

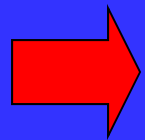
# Freshwater Mussels of Wisconsin



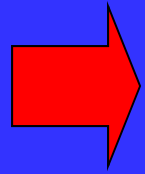
Lisie Kitchel

Endangered Resources

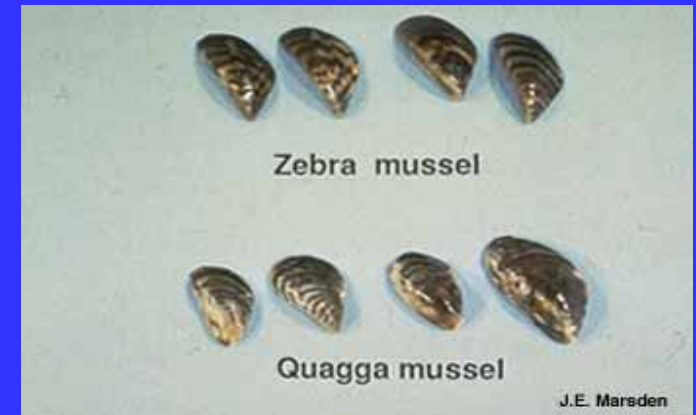
# What is the difference between a clam and a mussel?



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



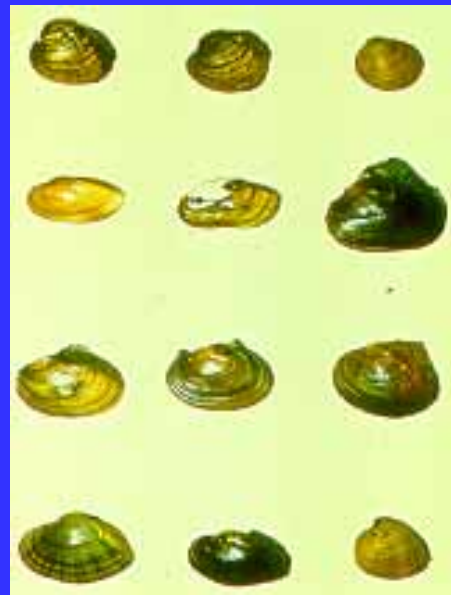
**Biologically/technically they are different we have native mussels and native clams as well as invasive mussels and invasive clams**




J.E. Marsden

# *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*

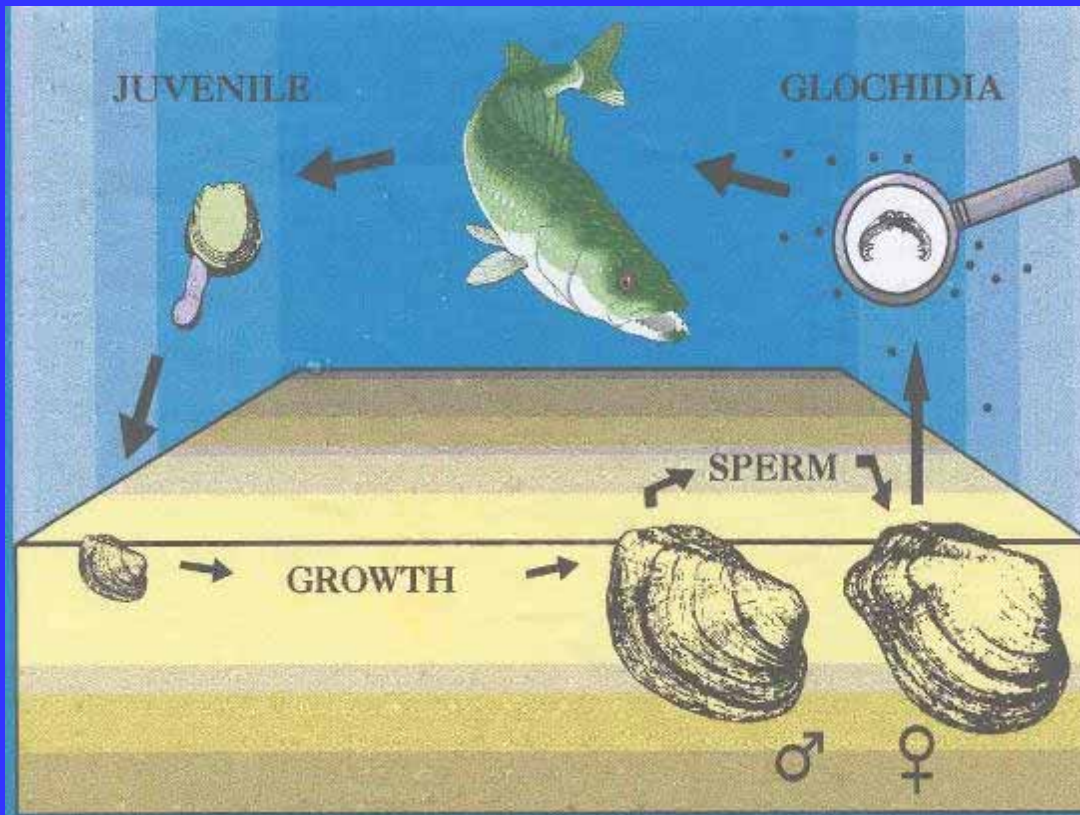
 **Long lived, slow growing, separate sexes**

