

# *Mussel Bioblitz*



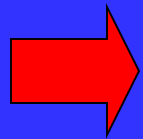
Eastern Pondmussel  
*Ligumia nasuta*



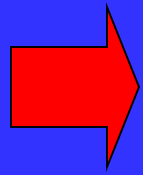
**Lisie Kitchel**

**WNDR – Bureau of Natural Heritage Conservation**

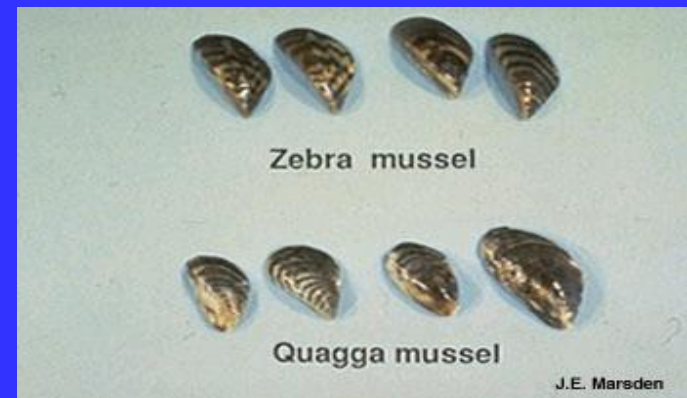
# What is the difference between a clam and a mussel?



**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 Mussels occur in Wisconsin*

*.....in all kinds of sizes, shapes, colors and 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

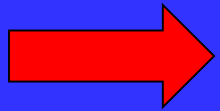
from the largest rivers to the smallest streams

most prefer running water, and clean substrate

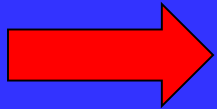
but some species are found in lakes or flowages



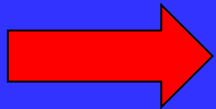
# *Our Native Mussels are Unique*



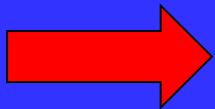
**Long lived, slow growing, separate sexes**



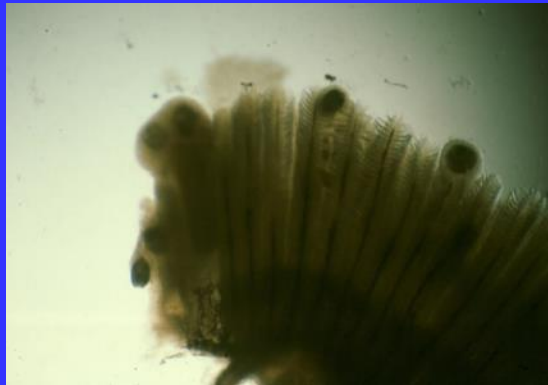
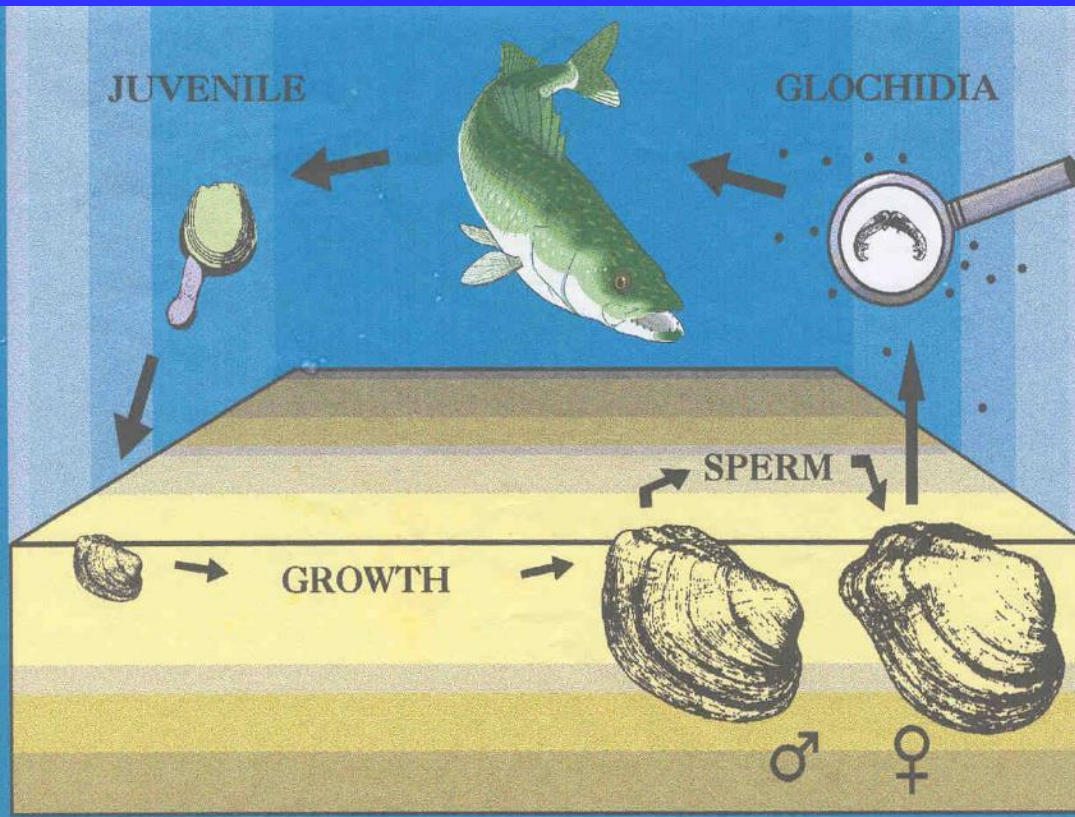
**Require fish host to complete life cycle,**



