

National Invasive Species Awareness Week: Water chestnut

Part 3 in a series to learn about invasive species and what to do to help protect Michigan and the Great Lakes.

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Water chestnut seeds have sharp barbs that can attach to boats and animals, which help them spread from location to location. Photo: Conewango Creek Watershed Association

National Invasive Species Week 2016 is February 21-27. Invasive species are plants, animals, and other organisms that are not traditionally found in a given location (in this case the Great Lakes) AND are having a negative impact of some kind, whether ecological, economic, social, and/or a public health threat.

To help bring awareness to this week, Michigan State University Extension (MSUE) and [Michigan Sea Grant](http://www.michiganseagrants.org) (<http://www.michiganseagrants.org>) are featuring different invasive species (one aquatic and one terrestrial species) that have invaded or have the potential to invade Michigan's environment. Today's featured aquatic invasive species is the water chestnut.

Species Name: Water chestnut (*Trapa natans*)

Description: According to the [National Parks Service \(http://www.nps.gov/index.htm\)](http://www.nps.gov/index.htm) this aquatic invasive species has a rosette of floating leaves at the water's surface; saw-tooth margins; triangular in shape and connect to an inflated petiole which provides added buoyancy for the leafy portion; additional, feather-like leaves can be found along the submerged stem. The stems can reach 12-15 ft. in length; very fine roots anchor the plant into the mud. Flowers are four-petaled and white; are insect-pollinated; fruit is a nut with four ½-inch, barbed spines. This [video \(https://www.youtube.com/watch?v=NiWStPVbP88\)](https://www.youtube.com/watch?v=NiWStPVbP88) by Stony Brook-Millstone Watershed Association Education Director Jeff Hoagland shows how to identify water chestnut as well as what you can do to prevent its spread.

Similar species: The invasive water chestnut shares its name with a tuber from a different plant (Singhara chestnut) that can be found in cans in grocery stores and is popular in many Asian dishes.

Origin: The water chestnut is native to Europe, Asia and Africa.

How it came to the Great Lakes: Although water chestnut has not yet been reported in Michigan, populations have been [reported \(http://nas.er.usgs.gov/viewer/omap.aspx?SpeciesID=263\)](http://nas.er.usgs.gov/viewer/omap.aspx?SpeciesID=263) in the Tonawanda Creek, a tributary to the Niagara River in New York. The Ontario Ministry of Natural Resources states that the introduction path was via a gardener at Cambridge Botanical Garden in Massachusetts.

How long it has been here: The National Parks Service says that the plant was first found in the United States near Concord, Massachusetts in 1859.

Extent of range: Water chestnut plants are [found \(http://www.eddmaps.org/distribution/usstate.cfm?sub=3499\)](http://www.eddmaps.org/distribution/usstate.cfm?sub=3499) in the eastern United States from New Hampshire to Virginia and westward into Kentucky.

Why it is a problem: The National Parks Service says that water chestnut plants often form dense floating mats, severely limiting light. Once established, it can reduce oxygen levels, increasing the potential for fish kills. It competes with native vegetation and is of little value to waterfowl. Water chestnut infestations limit boating, fishing, swimming and other recreational activities. Further, its sharp fruits, if stepped on, can cause painful wounds.

How it is spread: The plant is spread via seeds and plant parts that are transported to unaffected areas.

A cool/unusual fact: Seed pods can remain viable for up to 12 years, although most will germinate within the first two years.

Management actions/options: Control of water chestnut can be difficult but most effective when detected early in the infestation period. Physical, chemical and biologic control methods have all been tried with various degrees of success. Physical control can entail either manual or mechanical removal but care must be taken to remove the entire plant to eliminate regeneration from plant fragments. Chemical control via herbicides can be effective although damage to native plants, fish and some animals can also occur. Biological control measures such as beetles, grass carp and fungus have been investigated all with limited success and risks to native species.

What you can do to help prevent the spread:

You can prevent the spread of water chestnuts by 1) not purchasing and using water chestnut plants in water gardens or aquariums and 2) practicing the Clean, Drain and Dry method for watercraft prior to moving them between lakes. View the [video](#)

(<https://www.youtube.com/watch?v=IWobcoWchsl>)



Report it: If you find this plant in Michigan, remove it if possible, do not put it back in the water and call the nearest [DNR Operations Service Center](http://www.michigan.gov/dnr/0,4570,7-153--21107--,00.html) (<http://www.michigan.gov/dnr/0,4570,7-153--21107--,00.html>).

