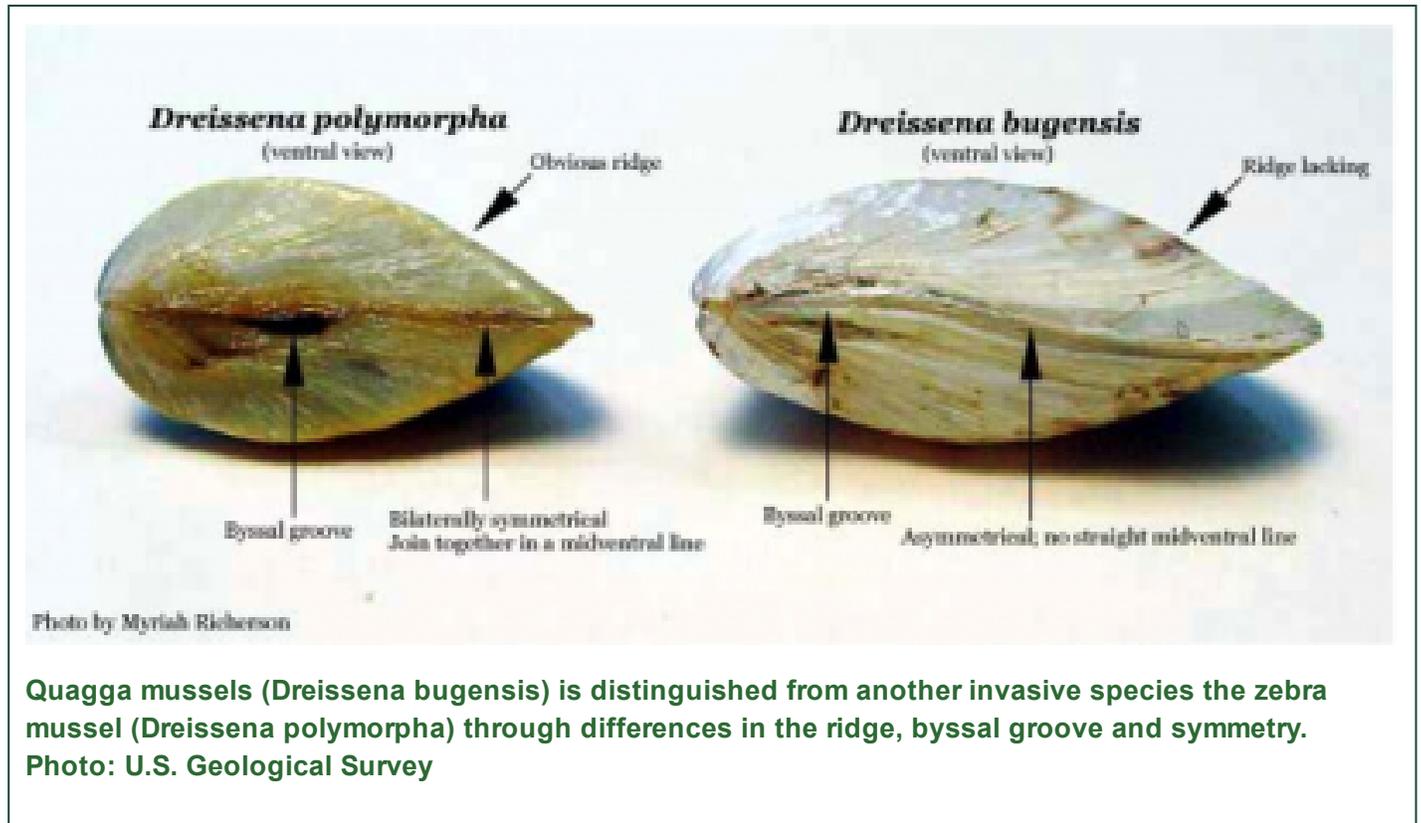


National Invasive Species Awareness Week: Quagga mussel

Part 7 in a series to learn about invasive species and what to do to help protect Michigan and the Great Lakes.

Posted on **February 26, 2016** by [Mary Bohling](http://msue.anr.msu.edu/experts/mary_bohling) (http://msue.anr.msu.edu/experts/mary_bohling), Michigan State University Extension, Michigan Sea Grant, and Bindu Bhakta, MSU Extension



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 attention to this week, [Michigan State University Extension](http://www.michiganseagrant.org) (MSUE) and [Michigan Sea Grant](http://www.michiganseagrant.org) (<http://www.michiganseagrant.org>) are featuring two 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 quagga mussel.

