

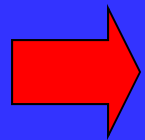
Freshwater Mussels of Wisconsin



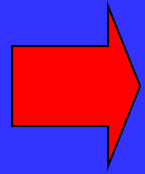
Lisie Kitchel

Endangered Resources

What is the difference between a clam and a mussel?



Mussels and clams refer to all kinds of animals with two shells, people use the terms interchangeably




Biologically/technically they are different we have native mussels and native clams as well as invasive mussels and invasive clams




50 species of Native Freshwater Mussels

occur in Wisconsin...of all sizes, shapes, textures





In North American 73% of the mussel species are rare, declining or extinct



Over half (27 species) of the 50 mussel species in Wisconsin are listed as threatened, endangered, or special concern

Mussels occur in diverse habitats

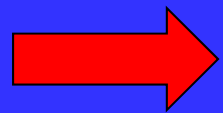
from the largest rivers to the smallest streams

most prefer running water, and clean substrate

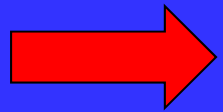
but some are found in lakes and flowages



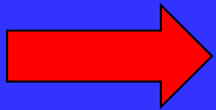
Life History of our native freshwater mussels



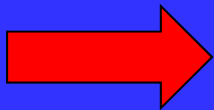
Long lived, slow growing, separate sexes



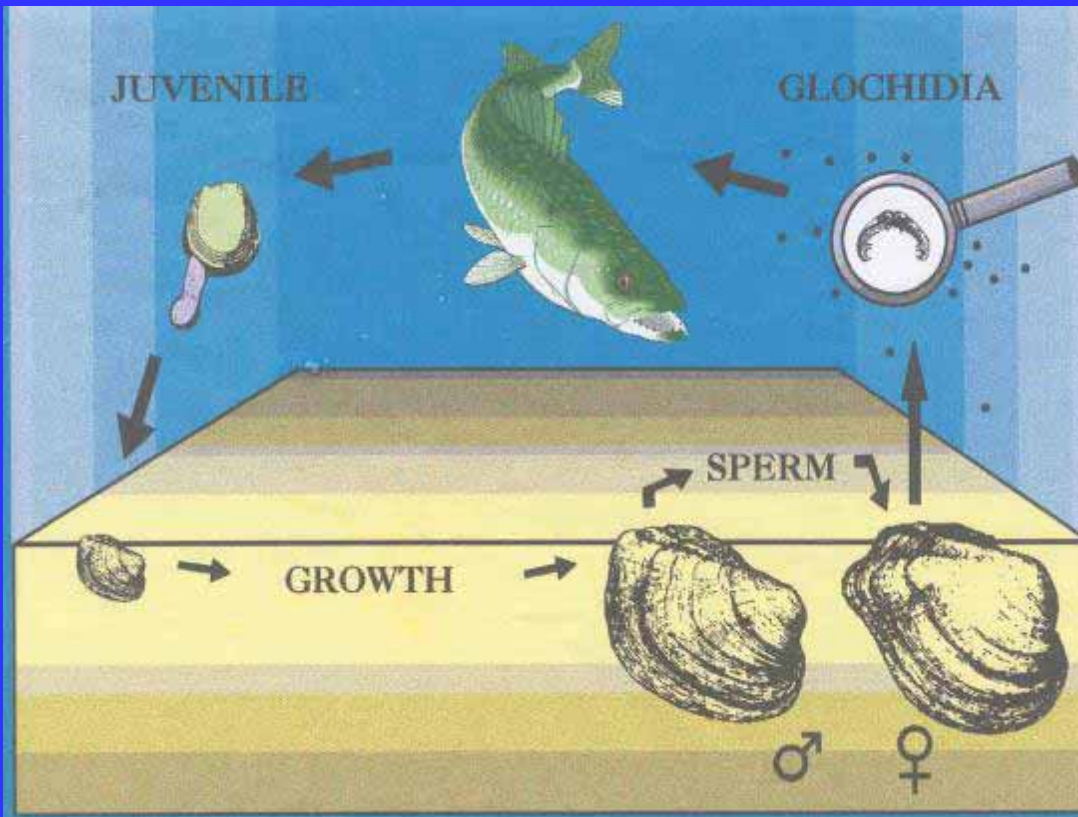
Require vertebrate host to complete life cycle