[Michigan Sea Grant](http://www.michiganseagrant.org/) (<http://www.michiganseagrant.org/>) helps to foster economic growth and protect Michigan's coastal, Great Lakes resources through education, research and outreach. A collaborative effort of the University of Michigan and Michigan State University and its [MSU Extension](#) ([/](#)), Michigan Sea Grant is part of the [NOAA-National Sea Grant](http://seagrant.noaa.gov/) (<http://seagrant.noaa.gov/>) network of 33 university-based programs.

Read the aquatic series:

[Part 1: Introduction \(/news/invasive_species_week_non_native_plants_animals_a_serious_threat_bohling16\)](#)

[Part 2: Water hyacinth \(/news/national_invasive_species_awareness_week_water_hyacinth_bohling16\)](#)

[Part 3: Water chestnut \(/news/national_invasive_species_awareness_week_water_chestnut_bohling16\)](#)

[Part 4: Yellow floating heart \(/news/national_invasive_species_awareness_week_yellow_floating_heart_bohling16\)](#)

[Part 5: Round goby \(/news/national_invasive_species_awareness_week_round_goby_bohling16\)](#)

[Part 6: Spiny waterflea \(/news/national_invasive_species_awareness_week_spiny_waterflea_bohling16\)](#)

[Part 7: Quagga mussel \(/news/national_invasive_species_awareness_week_quagga_mussel_bohling16\)](#)

Read the terrestrial series:

[Part 1: Introduction \(/news/invasive_species_week_non_native_plants_animals_a_serious_threat_bohling16\)](#)

[Part 2: Chinese Yam \(/news/national_invasive_species_awareness_week_michigan_species_and_what_day_two\)](#)

[Part 3: Kudzu \(/news/national_invasive_species_awareness_week_michigan_species_and_what_you_shou\)](#)

[Part 4: Japanese stilt grass \(/news/national_invasive_species_awareness_week_michigan_species_and_what_you_4\)](#)

[Part 5: Mile-a-minute weed](#)

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[Part 6: Himalayan balsam](#) [\(/news/national_invasive_species_awareness_week_michigan_species_and_what_6\)](#)

[Part 7: Asiatic sand sedge](#) [\(/news/national_invasive_species_awareness_week_michigan_species_and_what_you_7\)](#)

Invasive Species Resources:

New York Sea Grant water chestnut  [fact sheet \(pdf\)](#)

<http://www.misin.msu.edu/tools/apps/> [\(http://www.misin.msu.edu/tools/apps/\)](#) 

<http://mnfi.anr.msu.edu/invasive-species/invasives.cfm#publications> [\(http://mnfi.anr.msu.edu/invasive-species/invasives.cfm#publications\)](#) 

<http://mnfi.anr.msu.edu/invasive-species/fieldguide.cfm> [\(http://mnfi.anr.msu.edu/invasive-species/fieldguide.cfm\)](#) 

<http://www.glerl.noaa.gov/res/Programs/glansis/> [\(http://www.glerl.noaa.gov/res/Programs/glansis/\)](#) 

http://www.michigan.gov/dnr/0,4570,7-153-10370_59996---,00.html [\(http://www.michigan.gov/dnr/0,4570,7-153-10370_59996---,00.html\)](#) 

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Related Events



[Protecting Your Shoreline: A Workshop for Lakefront Property Owners](#)

http://msue.anr.msu.edu/events/protecting_your_shoreline_a_workshop_for_lakefront_property_owners

Mar 25, 2017 | Oakland County Executive Office Building (EOB), 2100 Pontiac Lake Rd., Bldg. #41W, Waterford, MI 48328

[Dessert with Discussion](http://msue.anr.msu.edu/events/dessert_with_discussion) http://msue.anr.msu.edu/events/dessert_with_discussion

Apr 11, 2017 | Kellogg Biological Station, 3700 E. Gull Lake Drive, Hickory Corners, MI 49060

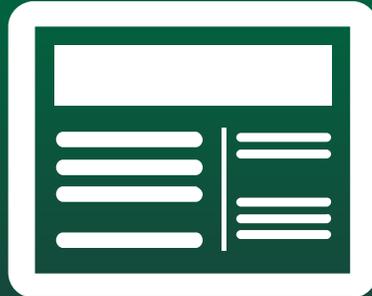
[Michigan Lake and Stream Associations 56th Annual Conference](http://msue.anr.msu.edu/events/michigan_lake_and_stream_associations_56th_annual_conference)