 **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**

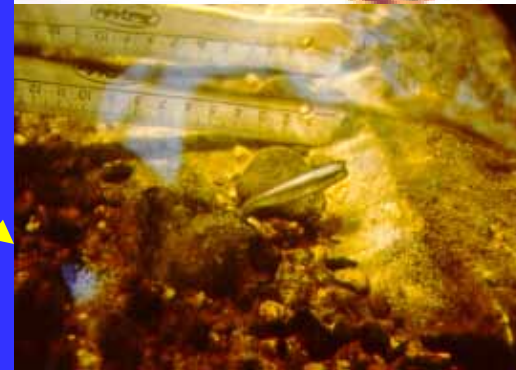






**On Fins**

**Waiting to  
attach/attack** →



**On Gills**

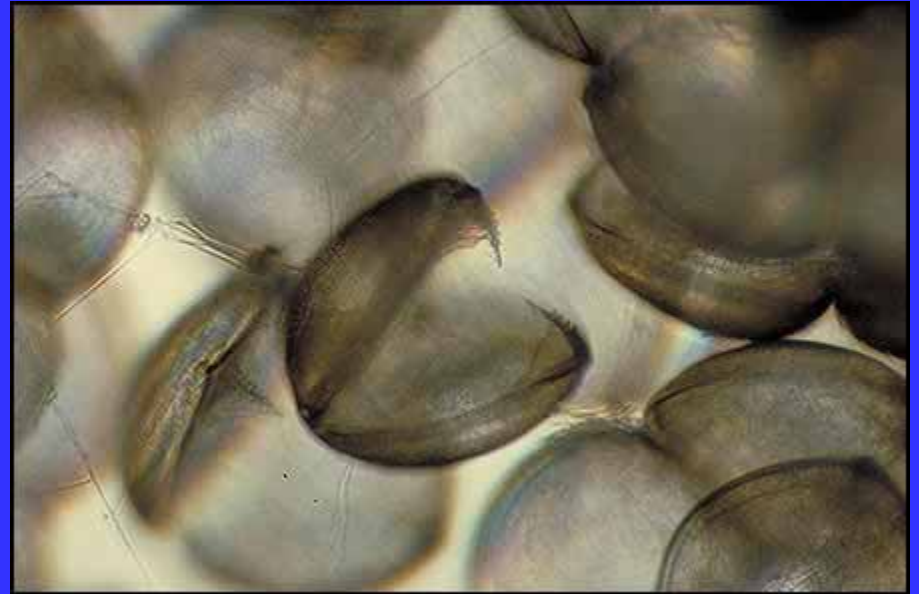
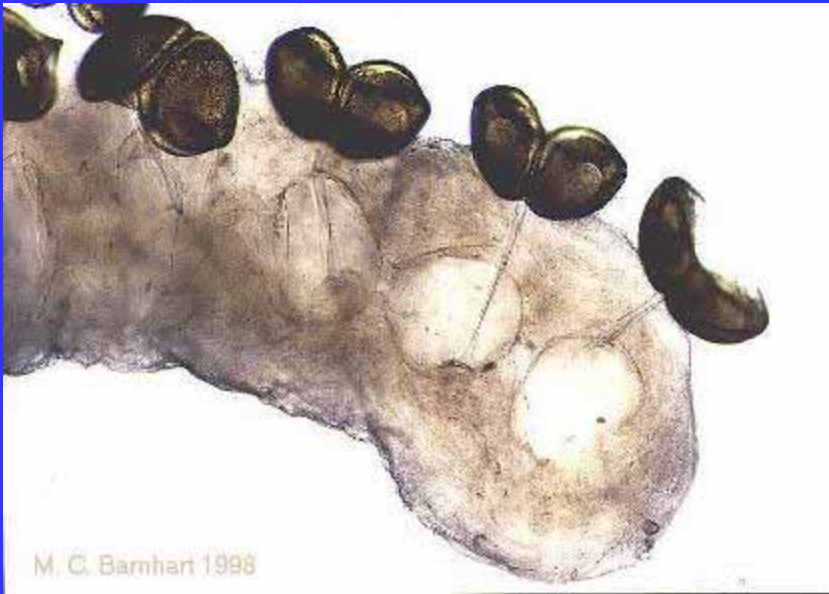
↗ **Close the gap - lure**