**Host Fish are critical link in life cycle,  
some mussels use only a few host species**



**Each species has developed unique ways  
to attract host fish**







Mimic food



M. C. Barnhart 1998



Close the gap -  
lure



*Villosus*  
Swan Creek, Taney Co. Missouri  
Copyright © 1999, Wm. Boston

mimic food



Actively "fish"







*Ligumia nasuta*

# Why care about mussels?



# What good are mussels?

# Mussels have been used for centuries

## Native American uses



tools (hoes, scrapers)  
decoration, food

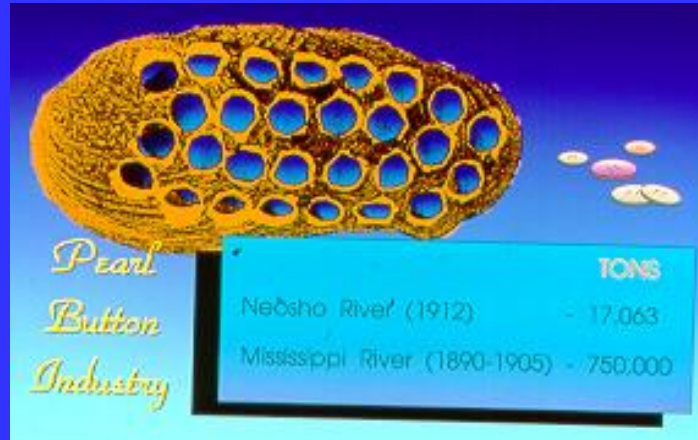
## Pearl rush 1800's



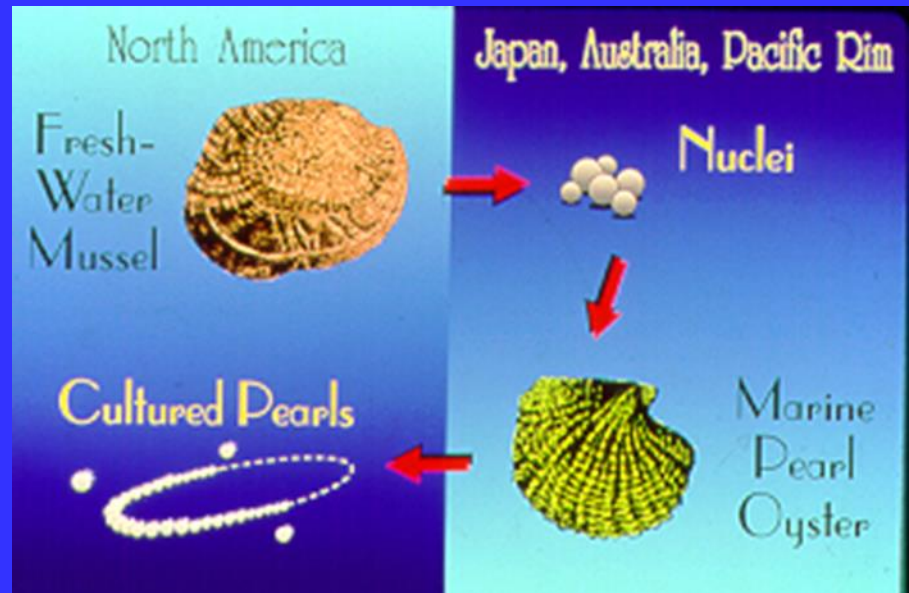
pretty, but  
