



The Clam Chronicle

Winter 2019



Mussel conservation is growing in Wisconsin, thanks to efforts from federal, state, and local agencies, non-profits, and citizen scientists! This issue of The Clam Chronicle highlights some of the efforts taken by the Wisconsin Mussel Monitoring Program and its partners to protect this valuable resource.



Pink papershell (*Potamilus ohioensis*)
Photo: Kelly Renner

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Threeridge (*Amblema plicata*)
Photo: Brenton Butterfield

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WMMP website

<http://wiatri.net/inventory/mussels/>



Mussel monitoring grows in 2019

More people participated with the Wisconsin Mussel Monitoring Program (WMMP) in 2019, thanks to an increasing awareness in mussel conservation and their many important ecosystem services they provide.

The WMMP's electronic mailing list doubled between 2018 and 2019 and the program hosted or supported 11 mussel-related events including a mussel salvage, mussel blitz, and three field trips organized by the Natural Resources Foundation of Wisconsin.

Several partnerships continued from 2018 and new organizations or river-groups included mussels into their aquatic monitoring programs. Four Universities now actively include mussel monitoring into their curriculum or student organizations (Carroll, Green Bay, Stevens Point, & Whitewater). WMMP is currently scheduling events for the 2020 field-season, so feel free to contact Jesse or Lisie if your group is interested in holding a 2020 mussel-related event.



Mussel midden
Photo: Mike Engel



WMMP training on the Mukwonago River
Photo: DNR



Wausau mussel salvage
Photo: DNR



WMMP training with Schlitz Audubon and Milwaukee Riverkeeper
Photo: DNR



Recording a mussel on iNaturalist
Photo: DNR

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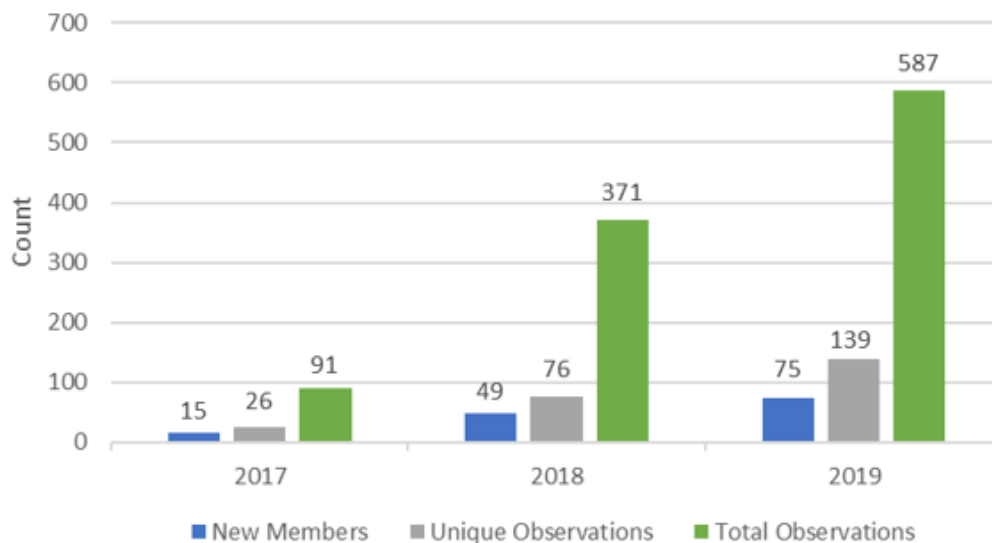
iNaturalist.org



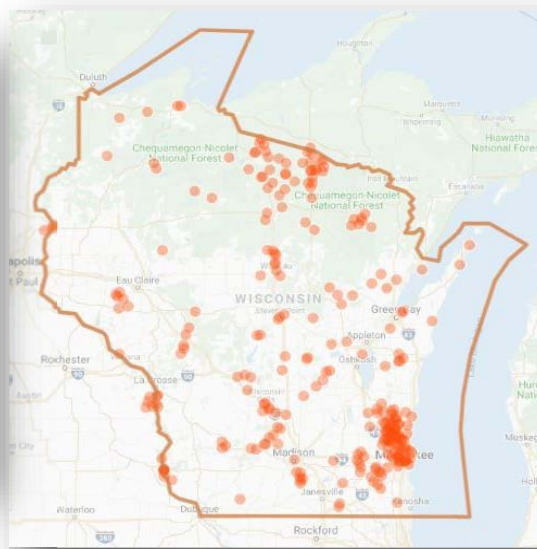
Mussel monitoring grows in 2019 (cont.)