→ **mimic food**

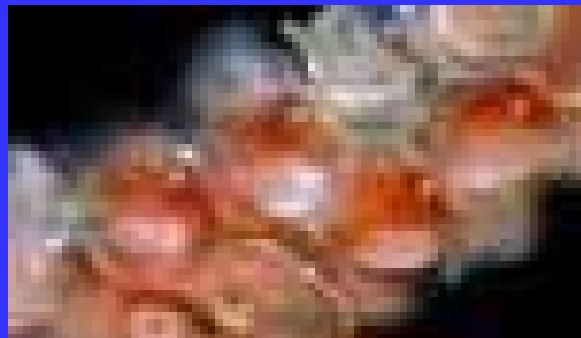
↘ **Actively "fish"**



# Built to hang on!



something worth eating...



# benthic insect or bait?

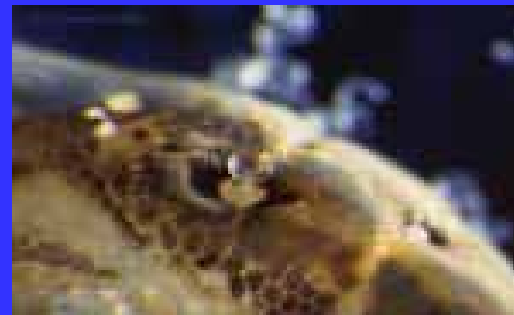


# Food item...Black fly mimics

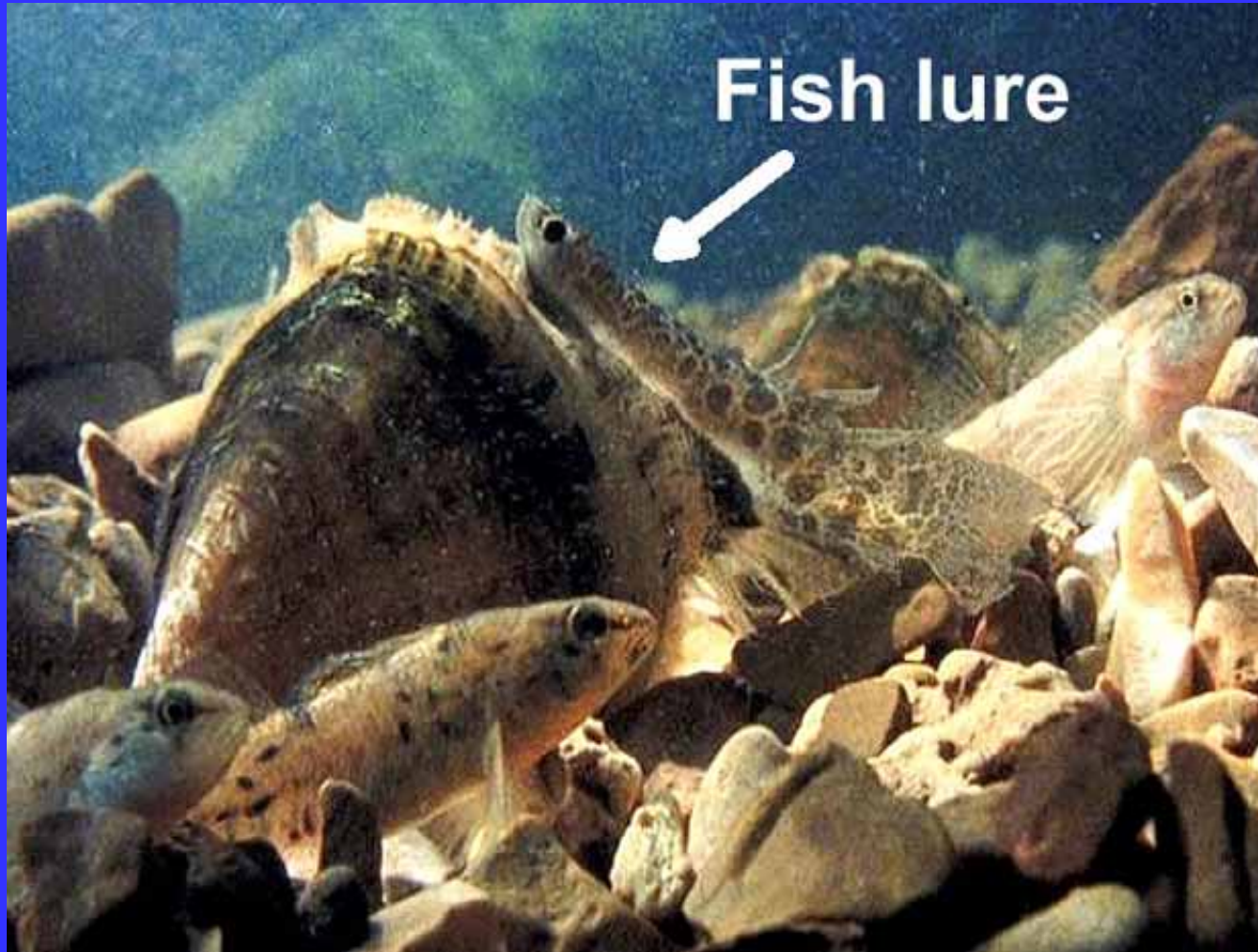




# how the mimic works...



# 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



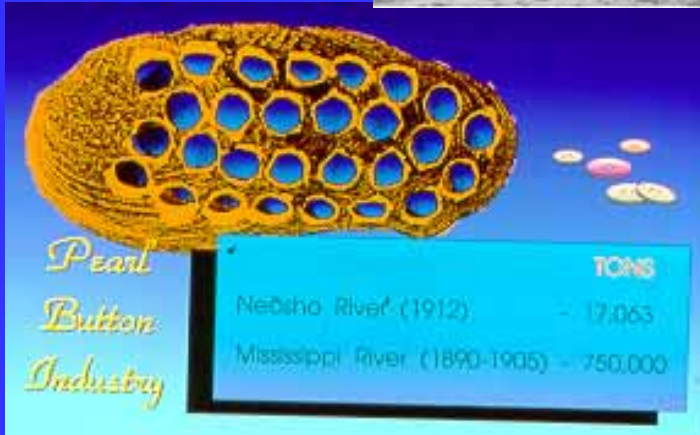