waste of resource



# Pearl Button Era 1880's -1940's



# Cultured Pearl Era – 1960's to 1980's



# Mussels are most important for their ecological services!

- Natural water purifiers,
  - each mussel filters gallons/day
- Remove pollutants and contaminants
- Provide food for fish and wildlife
- Provide habitat and food for insects, crayfish, and other stream fauna
- Important component of the stream processes

# Natural filters





# Citizen Mussel Monitors looking for mussels



Eastern pondmussel reported  
from Medicine Lake – NEW SPECIES



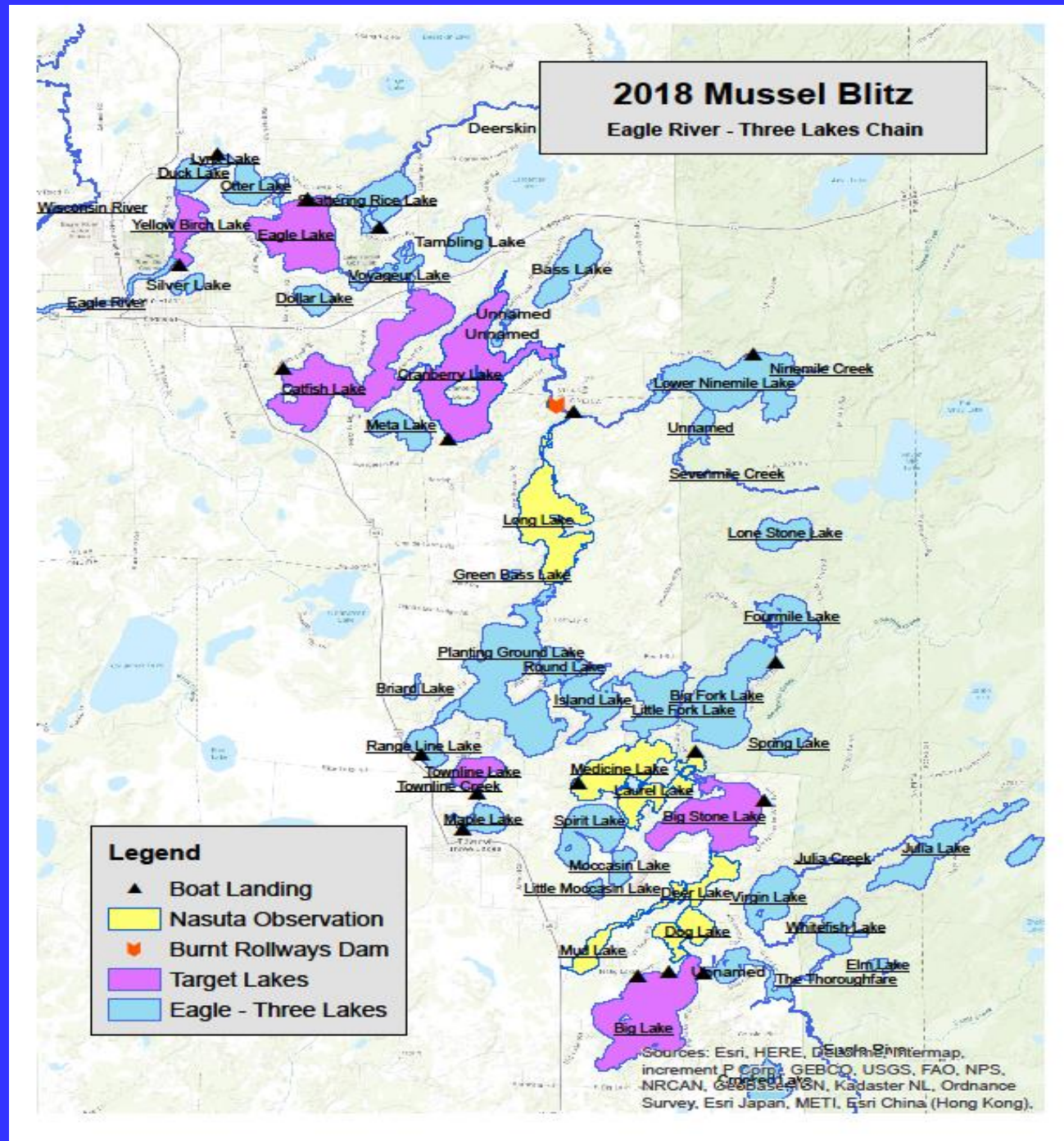
Is it found in any other lakes?



