Identification of freshwater mussels takes lots of practice. Although there are some distinct characters that can be used for identification, many of the characters have a high amount of variation within species. The best way to improve your identification skills is to spend time looking at many individuals of each species. This will enable you to learn how each character varies within the species and help you to develop a memory for the overall three-dimensional shape of the shell. Shells of the same species are like pieces of art created by the same artist. Each one is different, yet there is a consistent theme of shape, color, and texture that holds true.

For assistance in identifying mussels, contact Pete Badra, Michigan Natural Features Inventory, pbadra@msu.edu, 517-355-4200.

FOR MORE INFORMATION ON UNIONID MUSSELS

WEBSITES:
Michigan Natural Feature Inventory (including links to the Michigan Freshwater Mollusks of Natural Resource Management Procedures, and Map of Mussel Protocol Stream Groups)
Michigan Natural Features Inventory, (including links to the Michigan Mollusk Division, except for lake floater, which was provided by Dr. David Zanatta, Central Michigan University.
Shells pictured on the cover and in figures 10-15 provided by the University of Michigan Museum of Zoology, Mollusk Division.
http://unionid.missouristate.edu/
Missouri State University, Unio Gallery
http://molluskconservation.org/
Freshwater Mollusc Conservation Society
http://www.molluskconservation.org/
University of Michigan Museum of Zoology, Mollusk Division
https://lsa.umich.edu/ummz/mollusks.html
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LITERATURE:

The best time to survey for unionids is in the summer when streams and rivers tend to be at their lowest, the water tends to be clearest, and there is a chance of seeing currents and deep pools.

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Additional copies of this brochure and its companion poster, “Freshwater Mussels of Michigan,” can be obtained from:

Michigan Natural Feature Inventory
Michigan State University Extension
Extension Program 
East Lansing, MI 48823
https://extension.msu.edu/

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Figure 1: Pea clams (Dreissenidae).

The quagga mussel (Corbicula fluminea) was introduced to the United States and is responsible for a significant economic cost. Although the native Unionid mussels and pea clams are native to North America, the quagga mussels are exotic to this continent. The Unionid mussels and pea clams are native to freshwater habitats in the United States, whereas the quagga mussels are native to Eastern Europe. The invasive quagga mussels are responsible for a significant economic cost and have altered the aquatic ecosystems, and use as indicators of change in water and habitat quality. They are sensitive to – and tend to accumulate contaminants in their bodies.

Figure 2: Asian clam (Corbicula fluminea (Corbiculidae)).

Asian clams (Corbicula fluminea (Corbiculidae)) are related to the quagga and zebra mussels and are considered to the same level of biological risk. They are known to be invasive species and have been found to compete with the native Unionid mussels and other freshwater bivalves. They can also negatively impact the local ecosystem and water quality. Asian clams can be found in both rivers and lakes. Live individuals and empty shells provide habitat for fish hosts and exchange genetic material and disease vectors.

Figure 3: Eurasian water milfoil (Myriophyllum spicatum).

Eurasian water milfoil is an invasive species that has been introduced to North America and has become a serious problem in many areas. It is known to disrupt aquatic ecosystems and can be found in both freshwater and saltwater habitats. It is known to spread quickly and has been found in both rivers and lakes. It is known to spread quickly and can be found in both freshwater and saltwater habitats. It is known to spread quickly and can be found in both rivers and lakes. It is known to spread quickly and can be found in both freshwater and saltwater habitats. It is known to spread quickly and can be found in both rivers and lakes. It is known to spread quickly and can be found in both rivers and lakes. It is known to spread quickly and can be found in both rivers and lakes. It is known to spread quickly and can be found in both rivers and lakes.