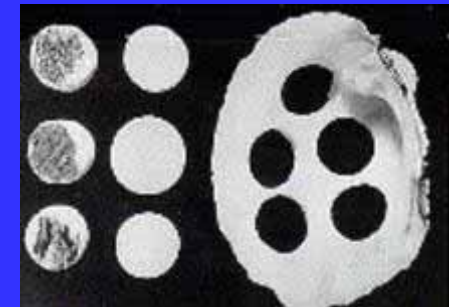
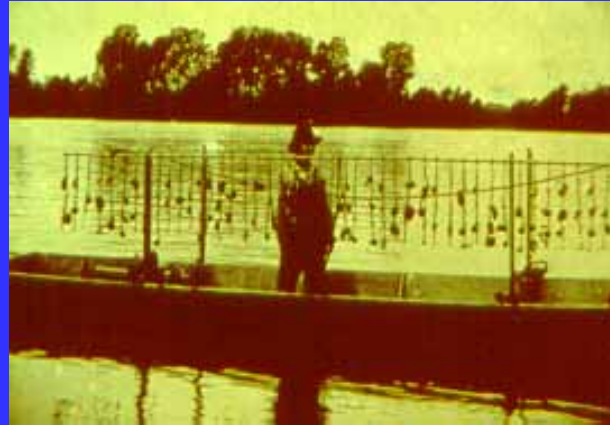
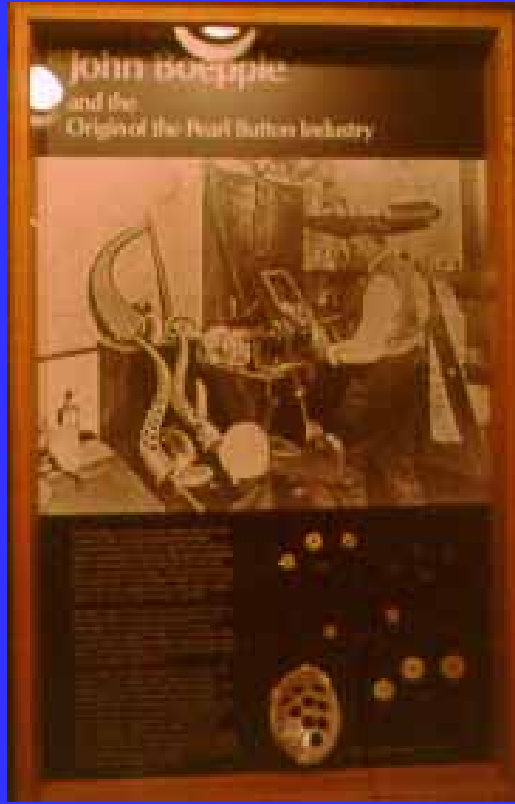
tools (hoes, scrapers)  
decoration, food

### Pearl rush 1800's



pretty, but waste of  
resource just for fun

# Pearl Button Era



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?