First reported  
from Medicine  
Lake in the  
Three  
Lakes Chain

-  
*Really, which chain?*

-  
then it was  
reported from  
Crystal, Deer and  
Dog Lakes





# OBSERVATIONS WANTED

## Eastern Pondmussel

*Wisconsin's newest mussel species!*

WISCONSIN MUSSEL MONITORING PROGRAM



*Eastern Pondmussel. Photo courtesy of Brennon Butterfield*



DNR staff confirmed the presence of the Eastern Pondmussel (*Ligumia nasuta*) in Wisconsin's waters. It was first reported from Medicine Lake in Oneida County in 2014. It has since been found in other connected lakes within the Eagle River-Three Lakes Chain.

How did it get here? What does it look like?

While new to Wisconsin, its range includes Michigan and Ohio. This species likely got here on the gills of a fish host. The Eastern pondmussel is found in lakes and ponds and averages 3 inches, but can be up to 6 inches, and is elongate with a pointed end. Dead shells can be white to iridescent pinks and blues inside.

### 2018 Mussel Bioblitz

The Eastern Pondmussel is a new resident and is not an invasive species. We want to know where it occurs, therefore, the Wisconsin Mussel Monitoring Program will host a volunteer Bioblitz in late summer of 2018 to investigate its distribution within the Eagle River-Three Lakes Chain. If you'd like to participate in the 2018 Bioblitz, please contact Lisie Kitchel for more details. In the mean time check the shorelines and shallows of your lake and see if its in your lake, and please report it.

### WISCONSIN MUSSEL MONITORING PROGRAM

[www.wiatri.net/inventory/mussels](http://www.wiatri.net/inventory/mussels)

#### Contacts

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Mussel CBM Coordinator  
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Aquatic Ecologist  
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**iNaturalist.org**

















WE found  
them!

Lots of  
them!

Shallow water,  
along the shore,  
around piers,  
piles of dead  
shells



We found  
Eastern  
pondshell  
plus 12  
other  
mussel  
species





And  
we  
were  
happy



# Other mussel species we found common

## Thin Shelled Mussels (no teeth)

- Cylindrical papershell  
'Cylinder'



Giant Floater



# Some of the other species we found – not common

Fat mucket



White heelsplitter



Wabash  
pigtoe



Pocketbook



Fluted shell



Three-  
ridge





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Species	Abundance
Eastern Pondmussel	117
Fatmucket	34
Giant Floater	31
Paper Pondshell	15
Wasbash Pigtoe	14
Cylindrical Papershell	9
Threeridge	7
Plain Pocketbook	5
Black Sandshell	3
Creeper	1
Flutedshell	1
White Heelsplitter	1
Fragile Papershell	0

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# Great Mystery

## How did it get here?

### Atlantic slope species

These lakes not connected to Great Lakes, flow to the Wisconsin River

found in New York, Pennsylvania  
Eastern Michigan (Lake St. Clair)  
but not the UP



Who are the host  
fish for the Eastern  
pond mussel ?

Known hosts, there could be more:

Yellow perch

Largemouth bass

Pumpkinseed

Bluegill



# *Mussel Bioblitz 2019*

Date: Saturday, August 17th

Time: 10-4, or any portion you can make

Location: TBD (any suggestions?)