Species Name: Quagga mussel (*Dreissena rostriformis bugensis*)

Description: According to the [U.S.](http://www.misin.msu.edu/facts/detail.php?id=182&cname=Yellow+floating+heart) (<http://www.misin.msu.edu/facts/detail.php?id=182&cname=Yellow+floating+heart>) [Geological](http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=95) (<http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=95>)

Survey this invasive mussel species is a small freshwater bivalve mollusk that exhibits many different morphs and can grow to up to 4cm. There are several diagnostic features that aid in identification of quagga mussels. They have a rounded angle between the ventral and dorsal surfaces and a convex ventral side with a small byssal groove on the ventral side near the hinge.

Color patterns vary widely with black, cream, or white bands and usually have dark concentric rings on the shell and are paler in color near the hinge. If quaggas are viewed from the front or from the ventral side, the valves are clearly asymmetrical.

Similar species: Quagga mussels are similar to zebra mussels (another non-native species).

Origin: The quagga mussel is native to the Dneiper River drainage of Ukraine and Ponto-Caspian Sea as well as the Black, Caspian, and Azov seas (and their tributaries) in Eastern Europe and the Middle East.

How it came to the Great Lakes: Quagga mussels likely came to the Great Lakes accidentally in the ballast water of ocean going freighters.

How long it has been here: The quagga mussel was first sighted in the Great Lakes in September 1989, when one was found near Port Colborne, Lake Erie, though the recognition of the quagga type as a distinct species was not until 1991. The first sighting of quagga mussels outside the Great Lakes basin was made in the Mississippi River between St. Louis, Missouri and Alton, Illinois in 1995.

Extent of range: Quagga mussel populations are well established in the southern Great Lakes and have now spread in pockets into the Mississippi River and as far west as California.

Why it is a problem: The quagga mussel is a pest that rapidly colonizes waters they inhabit, adhering to hard surfaces or clustering in sandy or mucky areas. They clog water pipes and intakes and pose substantial maintenance hurdles. They also compete with native mollusks for food as they are efficient filter feeders. Quagga mussels may also increase the presence of algal blooms.

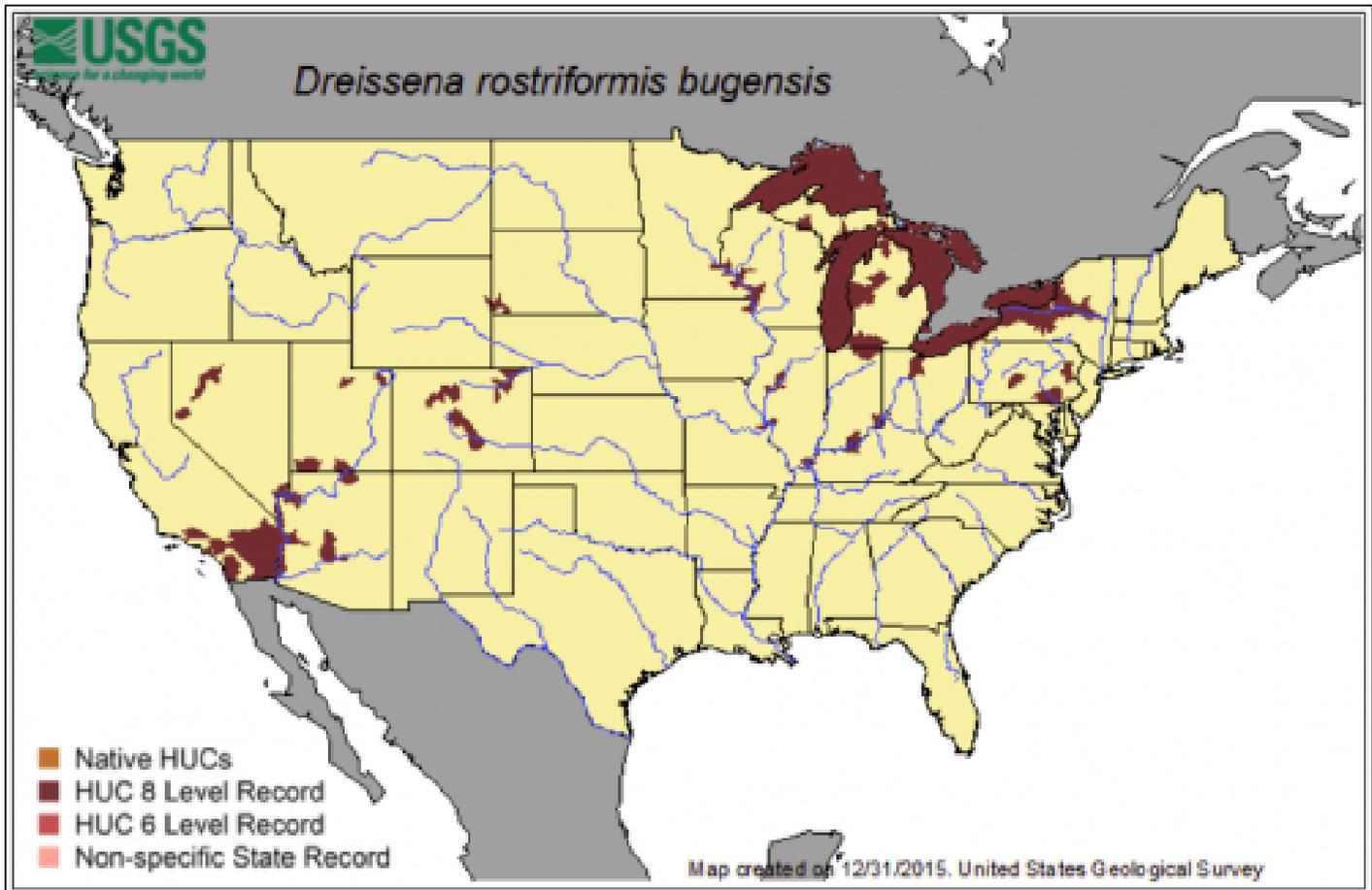
How it is spread: Quagga mussels spread primarily through recreational and commercial boating. Adults can attach themselves to boat hulls and trailers and then be transferred to new waterbodies when boats are moved. Larvae can also be captured in bait buckets or sucked into live wells and transported to new areas.