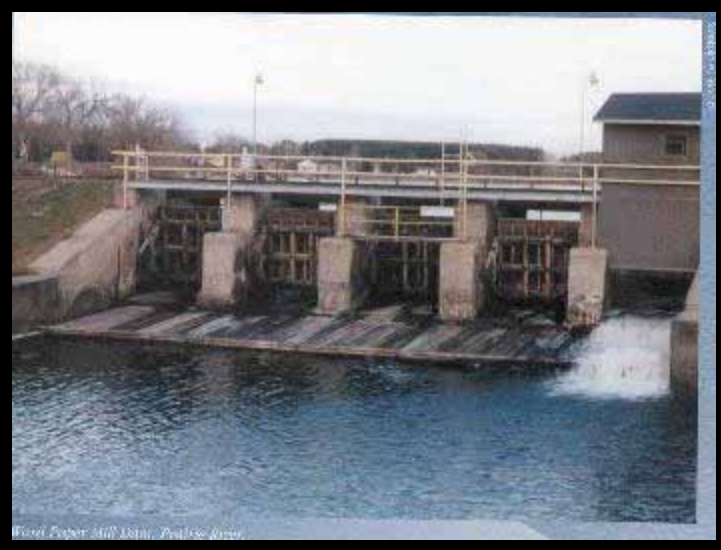
- Provide important ecological services
- Provide food for fish and wildlife
- Provide habitat and food for benthos
- Remove pollutants – used as biomonitors
- Important component of the stream processes



# Natural filters



# What are the “challenges” ?



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

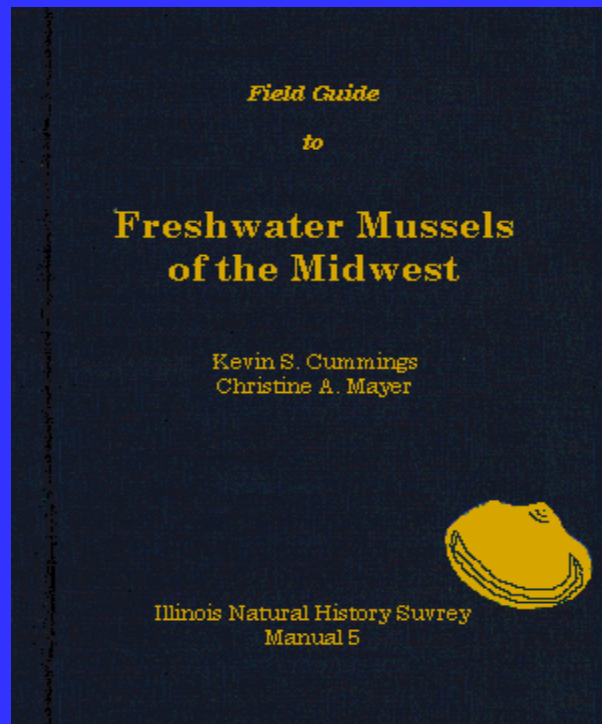




# How can I learn more about mussels ?

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:



Stream Reaches with  
Mussel Information



click highlighted stream for name

Check out our  
website;

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

Home

Select County:

## Oneida County

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

[Bearskin Creek](#)

[Black River](#)

[Gilmore Creek](#)

[Kaubashine Creek](#)

[Little Rice Creek](#)

[N. Branch Pelican River](#)

[Ninemile Creek](#)