**Critical link in their life cycle –
host not needed in clams or zebra mussels**



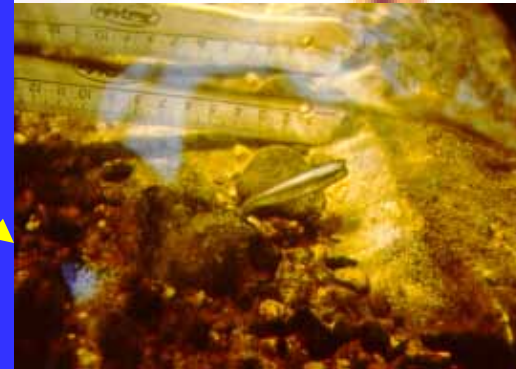
**Native Mussel have developed unique
abilities to attract host species**





On Fins

**Waiting to
attach/attack** →



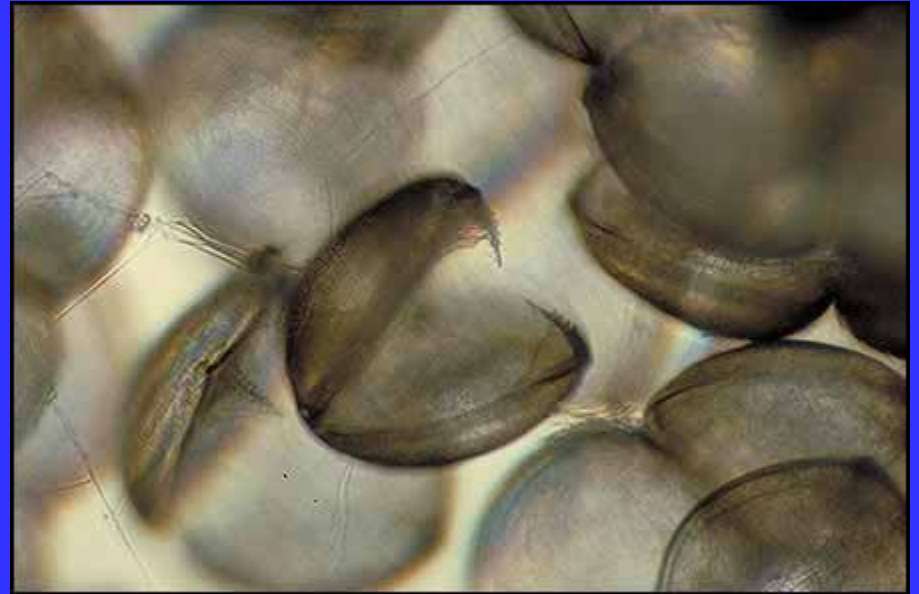
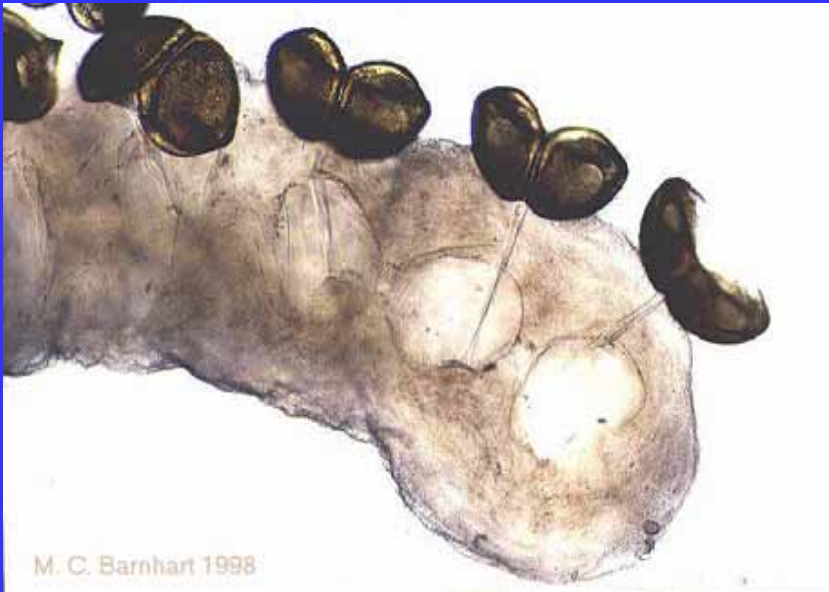
On Gills