Thanks in-part to its fast and efficient methods of processing in-field observations, iNaturalist continues to serve as a vital resource to empower WMMP volunteers to post photos of mussel shells to the free app or website. Since the WMMP project page went public in 2017, we have seen a significant increase in activity. To date, program volunteers have uploaded 587 total mussel observations and the project page now has 75 participating members.

Volunteer observations from the Mississippi, Wisconsin, and Milwaukee Rivers have identified state-protected mussel species, while new mussel records from lakes and rivers across the state documented populations that have not yet been recorded. The next issue of the Clam Chronicle will further explore new and exciting observations from iNaturalist and other CBM observations.



Plain pocketbook (*L. cardium*)
Photo: Michael Baker



Statewide distribution of mussel observations entered into iNaturalist between 2017 and 2019.



Higgins' eye (*L. higginsii*)
Photo: Kelly Renner



White heelsplitter (*L. complanata*)
Photo: Michael Baker

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iNaturalist.org



Protecting Endangered Species in Wisconsin: What DNR Biologists are doing to protect rare mussel species

Snuffbox

Throughout much of its range Snuffbox (*Epioblasma triquetra*) exist in highly fragmented populations, restricted to short stream segments. Several segments have been identified that do not contain live snuffbox populations, yet contain dead shells of the species, indicating they have been recently extirpated.

To address the decreasing population levels in the Wolf River Watershed, the DNR is partnering with the Genoa National Fish Hatchery (GNFH) to propagate and reintroduce snuffbox mussels into river reaches from which this species has been extirpated but now holds suitable habitat. During the fall of 2019, a group of biologists began brood stock searches on the Wolf River. Three females out of 50 individual snuffbox were transported to GNFH to help jump-start species recovery.



Snuffbox (*Epioblasma triquetra*)



Snuffbox collected during fall surveys on the Wolf River.
Photo: DNR

Spectaclecase

Along with several partners, DNR Biologists began searching the Saint Croix River to look for the federally endangered Spectaclecase (*Cumberlandia monodonta*). Sites from Interstate State Park, to Marine on St. Croix, MN produced hundreds of spectaclecase of various sizes. Results from 2019 sampling provide critical and necessary data for spectaclecase recovery, and these data will help implement conservation, restoration, and propagation techniques.



Spectaclecase (*C. monodonta*)



Mark Hove (left) and Lisie Kitchel (right) measure and record living spectaclecase on the Saint Croix River.
Photo: DNR

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Wisconsin River Mussel Salvage

During the summer of 2019, improvements and routine maintenance at the Wausau hydroelectric dam was scheduled, and Wisconsin Public Service (WPS) initiated a 14-foot drawdown of the upstream reservoir. Chris Hamerla of Golden Sands Resource Conservation & Development Council, Inc. saw the drawdown as an opportunity for the public to learn about what aquatic invasive species and native mussels may occupy the dewatered stretch of river. Chris partnered with the WPS, Marathon County, and WMMP to host a workshop for volunteers to get hands-on experience learning about mussels and other aquatic animals that are found in the Wisconsin River.



Wausau hydroelectric dam
Photo: WSAW

Participants walked the river shoreline or monitored by kayak to collect as many mussels as they could and placed individuals in buckets and mesh bags. Mussels were then identified, counted and tossed into deeper sections of the river to give them a better chance of surviving the drawdown. During the event, 11 living species of native mussels were found and 110 stranded individuals were moved to deeper water. Wabash pigtoe (*Fusconaia flava*) was the most common species observed. No invasive mussel or clam species were found.



Participants of the Wisconsin River mussel salvage organize and identify animals.
Photo: DNR

The workshop helped inform the public on what mussel species occur in the Wisconsin River near Wausau. Data collected from the workshop were entered in the DNR database and are considered the first mussel observations for the stretch of river since the 1970's.