Details will follow

Who: All welcome, old, young, in between

So go out and look  
for shells  
or live individuals



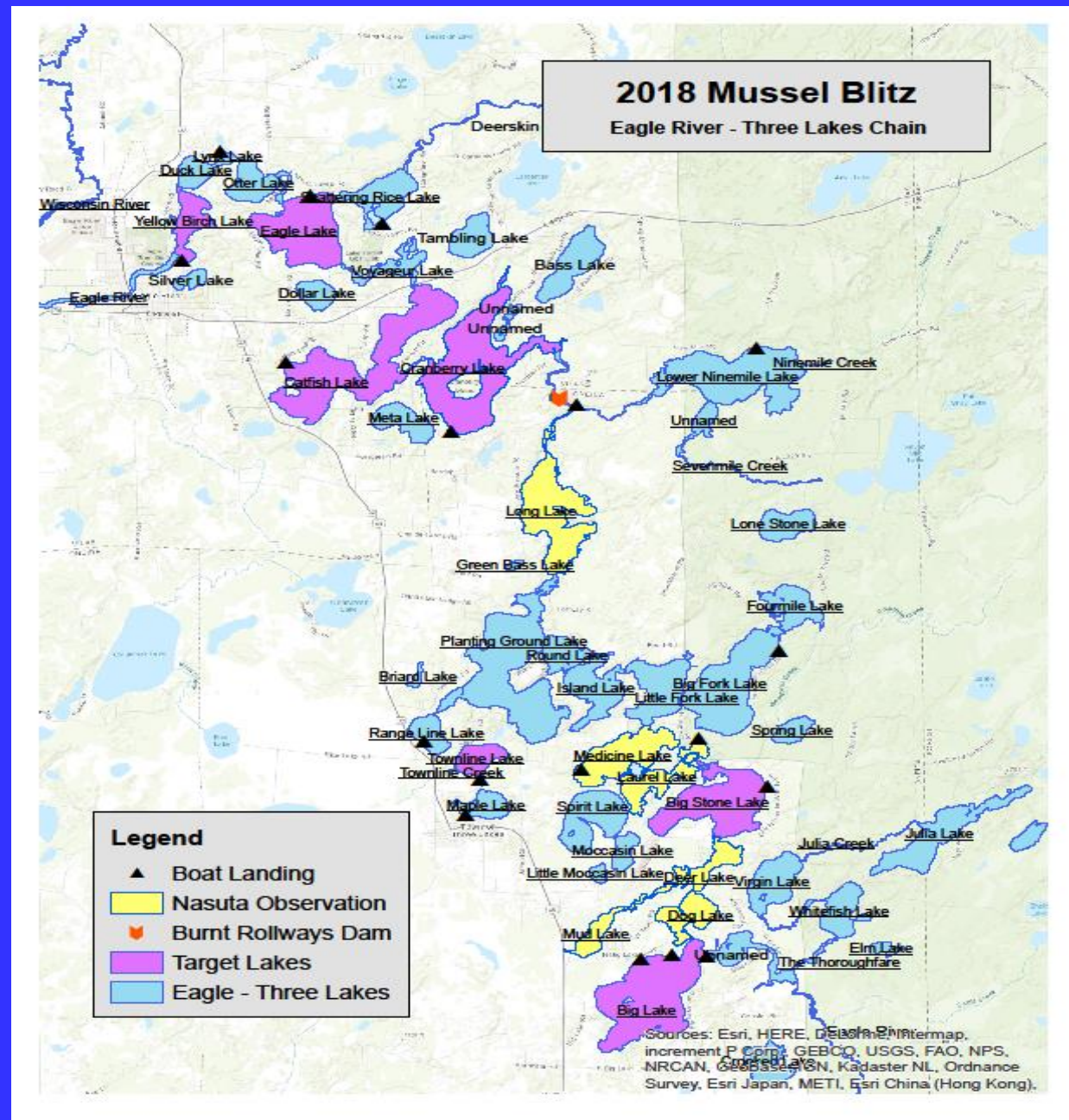


Eastern pondmussel siphoning in the lake bed  
they blend in but look kind of like brown bumps





If you live or play on any of these lakes please look for mussels and report what you find — especially interested if Eastern pondmussel are in the Eagle Chain of Lakes



Wisconsin Mussel Observations by County

Home

Select County:



Stream Reaches with Mussel Information



click highlighted stream for name

Check out our  
Mussel  
Monitoring  
website;  
[watri.net/  
inventory/  
mussels](http://watri.net/inventory/mussels)

Wisconsin Mussel Observations by County

Home

Select County:



Stream Reaches with Mussel Information



click highlighted stream for name

Pick a County,  
- then pick a  
River or Lake  
- see what  
mussels  
have been  
collected  
(we have very  
few records  
for lakes)



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](#)

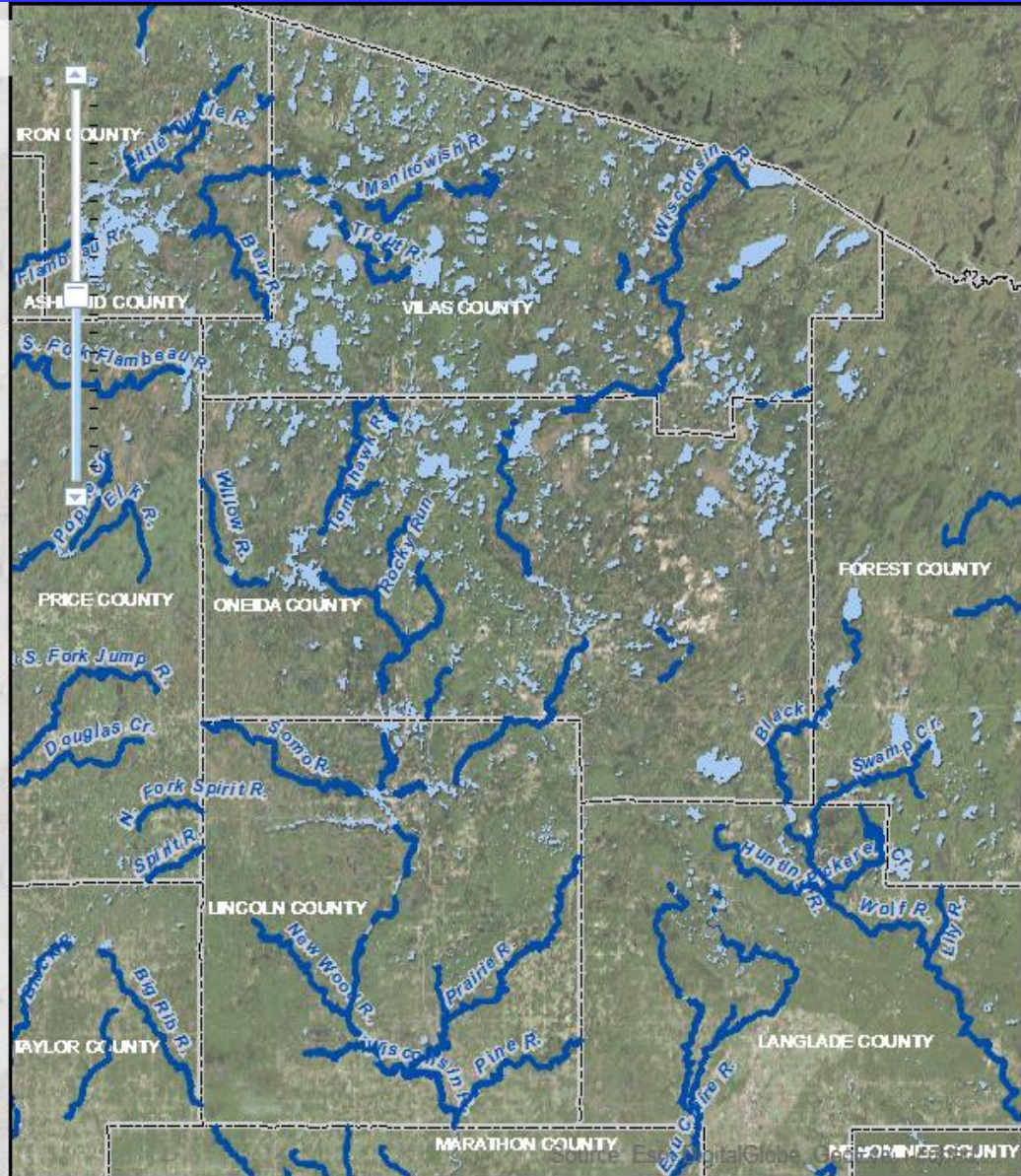
[Rocky Run](#)

[Tomahawk River](#)

[Willow River](#)

[Wisconsin River](#)

[Back to Statewide](#)