↗ **Close the gap - lure**

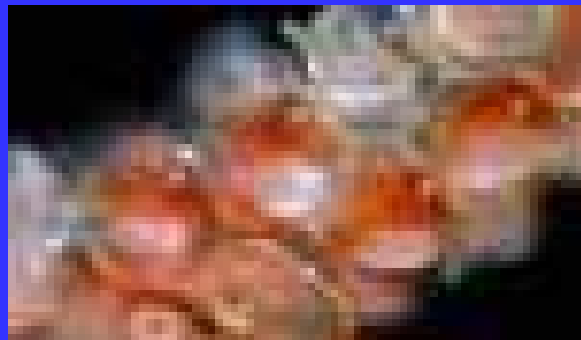
→ **mimic food**

↘ **Actively "fish"**

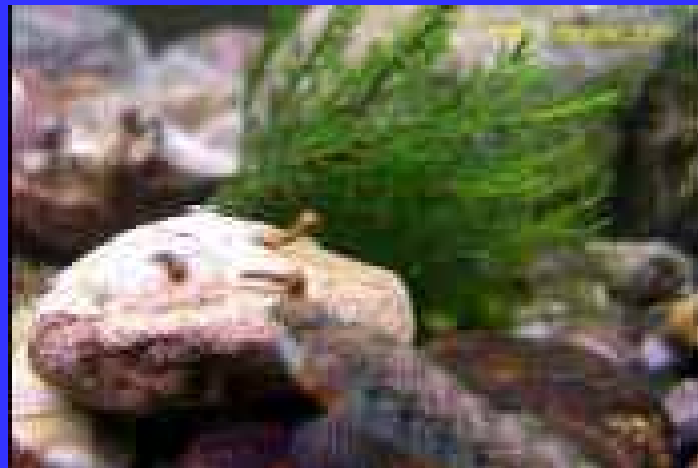
Built to hang on!



something worth eating...



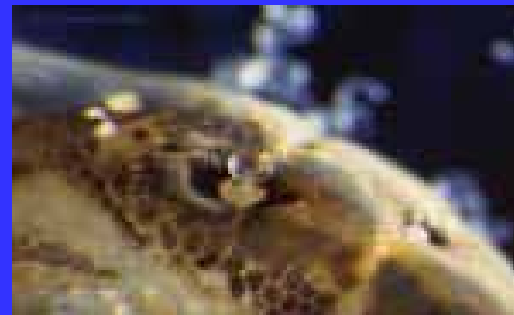
benthic insect or bait?



Food item...Black fly mimics



how the mimic works...



A mussel in fish clothing....



Is it a fish or a mussel.....?



**Fishing for a
fish...or
putting all your eggs
in one conglutinate**



Fish like crayfish too.....



Predatory mussels?



And then you have the passive kind....that knows just how to attract its host



Why care about mussels?



What good are mussels?

Four episodes of human - mussel interaction

Native American uses



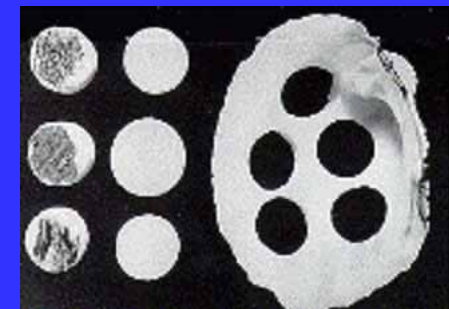
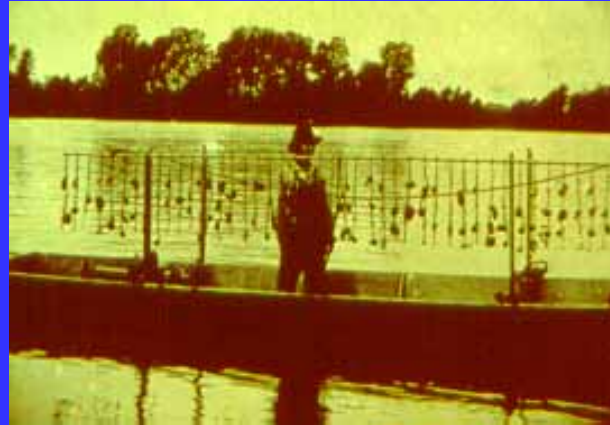
tools (hoes, scrapers)
decoration, food