[\(\[http://msue.anr.msu.edu/events/michigan_lake_and_stream_associations_56th_annual_conference\]\(http://msue.anr.msu.edu/events/michigan_lake_and_stream_associations_56th_annual_conference\)\)](http://msue.anr.msu.edu/events/michigan_lake_and_stream_associations_56th_annual_conference)

Apr 21, 2017 – Apr 22, 2017 | Crystal Mountain Resort, 12500 Crystal Mountain Dr., Thompsonville, Michigan 49683

[MIYI WFP \(\[http://msue.anr.msu.edu/events/miyi_wfp\]\(http://msue.anr.msu.edu/events/miyi_wfp\)\)](http://msue.anr.msu.edu/events/miyi_wfp)

May 11, 2017 | Michigan State University



Related Articles

[Fishing for answers: Here's how you can help great lakes fisheries](http://msue.anr.msu.edu/news/fishing_for_answers_how_you_can_help_great_lakes_fisheries_msg17_c)

[\(\[http://msue.anr.msu.edu/news/fishing_for_answers_how_you_can_help_great_lakes_fisheries_msg17_c\]\(http://msue.anr.msu.edu/news/fishing_for_answers_how_you_can_help_great_lakes_fisheries_msg17_c\)\)](http://msue.anr.msu.edu/news/fishing_for_answers_how_you_can_help_great_lakes_fisheries_msg17_c)

March 22, 2017 | **Dan O'Keefe** | Michigan Sea Grant is offering anglers a variety of ways to contribute information to scientists in 2017.

[Fishery experts to discuss recent findings, management at South Haven Fishery Workshop](http://msue.anr.msu.edu/news/fishery_experts_to_discuss_recent_findings_management_at_south_haven_fishery_workshop)

[\(\[http://msue.anr.msu.edu/news/fishery_experts_to_discuss_recent_findings_management_at_south_haven_fishery_workshop\]\(http://msue.anr.msu.edu/news/fishery_experts_to_discuss_recent_findings_management_at_south_haven_fishery_workshop\)\)](http://msue.anr.msu.edu/news/fishery_experts_to_discuss_recent_findings_management_at_south_haven_fishery_workshop)

March 20, 2017 | **Dan O'Keefe** | 2017 Southern Lake Michigan meeting on April 20 is free, open to public.

[Michigan Sea Grant project looks at cisco restoration in Lake Michigan](http://msue.anr.msu.edu/news/cisco_restoration_in_lake_michigan_msg17_kinnunen17)

[\(\[http://msue.anr.msu.edu/news/cisco_restoration_in_lake_michigan_msg17_kinnunen17\]\(http://msue.anr.msu.edu/news/cisco_restoration_in_lake_michigan_msg17_kinnunen17\)\)](http://msue.anr.msu.edu/news/cisco_restoration_in_lake_michigan_msg17_kinnunen17)

March 6, 2017 | **Ronald Kinnunen** | How can cisco restoration efforts be tailored to fit the needs of Lake Michigan stakeholder groups?

[Workshop offers options for protecting shorelines](http://msue.anr.msu.edu/news/workshop_offers_options_for_protecting_shorelines)

[\(\[http://msue.anr.msu.edu/news/workshop_offers_options_for_protecting_shorelines\]\(http://msue.anr.msu.edu/news/workshop_offers_options_for_protecting_shorelines\)\)](http://msue.anr.msu.edu/news/workshop_offers_options_for_protecting_shorelines)

March 1, 2017 | **Bindu Bhakta** | Workshop will educate inland lake property owners about natural solutions that can be used/adopted/developed for shoreline and water quality protection.

[National Invasive Species Awareness Week: Flowering rush](http://msue.anr.msu.edu/news/national_invasive_species_awareness_week_flowering_rush)

[\(\[http://msue.anr.msu.edu/news/national_invasive_species_awareness_week_flowering_rush_msg17_cr\]\(http://msue.anr.msu.edu/news/national_invasive_species_awareness_week_flowering_rush_msg17_cr\)\)](http://msue.anr.msu.edu/news/national_invasive_species_awareness_week_flowering_rush_msg17_cr)

February 26, 2017 | **Kim Cronk** | This plant is an up and coming aquatic invasive plant in the

February 20, 2017 | Rip Cronk | This plant is an up and coming aquatic invasive plant in the Saginaw Bay Watershed.