Wabash pigtoe (*F. flava*)

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Natural Resources Foundation Field Trips



NRF field trip #127, Paddle the Manitowish River in Search of Mussels
Photo: DNR

Do you want to learn more about native freshwater mussels while contributing to The Natural Resources Foundation of Wisconsin? If so, consider registering for a 2020 NRF Field Trip. These trips are led by DNR mussel biologists Lisie Kitchel and Jesse Weinzinger and take you to some of the state's most diverse and healthy mussel communities, in beautiful natural settings. You'll help search for rare mussels and document them while learning more about freshwater mussel monitoring and conservation.

To register for 2020 field trips, visit the Natural Resources Foundation website: wisconsinconservation.org. The 2020 Field Trip Guidebook will be available early March and registration starts late March.

2019 provided 234 field trips to its members, connecting generations to the wonders of Wisconsin's lands, waters, and wildlife. Five field trips allowed participants to explore waters in-search for unique populations of mussels in the Chippewa, Manitowish, Mukwonago, and Wolf Rivers.



NRF field trip #166, Treasures of the Chippewa River
Photo: DNR



NRF field trip #148, Treasures of the Mukwonago River
Photo: DNR

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Volunteer Spotlight

Flexing Your Mussels: Volunteers Talk About Monitoring Freshwater Mussels

Featured Volunteer: Robert Welch

Tell us a little about yourself:

I am crazy about mussels! Swam Lake Mendota and explored Cherokee Marsh and Upper Yahara River when very young, discovering mussels, snails and all things wet and wonderful. I still can't get enough of exploring in my study areas! I got serious enough to earn my PADI certification for deeper and darker mussel beds. Since my real emphasis in college was the ecology of bottomland floodplain forests, I kept up with my mussel studies, but emerged out of the water to also focus on wood and Blanding's turtles, Anurans and Caudatans, and began a passion for the secretive and fascinating red-shouldered hawk. I always ended up going back to the water, since so few people really cared about mussels and their future.

Most interesting thing about freshwater mussels:

What still fascinates me most about this overlooked Mollusk Order is their dependency on fish or salamanders for reproduction, their highly evolved strategies for "planting" their glochidia, and once settled in the substrate, how they make a living over such long periods of time. That is why I developed a comprehensive unit on freshwater mussels when teaching high school and middle school biology courses.

Favorite mussel species:

Those that need our greatest attention, such as the specialist, Snuffbox, with only one host fish species; and those that may be generalists, like the Plain Pocketbook, that is highly adapted with its mantle extensions, to attract their fish host by mimicking prey species. The coevolution of this invertebrate group with their fish host species has so many unanswered questions.

Is there a mussel species you want to see or place you want to survey:

I would love to survey mussel beds in the Upper Mississippi River or other large tributaries that may still be surviving after many years of over harvesting for the button industry and the seed pearl industry.

What personal skills or traits are important to conduct a mussel survey:

Based on my past work over the years, good vision to spot hidden valves and papillae barely visible within some substrates, especially tiny juvenile filter feeders. Being a patient observer scanning various substrates, below overhanging and flowing weed beds, and having the knowledge and experience to look in the proper habitats for certain species.



Robert Welch teaches mussel anatomy to participants of his NRF field trip #151, *Musseling Up in the Little Wolf River*
Photo: DNR

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Thank You



The Wisconsin Mussel Monitoring Program continues to partner with several organizations committed to supporting mussel conservation throughout the State. Whether it is helping to prevent the spread of invasive species, hosting mussel monitoring workshops, or providing resources and materials to volunteers, the WMMP thanks everyone affiliated with a mussel-related event during 2019! Lets make 2020 clearly the best year yet!

Did you know there are additional ways to support native mussels without having to go in the water? Consider donating to the Endangered Resources Fund through your Wisconsin income tax form and sustain the wild Wisconsin you love. Your contributions are critical, providing 13 percent of funding for work by DNR's Natural Heritage Conservation staff, partners and volunteers to protect and restore Wisconsin's rare wildlife, plants and State Natural Areas.



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