Pearl rush 1800's



pretty, but waste of
resource just for fun

Pearl Button Era



Pearl Button Industry

	TONS
Neahho River (1912)	- 17,063
Mississippi River (1890-1905)	- 750,000

1880's to 1940's decline of mussels
 Overharvest and loss/declining habitat -
 dams built, dredging for navigation,
 declining water quality (sewage, etc.)

Cultured Pearl Era – 1960's on



Decline in reproduction
Overcome by invasive
zebra mussels

How important are mussels biologically?

- Provide important ecological services
- Provide food for fish and wildlife
- Provide habitat and food for benthos
- Remove pollutants – used as biomonitors
- Important component of the stream processes

Natural filters



What are the “challenges” ?



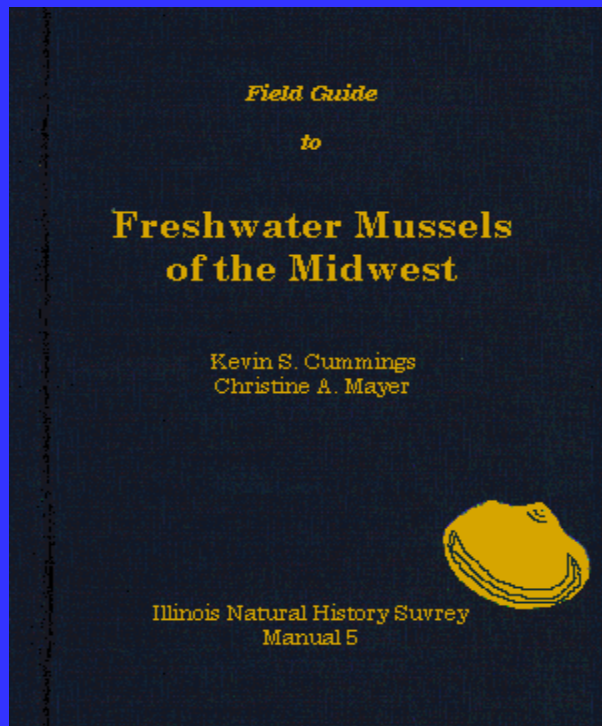
There is hope -- Artificial propagation/rearing, fish host research



How can I learn more about mussels ?

Pick up a Mussels of the Upper Mississippi booklet,
get the field guide Freshwater Mussels of the Midwest,

Join the Mussel Monitoring Program and
go out and collect shells and report what you find



Mussel Monitoring Program of Wisconsin



Wisconsin Mussel Observations by County

[Home](#)

Select County:



Check out our
website;

pick a County,
pick a River and
see if any
mussels
have been
collected

Home

Select County: Washburn ▾

Washburn County

(click on waterbody name for list of mussels)

Common Name - *Scientific name* (Last observed date)