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



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

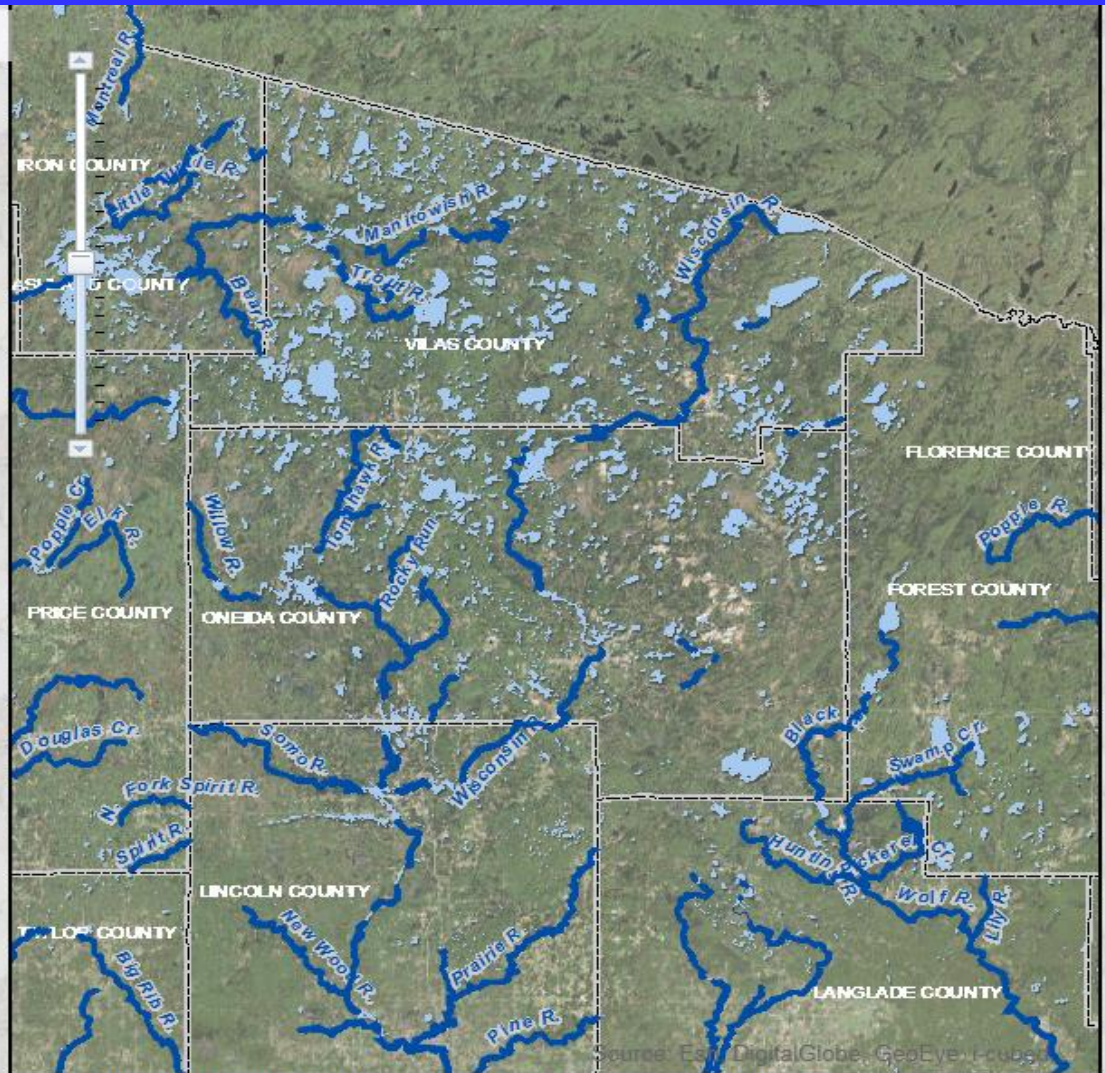
### Rocky Run

### Tomahawk River

### Willow River

### Wisconsin River

- [Black Sandshell](#) - *Ligumia recta* (1976)
- [Elktoe](#) - *Alasmidonta 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](#) - *Amblema 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.)





See what  
you can find  
it and  
report it  
on  
iNaturalist or  
our Mussel  
Monitoring  
website