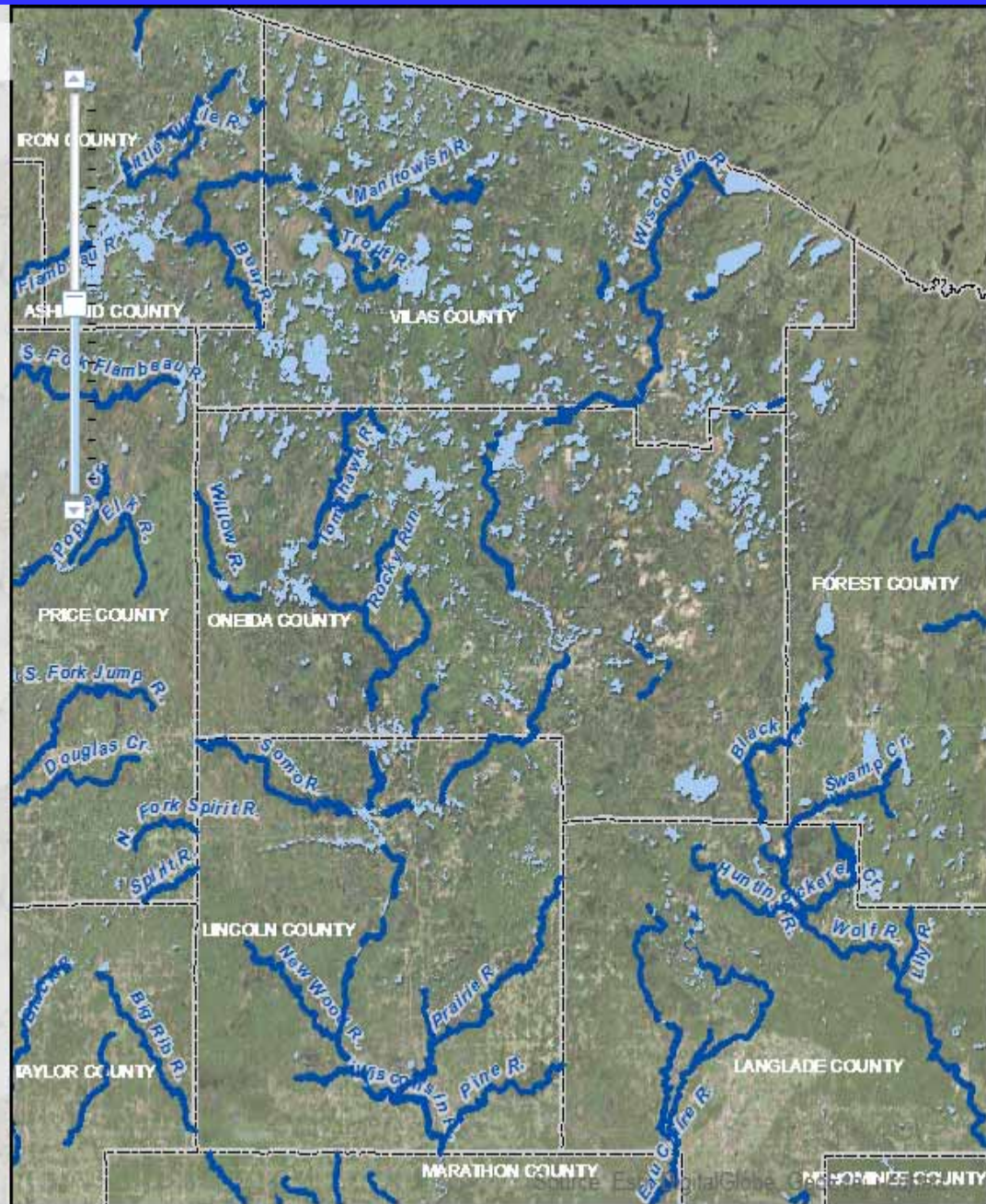
[Rocky Run](#)

[Tomahawk River](#)

[Willow River](#)

[Wisconsin River](#)

[Back to Statewide](#)