Bean Brook

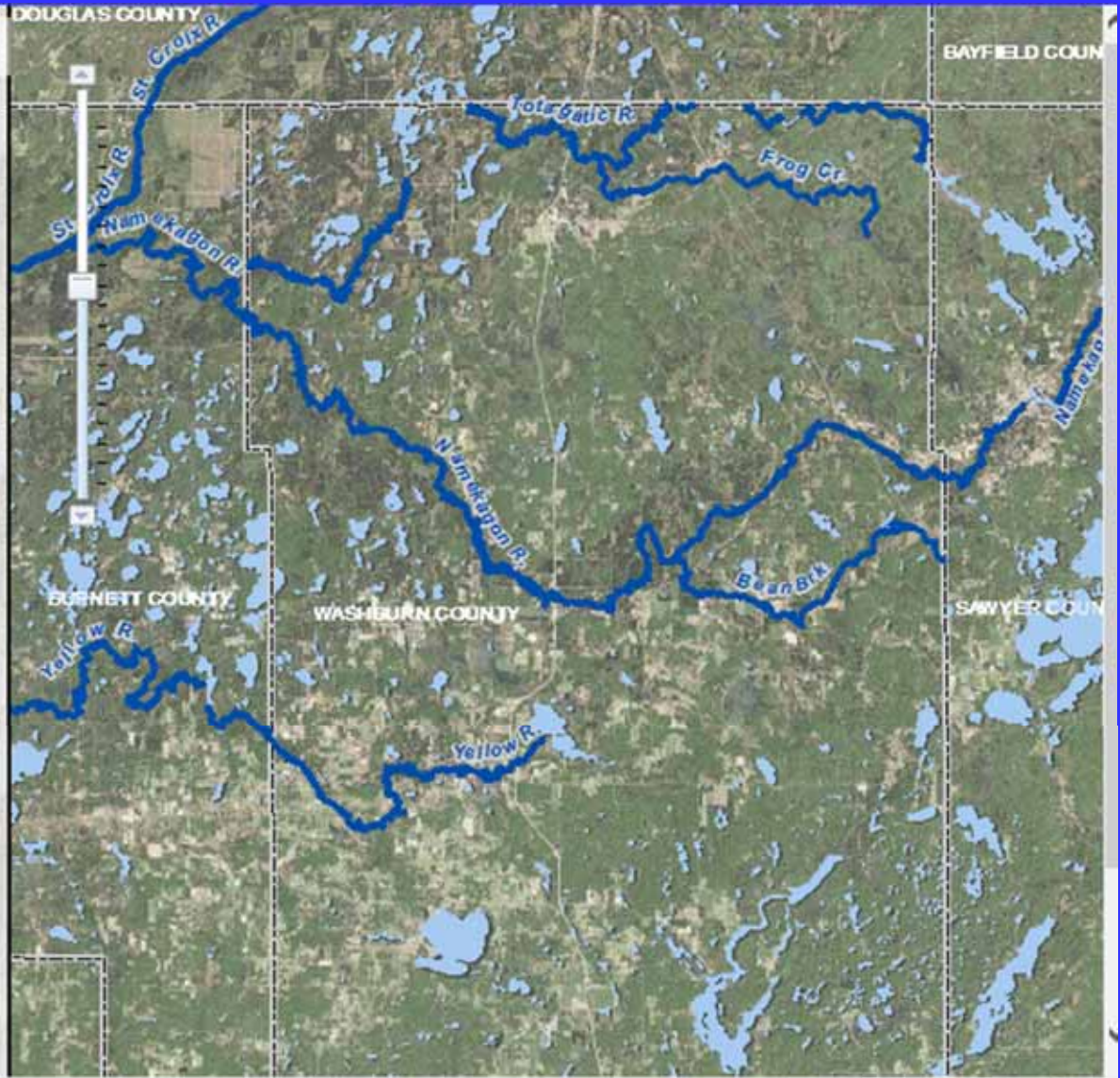
Frog Creek

Namekagon River

Totagatic River

Yellow River

[Back to Statewide](#)



Home

Select County:

Oneida County

click on waterbody name for list of mussels
Common Name - Scientific name (Last observed date)

Bearskin Creek

- [Black Sandshell](#) - *Ligumia recta* (1976)
- [Fluted-shell](#) - *Lasmigona costata* (1976)
- [Plain Pocketbook](#) - *Lampsilis cardium* (1976)
- [Spike](#) - *Elliptio dilatata* (1976)

