



Portage Lake Newsletter

PORTAGE LAKE EWM PROGRAM MAKES GREAT GAINS

In 2009, when the Eurasian watermilfoil (EWM) management program began, over 160 acres were managed lake wide. The map below shows the wide spread distribution. By implementing Best Management Practices, the infestation of EWM has been substantially reduced. In recent years, less than 4% of the lake has required management! In 2020, ~68 acres of EWM were managed, a 58% decrease since the start of the program. Eradication of EWM is unlikely, but through proper management, reductions to low infestation levels is achievable. The Portage Lake EWM program has gained great strides in their EWM management program! In addition to the EWM program, shoreline Phragmites has also been managed. This infestation has been reduced by close to 99%. Portage Lake's management program includes one of the most extensive water quality programs across the state and includes numerous vegetation surveys each summer. In 2021, updated surveys will direct the management activities required. By removing nonnative plants and preserving the native plant community, the overall fishery can be improved.

In early Spring 2021, MDNR began a multiple week fish survey in which they netted, electroshocked, surveyed and monitored fish within Portage Lake. The report is not yet available, but once complete, this will help show the overall status of Portage Lake's Fishery! Further, ~53,000 Walleye fingerlings are scheduled to be planted in 2021.



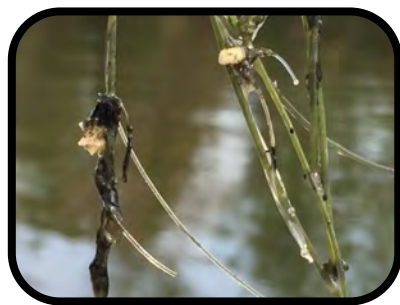
Then

VS.

Now



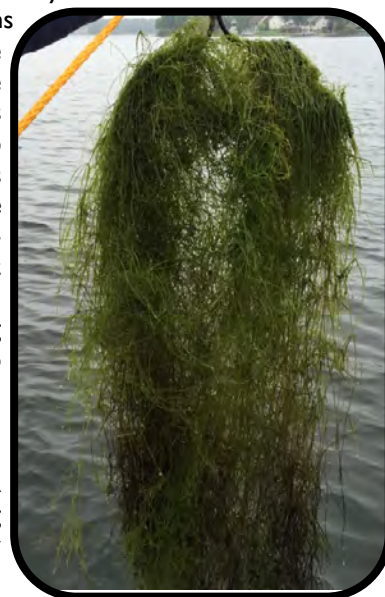
Starry stonewort– New INVADER OF PORTAGE LAKE– found in 2020



Starry stonewort (*Nitellopsis obtusa*) (SSW) looks like a rooted plant but it is actually an algae. The plant is native to Europe and Asia and was first discovered in the St. Lawrence River in 1978. In 1983, it was found in the Detroit River and has since infested many Michigan lakes. Starry stonewort resembles the native aquatic plant *Chara*. Unlike *Chara*, which is generally considered to be a beneficial plant, starry stonewort has a tendency to inhabit deeper portions of the lake and can form dense blankets several feet thick. These mats can severely impede navigation and limit growth of more beneficial plants. Starry stonewort anchors to the sediments through rhizoids (primitive root structures) which can also absorb nutrients. Like *Chara*, Starry stonewort also absorbs nutrients

from the water through its cell walls. Starry stonewort has tiny, star-shaped, tan colored reproductive structures called bulbils that are firm to the touch when compared to its soft branches. These reproductive bulbils have been shown to stay viable for several years in lake sediments. It is unclear what effects Starry stonewort may have on a lake's fishery. However, the encroachment of Starry stonewort into fish spawning beds may be a cause for concern. Both algicides and mechanical harvesting appear to be somewhat effective in controlling starry stonewort. However, given its propensity to produce massive amounts of growth, efforts to keep this invasive algae at bay will be difficult and potentially expensive.

Unfortunately, PLM Scientists found SSW growing in Portage Lake in 2020. Rapid response allowed for management to take place right away and end of year surveys showed promising results over a difficult species to manage. Early detection is key to protecting against this macroalgae and moving forward, this species needs to be managed aggressively to help protect Portage Lake's plant community and fishery!





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Impacts of Wake Boats and Best Practices:

The popularity of wake sports has been on the rise over the past several years and with it the number of "wake boats" operating on lakes. Whether wake boarding or wake surfing, these boats are designed to produce large waves. Hull shape, ballast tanks, adjustable plates, and horse power are some of the technologies used. These waves are often equal to or greater than most major storm events which can increase shoreline erosion. Unlike old school/ conventional "ski" boats which typically push thrust parallel to the waters surface, wake boats tend to push thrust at a downward angle and therefore have a greater potential to disrupt bottom sediments in addition to shoreline eroding shoreline.

PLM staff often field inquiries about impacts of wake boats on lakes. The honest answer is that there is a shortage of research on the subject but new studies currently being done suggest that larger waves may increase the potential for shoreline erosion and deeper thrust may disrupt/resuspend sediments at the lake bottom.

PLM would like to provide a few guidelines that can reduce the potential for adverse effects to your lake.

- **Waves decrease in size the longer they travel. Therefore, PLM recommends operation of wake boats at least 500 ft from shore whenever possible.**

- **Studies conducted on different wake boat models suggest that thrust (depending on the trim angle) will typically reach a depth of ~12 feet. Therefore, PLM recommends that wake boats be operated in depths greater than 12 ft whenever possible.**

As time goes on there is certain to be more research done in this area and/ or regulation. For the time being, be aware of potential effects on your lake and adapt boating practices to minimize impacts.



The Misunderstood Mudpuppy

By: Mary Bohling, Michigan State University Extension,

Mudpuppies are Michigan's largest, fully aquatic salamander. Often referred to as 'bio-indicators' because they are sensitive to pollutants and water quality, these salamanders act as an early warning system for environmental problems but are often misunderstood. While researching mudpuppies and using information from National Geographic, Michigan Department of Natural Resources and herpetologist David Mifsud of Herpetological Resource Management, learned many people hold common beliefs about mudpuppies that are not true. Other interesting facts about mudpuppies: Mudpuppies mate in late fall but the females do not lay their eggs until the following spring. Mudpuppies have no scales and their skin is very slimy. Females usually lay 50-100



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eggs in cavities or under rocks. Eggs hatch 1-2 months after being laid. Mudpuppies can live for more than 20 years and can take up to 10 years to reach sexual maturity. Mudpuppies are also called waterdogs because of the barking sound they sometimes make.

Fiction	Fact
Mudpuppies are a type of fish.	Mudpuppies are actually an amphibian and although they have lungs and can gulp air they rely on their feathery red external gills for oxygen.
Mudpuppies eat so many fish eggs that they decrease sport fish populations.	Their diet is mostly crayfish, insect larvae, snails and small fish (including invasive round gobies). There is no evidence that they impact fish populations, and they more likely benefit them by helping control nonnative species.
Mudpuppies are blind and are not good hunters.	Mudpuppies are not blind, but their eyesight is limited. They rely on a keen sense of smell to find their prey.
Mudpuppies abandon their eggs once laid.	Female mudpuppies not only protect their eggs until they hatch but will also guard the nest while the young emerge and disperse.
Anglers who hook them should cut the line because they are poisonous.	Although slimy, mudpuppies are not poisonous. Anglers should gently remove the hook and return them to the water.

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Portage Lake
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