A cool/unusual fact: Quagga mussels can survive outside of water for 3-5 days.

Management actions/options: Once an invasive species becomes as widespread and abundant as the quagga mussels have become in the Great Lakes, no possibility of complete eradication exists. Chlorine and copper sulfate can be used in certain situations to clear quagga mussels from intake pipes, power plants and other industrial facilities. When possible, extended water drawdowns can be used to dry out quagga mussels.

What you can do to help prevent the spread: You can prevent the spread of this invasive species by 1) helping to educate others about identifying and preventing the spread of quagga mussels and 2) practicing the Clean, Drain and Dry method for watercraft prior to moving them between lakes. Watch the [video](#).

[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/>) [↗](#) 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](#)

[\(/news/national_invasive_species_awareness_week_michigan_species_and_what_you_5\)](#)

[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:

USGS quagga mussel [fact sheet](http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=95) (<http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=95>)

<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



[2017 Lake Huron Regional Fisheries Workshops](http://msue.anr.msu.edu/events/2017_lake_huron_regional_fisheries_workshops)

http://msue.anr.msu.edu/events/2017_lake_huron_regional_fisheries_workshops

Apr 4, 2017 | Charles A. Hammond American Legion Hall, 1026 6th Street, Port Huron, MI 48060

[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

[2017 Lake Huron Regional Fisheries Workshops](http://msue.anr.msu.edu/events/2017_lake_huron_regional_fisheries_workshops_1)

(http://msue.anr.msu.edu/events/2017_lake_huron_regional_fisheries_workshops_1)

Apr 12, 2017 | Bangor Township Hall, 3921 Wheeler Rd, Bay City, MI 48706

[2017 Lake St. Clair Fisheries Workshop](http://msue.anr.msu.edu/events/2017_lake_st_clair_fisheries_workshop)

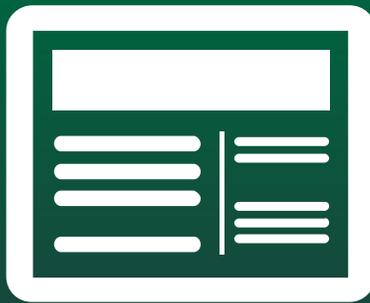
(http://msue.anr.msu.edu/events/2017_lake_st_clair_fisheries_workshop)

Apr 13, 2017 | Sportsmen's Direct, 38989 Jefferson Avenue, Harrison Townshp, MI 48045

[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

**Related Articles****[Conference to discuss threats to Michigan inland lakes and streams](http://msue.anr.msu.edu/news/conference_to_discuss_threats_to_michigan_inland_lakes_and_streams)**

(http://msue.anr.msu.edu/news/conference_to_discuss_threats_to_michigan_inland_lakes_and_streams)

March 28, 2017 | **Bindu Bhakta** | Michigan Lake and Stream Associations 2017 conference is to be held on Earth Day to focus on the significant threats and management of invasive species of Michigan's inland lakes and streams.

[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)

(http://msue.anr.msu.edu/news/fishing_for_answers_how_you_can_help_great_lakes_fisheries_msg17)

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_at_south_haven_fishery_workshop)

(http://msue.anr.msu.edu/news/fishery_experts_to_discuss_recent_findings_at_south_haven_msg17)

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

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))

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))

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.