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Hydrilla (*Hydrilla verticillata*)
Photo credit: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Issue FOUR

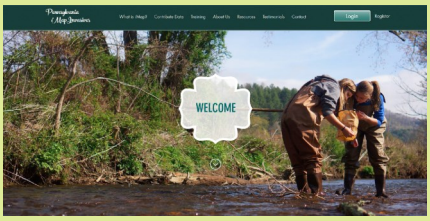
Fall 2016

Providing Insight into the Benefits and Uses of the Pennsylvania iMapInvasives Database

Tracking Invasive Species with Pennsylvania *i*MapInvasives

NEW WEBSITE! >>>

Learn More About iMapInvasives by Visiting Our New Website!



The Pennsylvania iMapInvasives program recently launched a new website in September which highlights the tools and functionality of the iMapInvasives database. Additionally, a wealth of information is provided on invasive species, including profile photos, identification tips, and impact details.

If you haven't visited the new website yet, the staff at the PA iMapInvasives program encourage you to do so! The website is accessible at www.paimapinvasives.org. To start, check out the following pages:

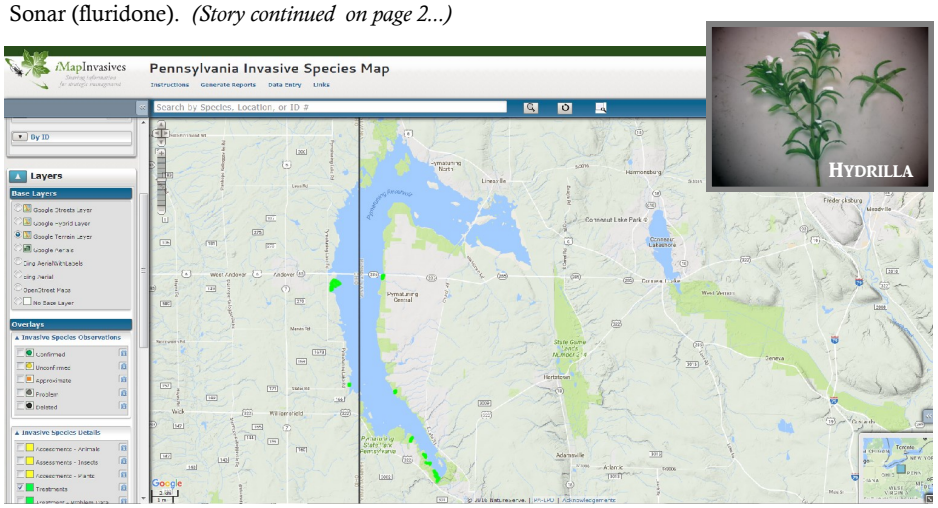
- What is iMap?
- Training
- Contribute Data
- Gallery of Invaders
- Testimonials

Hydrilla Treatment in Pymatuning Reservoir

Story provided by Stacie Hall, Assistant Park Manager at Pymatuning State Park

A submerged aquatic invasive species known as hydrilla (*Hydrilla verticillata)* was first discovered in Pymatuning Reservoir in 2010, a waterbody located in Pymatuning State Park, straddling Crawford County, Pennsylvania and Ashtabula County, Ohio. This aggressive plant interferes with commercial and recreational activities while also harming native aquatic species and their habitats. If left alone, this species can spread to the point of overtaking an entire waterbody, at which point treatment efforts are fruitless. Staff from Pymatuning State Park understood that in order to preserve the natural resources both for recreation and the ecological integrity of the Reservoir, action had to be taken.

In September 2015, a lake-wide survey was conducted through the assistance of the Army Corps of Engineers and the University of Florida. Surveyors found hydrilla in nearly 11% of the survey sites. Hydrilla is currently restricted to the southern side of the reservoir. Based on the known locations from the survey, funds available for treatment, and locations where boaters were most likely to make contact and spread hydrilla, areas were prioritized for treatment in 2016 with two herbicides. Treatments were tailored according to the size of the infestation area, depth, and susceptibility to currents. DCNR staff, along with Ohio DNR staff and the Crawford County Conservation District treated 40 acres with Aquathol K (endothall) and 18.5 acres with Sonar (fluridone). *(Story continued on page 2...)*



The map above from Pennsylvania iMapInvasives displays green polygons which represent the exact places and management details for recent treatment efforts conducted at Pymatuning Reservoir to control hydrilla. Specimen photo taken by Brian Pilarcik, Watershed Specialist at the Crawford County Conservation District.