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



## 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)

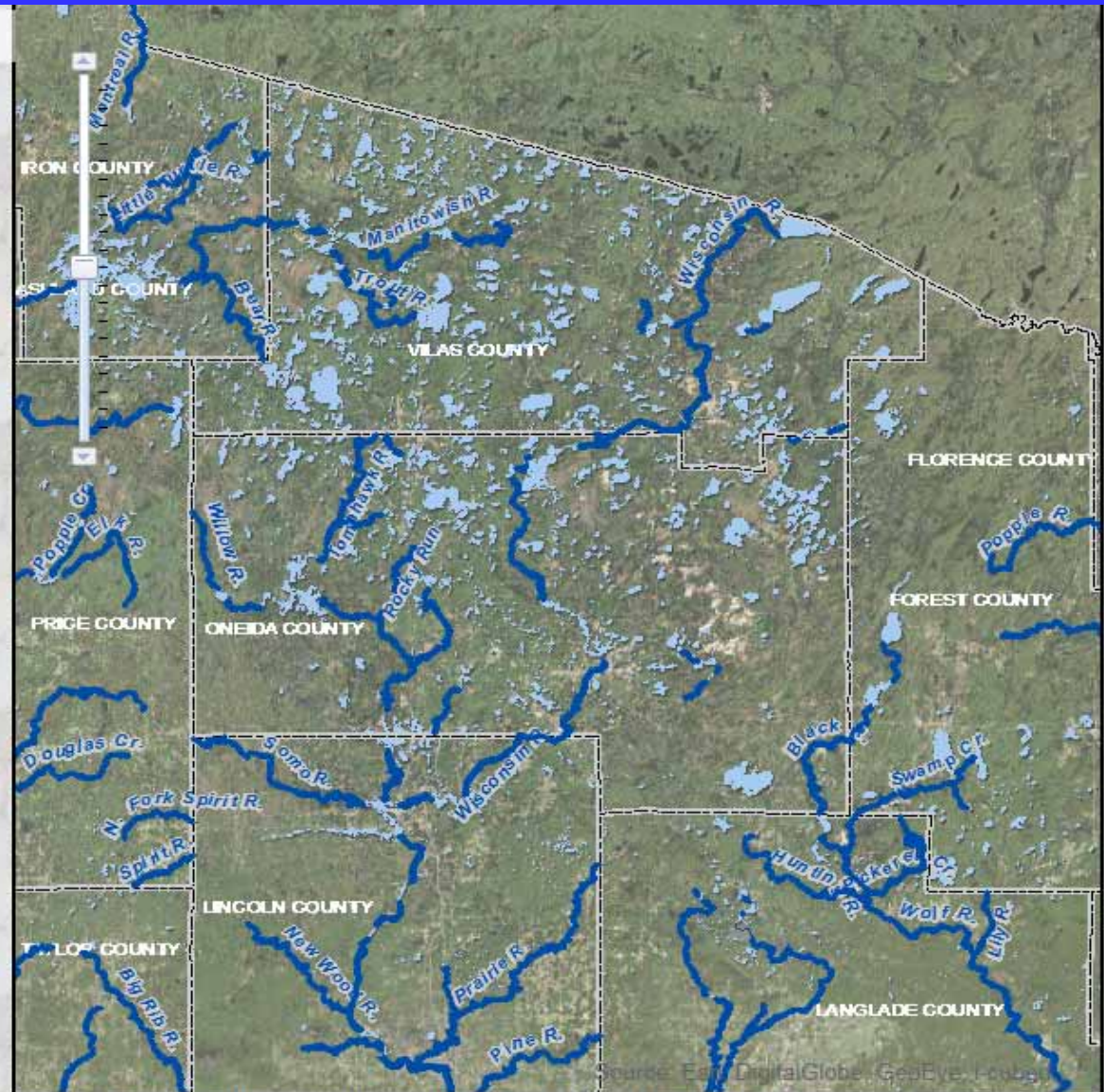
[Spike](#) - *Elliptio dilatata* (1976)

[Squawfoot](#) - *Strophitus undulatus* (1976)

[Three-ridge](#) - *Amblyma plicata* (1976)