Black River

Gilmore Creek

Kaubashine Creek

Little Rice Creek

N. Branch Pelican River

Ninemile Creek

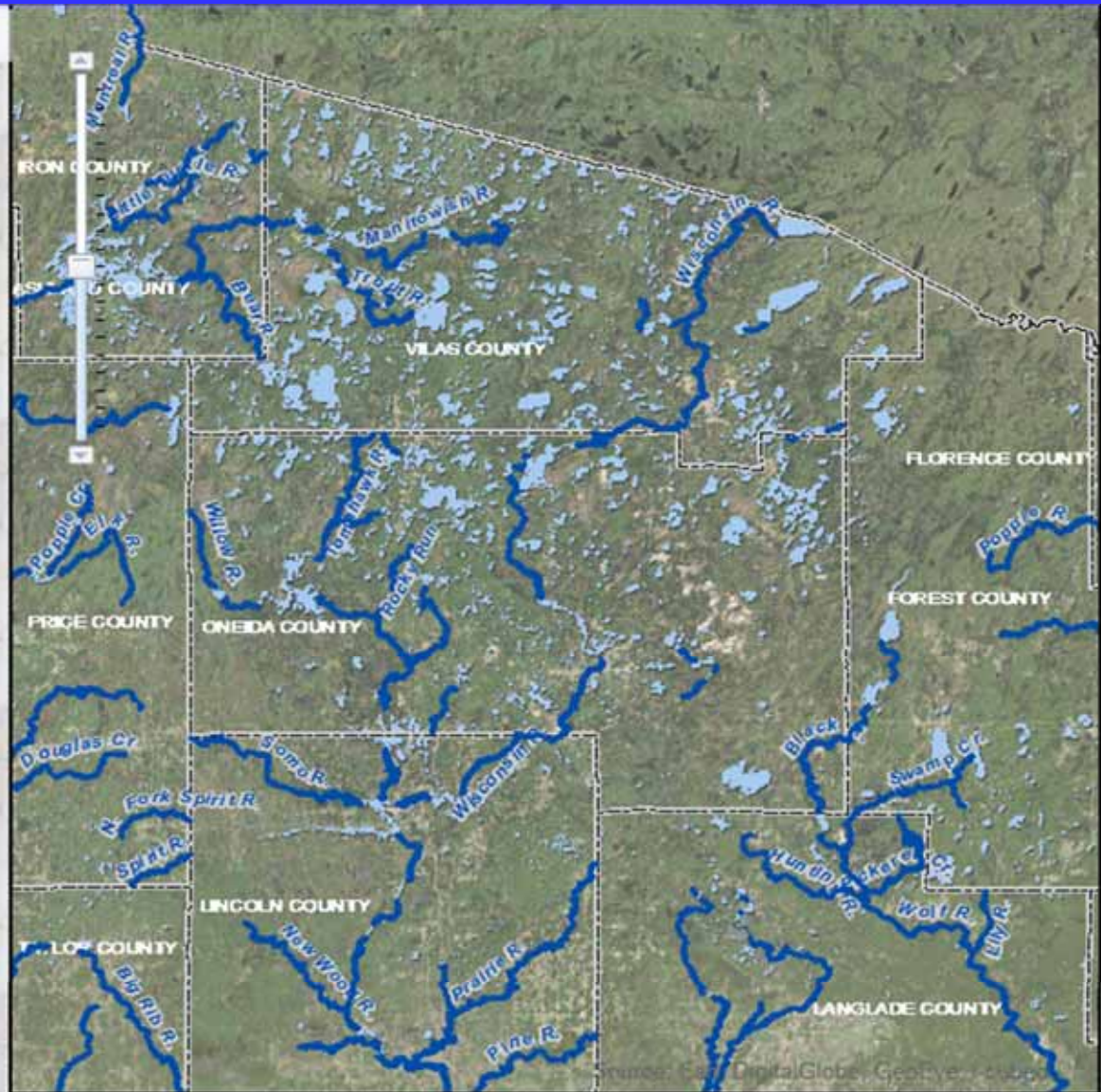
Rocky Run

Tomahawk River

Willow River

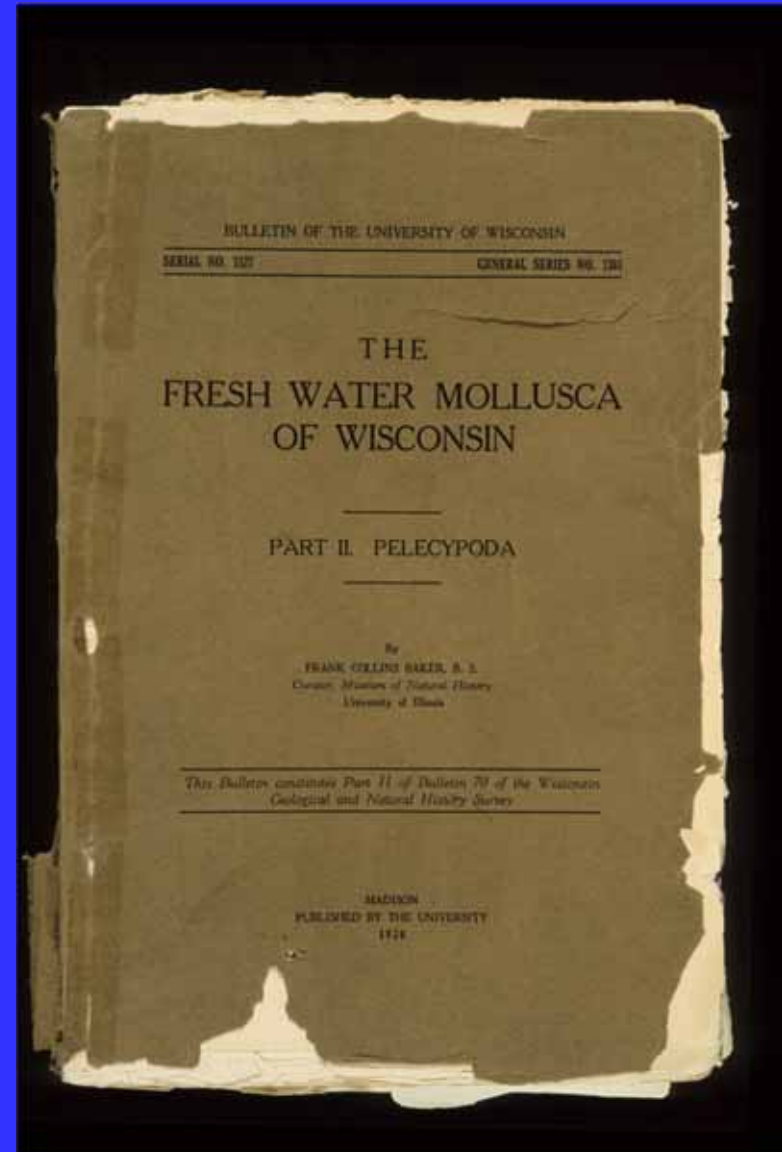
Wisconsin River

- [Black Sandshell](#) - *Ligumia recta* (1976)
- [Elktoe](#) - *Alasmodonta marginata* (1976)
- [Fatmucket](#) - *Lampsilis siliquoidea* (1996)
- [Fluted-shell](#) - *Lasmigona costata* (1976)
- [Giant Floater](#) - *Pyganodon grandis* (1996)
- [Mucket](#) - *Actinonaias ligamentina* (1996)
- [Plain Pocketbook](#) - *Lampsilis cardium* (1996)
- [Spike](#) - *Elliptio dilatata* (1976)