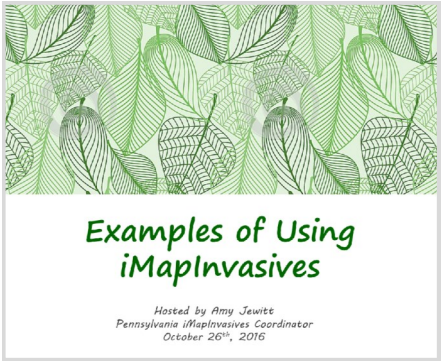
Hydrilla Treatment Efforts in Pymatuning Reservoir *(continued from front page)*

Brian Pilarcik (Watershed Specialist at Crawford County Conservation District) holding a clump of hydrilla taken from Pymatuning Reservoir.

There was mixed success from the 2016 hydrilla treatments. A post-treatment survey was conducted in September in which surveyors noted that dry weather and good water clarity during the growing season were ideal conditions for aquatic plant growth. Surveyors also found that all species within Pymatuning Lake grew exceptionally well, including hydrilla. While the treatment knocked back hydrilla in some locations, it had spread in the Reservoir and was now found to occur at a 28% frequency within the Lake. Although thorough surveys were not conducted north of the causeway, staff checked locations of possible sightings throughout the summer and have yet to find hydrilla in the northern half of the lake. The results of the assessments are currently being used to adjust strategies for 2017 treatments.

The hydrilla infestation remains within reasonable treatment limits and is a priority for managing the economically and ecologically important Reservoir. With three million visitors coming to Pymatuning Lake each year, the alternative to not treating hydrilla would be millions in lost revenue to the local economy. A 2010 Penn State economic impact study estimated that $83 million was spent by both local and non-local visitors on trips to Pymatuning State Park. This figure can be compared to the $48,000 spent on hydrilla control in 2016, making the case that spending a small amount of money to treat hydrilla now will be worthwhile in the long run. Natural resource managers continue to seek additional funds for future treatments.

To date, hydrilla has been found in 23 Pennsylvania counties including: Adams, Berks, Bradford, Bucks, Butler, Cambria, Chester, Crawford, Cumberland, Delaware, Erie, Fayette, Greene, Huntingdon, Lackawanna, Lancaster, Luzerne, Montgomery, Northampton, Philadelphia, Pike, Wayne, and York.



DID YOU KNOW?

iMapInvasives is being used in countless ways and by various people all across Pennsylvania to benefit the work being done to find and manage invasive species. To learn more, scroll to "Resources from Past Webinars" on our website to access a webinar recording entitled "Examples of Using iMapInvasives". From this webinar, you'll hear inspiring stories from Jennifer Dean of the New York iMapInvasives program, Stacie Hall of Pymatuning State Park, Sara Stahlman of Pennsylvania Sea Grant, and various other people highlighted by Amy Jewitt, PA iMapInvasives Coordinator.

FREQUENTLY ASKED QUESTION >>>

Q: *Is there a training requirement to be a registered user of PA iMapInvasives?*

A: In order to fully utilize the many tools available in iMapInvasives, training is a requirement. It ensures that a user has been instructed in the unique capabilities and core functionality of the database and understands the broader scope of the database as a tool to be used for invasive species management efforts.

To be a registered user of PA iMapInvasives, there are certain requirements in place that apply to most users. The exception is for registered users who do not wish to contribute data, meaning they will have limited data viewing and querying capabilities. (See user level descriptions for more details.)

Start learning how to use iMapInvasives today by watching a 15-minute YouTube video which demonstrates how to enter an observation record. To view more training options, please visit our website.

ENCOURAGING WORDS >>>

Nicholas Tonelli, Citizen Scientist

"As a nature enthusiast, I'm greatly alarmed by the spread and impact of invasive species. The iMapInvasives program is an outstanding resource that I've used not only to share my own observations but to further my understanding of invasive species. The program offers a wealth of information, all in one place, that I can't find elsewhere."

Wavyleaf Basketgrass Confirmed in Pennsylvania!