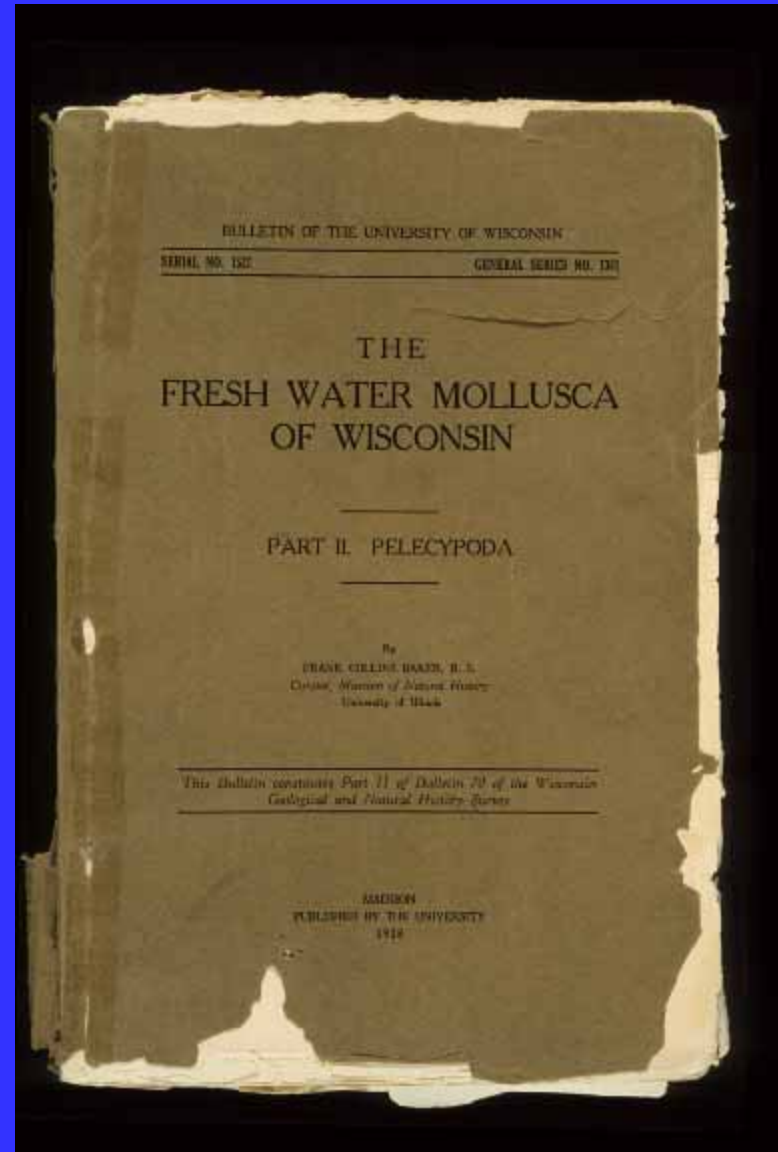
[Wabash Pigtoe](#) - *Fusconaia flava* (1996)

[White Heelsplitter](#) - *Lasmigona complanata* (1976)



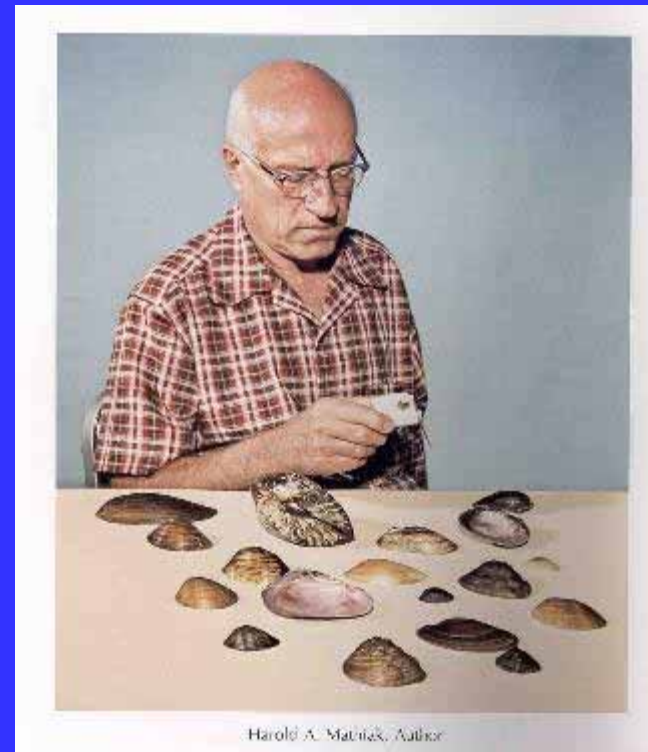
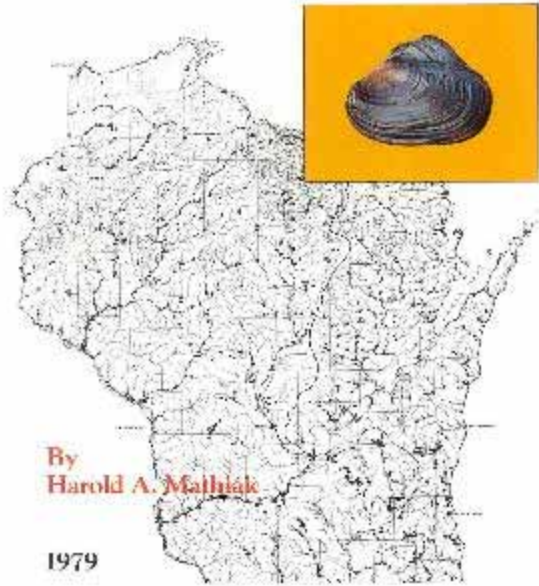
(Click on highlighted stream to see its name or zoom in to see more labels.)

We have  
records of  
mussels  
collected  
from the  
1800's





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



Harold A. Matlack, Author



# 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/>