- [Squawfoot](#) - *Strophitus undulatus* (1976)
- [Three-ridge](#) - *Amblyma plicata* (1976)
- [Wabash Pigtoe](#) - *Fusconaia flava* (1996)
- [White Heelsplitter](#) - *Lasmigona complanata* (1976)

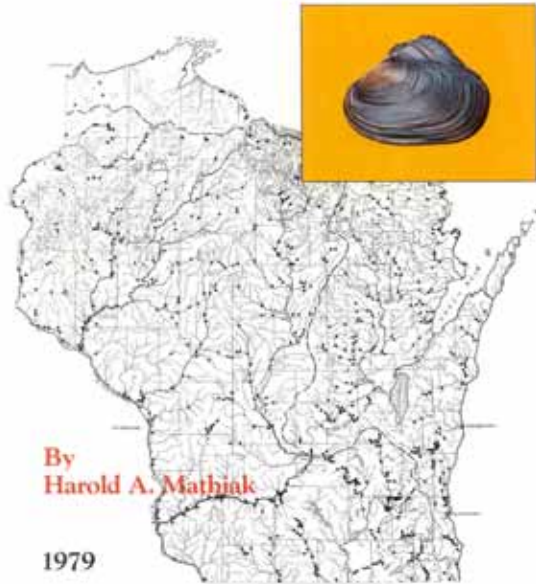


(Click on highlighted stream to see its name or zoom in to see more labels.)

We have
records of
mussels
collected
from the
1800's



**A RIVER SURVEY
OF THE UNIONID MUSSELS
OF WISCONSIN 1973-1977**





Unio Galley Website

- Thanks to Chris Barnhardt in Missouri for many of the mimicry pictures & videos

Check out cool websites - Unio Gallery

- <http://unionid.missouristate.edu/>