Wavyleaf basketgrass (WLBG) has a reputation for being an aggressive invader, spreading easily on people, pets, and wildlife, and outcompeting many of our native plant species. With an infestation recently discovered in Pennsylvania, what will the next steps be to actively control and manage this terrestrial invasive species?

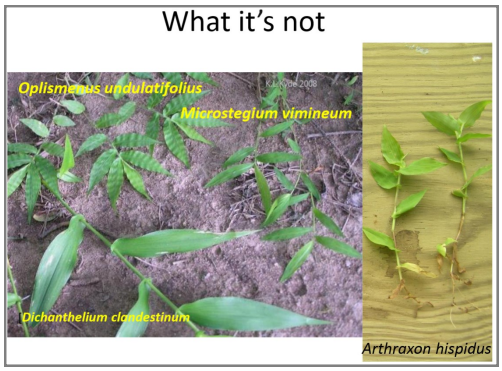
Story provided by Art Gover, Research Support Associate at The Pennsylvania State University

Wavyleaf basketgrass (Oplismenus undulatifolius)
Photo credit: Andrew Rohrbaugh, PA DCNR Bureau of Forestry

Wavyleaf basketgrass (WLBG) (*Oplismenus undulatifolius*) is a cool-season perennial, stoloniferous grass (i.e., forms new buds from runners) found in temperate and sub-tropical regions of Africa, Asia, and Australia. The USDA-APHIS Weed Risk Assessment for this species identified it as High Risk.

Wavyleaf basketgrass "hitching a ride" on a human and a dog.
Photo credit: Vanessa Beauchamp, Towson University

First identified in the U.S. in 1996, WLBG was found at two sites northwest of Baltimore, MD, at Patapsco Valley State Park and near the Liberty Reservoir. WLBG prefers shade and has demonstrated its ability to form dense monocultures in the forest understory, interrupted only by Japanese stiltgrass (*Microstegioum vimineum*), and American beech (*Fagus grandifolia*). Long-range dispersal is facilitated by a sticky exudate (i.e., glue) on the ripening spikelets that allows the seed to hitch a ride on almost any surface.



Wavyleaf basketgrass look-alikes.
Photo credit: K.L. Kyde, Maryland DNR

Due to WLBG's proximity to Pennsylvania, a survey was conducted in 2009 by staff from DCNR Parks and Forestry and Penn State, focusing on disc golf and equestrian locations that seemed a likely "next stop' for visitors to Patapsco Valley State Park. Sites visited included Caledonia, Codorus, and Gifford Pinchot State Parks, as well as the Michaux State Forest. All surveys were negative. Fast forward to 2016, when distribution of confirmed sightings crept ever northward toward the Mason-Dixon, surveyors reinvigorated efforts to search for WLBG in Pennsylvania. On August 25, a survey of the disc golf areas at Codorus State Park confirmed WLBG on the 14th, 15th, and 16th holes of the Blue Course. On September 1, WLBG was confirmed on the 1st hole of the Quaker Race disc golf area at Gifford Pinchot State Park. The Codorus State Park infestation featured individuals as well as patches, in both mowed and un-mowed areas. WLBG occurred with stiltgrass, in varying degrees of segregation. All occurrences were hand-pulled or treated with a glyphosate-based herbicide mixture.

The bad news is that WLBG is now in Pennsylvania, and has been here for a few years, suggesting it is likely elsewhere in PA, waiting to be discovered. The good news is the infestation is still very discrete. At least on public lands, a containment program can be implemented that will limit the spread. Once the excitement of discovery fades to the more mundane elements of ongoing management, natural resource managers will be forced to identify how much of their finite resources should be directed at one species. Currently, survey and containment efforts are underway in likely recipient sites (disc golf courses, equestrian trailheads, hiking trails), and natural resource managers are reaching out to the most likely vectors (disc golfers, equestrians, hikers) to limit dispersal.

To view data associated with these two WLBG findings, log into PA iMapInvasives and query for "wavyleaf basketgrass" in the table or on the map.

To learn more about wavyleaf basketgrass, view research conducted by Vanessa Beauchamp, Professor at Towson University.

Observation for wavyleaf basketgrass, discovered in Codorus State Park (York County, PA) on August 25, 2016.
Screenshot from the Pennsylvania iMapInvasives database.