Northern Michigan Lakes, 2 volunteers collected gallons of Portage Lake water daily, filtered it and preserved the filtrate in test tubes during July 2016. They also monitored temperature, wind speed and other data all of which will undergo further study at Oakland University. The ultimate goal of the survey is to help develop local management strategies. As you can imagine, *not* managing swimmer's itch can have serious economic implications particularly in areas that depend on tourism and water recreational activities. Portage Lake does not currently have the serious issues that some lakes face, but we would like to continue to gather data. IF YOU FEEL YOU HAVE CONTACTED SWIMMER'S ITCH IN PORTAGE LAKE, PLEASE REPORT TO TED LAWRENCE at 231-889-3495 or email tplawrence343@charter.net.



Are you having trouble with your shoreline?

Natural shoreline preservation is key to the long term health of our lake. Please consider managing your property for your use and what is best for the lake at the same time! Please contact the invasive species committee for help or with questions on protecting your shoreline. Several people have contracted with one of our applicators for help with unwanted plant growth on their shoreline. Our SAD funds are for the treatment of non-native invasive plants in and around our shoreline so we cannot treat native plants with these funds. However, we do realize that some of you may have excessive growth of some native plants such as bulrushes and cattails. If you are going to treat your private property we may be able to help. We can help you with obtaining the proper permits, using the best management practices to treat and in some cases connecting you to one of our applicators when professional help is needed. Using the wrong method or treating at the wrong time with the wrong product may in fact stimulate growth or be a waste of money. You can have enjoyment of the lake and your beach and still have native trees and plants. The largest stressor to our lakes is what we do on the shoreline. Please help us to protect and preserve our lake. Call 231-889-3781 for more information. ~ Respectfully, Mary Reed

Narrow Leaf Cattails *Typha angustifolia* L.

Narrow leaf cattails are nonnative invasive species originating in Europe. They are believed to have been introduced through ship's ballast water, similar to how many other invasive species make their way into North America. Narrow leaf cattails look very similar to the native cattail but have much thinner leaves and flowers. The flowers of narrow leaf cattails can produce up to 200,000 seeds, spread by wind, and those seeds can lay viable for over 100 years in the soil making this plant very unpredictable on how it spreads and when. Narrow leaf cattails spread very quickly in wetland areas where nutrients are present. This rapid spreading can easily outcompete the native plants in the area. The threat of having hybrid cattails is real and quite possibly already happened. Hybrid cattails are formed with Narrow leaf cattails and our native cattails cross breed. The invasive cattails (Narrow leaf and/or hybrid) form dense single species stands where present and outcompete the native cattail. Portage lake is home to emergent vegetation, including dense cattail stands and bulrush along shorelines. Cattails thrive mainly in wetland areas, along drainage ditches and shorelines. Many areas of Michigan are being overpopulated by the narrow leaf cattail and choking out native populations. A close watch should be kept on the emergent vegetation in and around Portage Lake.



Native --- Narrow leaf --- Hybrid



Native
14-23mm



Narrow leaf
-4-10mm



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Portage Lake 2016 Review

In 2016, just over 21 acres of EWM, Phragmites and Purple Loosestrife 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 we keep a close watch on the nutrient levels to indicate overall lake health and trophic status. Some fluctuations in parameters tested show 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 the future.

Portage Lake 2017 Management Plan

The last two winters were warmer than average, with less snow and ice coverage. Exotic species can thrive off of changes in weather patterns and Eurasian watermilfoil (EWM) specifically can grow and live under the ice. When less ice is present, EWM can potentially grow more. What does that mean for Portage Lake? We need to ensure that surveys and monitoring the lake continues in order to stay on top of any changes in the plant growth in the lake. Plant and algae production can vary seasonally and the response to that growth will depend on the growth found in Portage Lake this summer. In 2016, a decrease in the infestation of exotic plants was found. Moving forward, this may fluctuate some, but is signaling a positive response to the management efforts and program on Portage Lake. If you have specific questions on the program, please contact your lake committee or PLM. Enjoy a beautiful summer on Portage Lake!

Fishing for Answers; Here's How You Can Help Great Lakes Fisheries

By Dan O'Keefe, Michigan State University Extension, Michigan Sea Grant



Anyone who fishes the Great Lakes regularly can tell you that the only constant is change. Fish are here today and gone tomorrow. Being successful requires adaptability, patience, and the ability to anticipate how fish will react to changes in their environment.

To make things even more complicated, a long list of non-native species has invaded the lakes. Quagga mussels filter the water, leaving open water clear and sterile while fouling the bottom of the lakes with their waste. Round gobies eat the quagga mussels and are, in turn, eaten by predatory fish. Spiny water fleas kill and consume native plankton, but are also eaten by some plankton-eating fish.

Scientists are working hard to understand how economically valuable salmon, trout, walleye, and other species are adapting to these conditions and anglers can also pitch in to do their part. Michigan Sea Grant and partner groups including Wisconsin Sea Grant and Michigan State University Extension are offering a variety of citizen science programs that anglers can contribute to during the 2017 fishing season. Here is one example to check out and get involved.

The Great Lakes Angler Diary App is a web-based app that can be accessed from any computer or mobile device at www.GLanglerdiary.org. The app can be used to record information from fishing trips and share that information with Michigan Sea Grant. The survey will help scientists determine how your information will be used. The more information you record, the more useful your data set will be. The app allows you to record data on all salmon and trout species, cisco, walleye, musky, and lake sturgeon. Download the app today before the fishing season begins!



Riparian Responsibilities

Yes, if you live on a lake, YOU have responsibilities. Properly maintaining your lawn near the lake is an essential part to a healthy aquatic ecosystem. Some ways you can help your waterbody include:

- Use phosphorous free fertilizers
- Create a buffer or natural shoreline to prevent erosion and limit nutrients entering the lake
- Do not allow grass clipping to enter the lake
- Pick up dog and geese droppings
- Rake shoreline in the spring and fall to remove leaves, sticks and debris
- Do not rake into the lake
- Pick up floating plants that wash up on shore
- Rake swim areas
- Clean boats prior to entering or leaving your lake
- Do not dump bait into the lake
- Educate your new/old neighbors of their "Riparian Responsibilities"



Lake Manger

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Invasive Species Committee

Ted Lawrence
Herb Lennon
Mary Reed
Chuck Reed
Jim Simons

Onkama Township Board Members

David Meister, Supervisor
Michelle Johnson, Clerk
LaVonne Beebe, Treasurer
Bob Blackmore, Trustee
James Wisniski, Trustee