

# NATIVE FRESHWATER MUSSEL MONITORING

Carver County  
Water  
Management  
Organization

# Why Monitor Freshwater Mussels?

- One of the most endangered group of animals in the world
  - 213 out of 297 of US species are listed
  - 28 out of 50 of MN species are listed
- How they became so endangered?
  - Used to make buttons
  - Pearl hunters
  - Flashier flow regieme
  - Invasive species
  - Dams
- Photo: Grand Rapids Public Museum



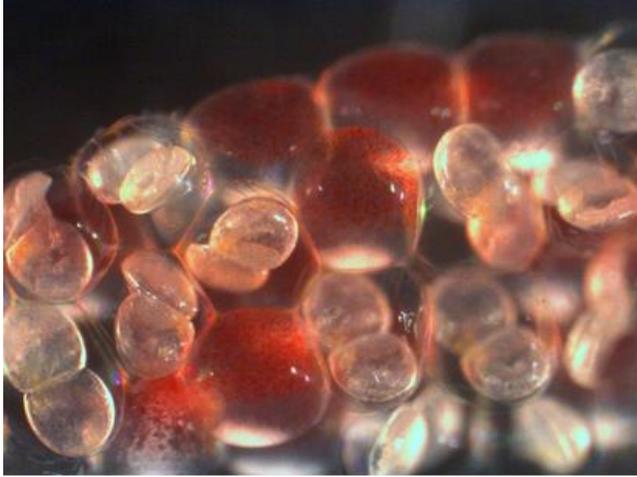
# What is a Freshwater Mussel?

- Mollusk
  - Two shells
  - Soft body
    - Foot-anchors and locomotion
    - Visceral mass-gills, digestive organs, reproductive organs, etc.
    - Mantle-secretes calcium carbonate for shell
- Sedentary organisms
- Filter feeders
  - Bacteria, algae

# Interesting Life History

- After fertilization, larval mussels require a fish host to complete its lifecycle
  - Adapted interesting fish infestation strategies
    - Infested fish are not harmed
  - Nonspecialized broadcasting
  - Conglutinates
  - Mantle lures
  - Fish capture
- After development, the juvenile drops to the sediment where it will grow

# Conglutinates



# MANTLE LURES





# FISH CAPTURE

PHOTO : CHRIS BARNHART

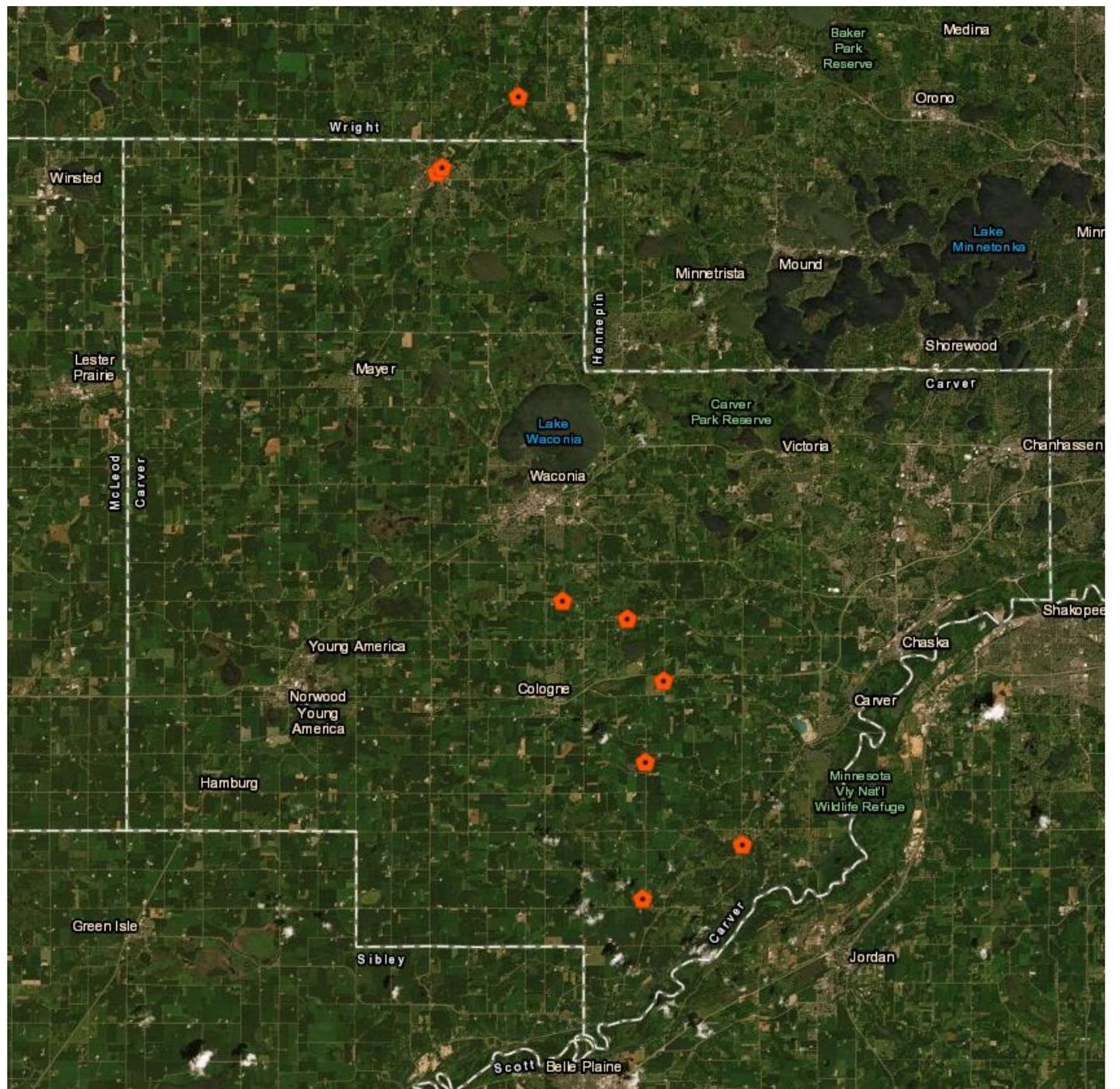
# Freshwater Mussel Importance

- Filter out bacteria and other pollutants
  - Incorporate heavy metals into their shell
- Provide habitat for other organisms
- Stabilize stream beds
- Food items for other organisms



# Carver County Sampling

- Purpose:
  - Inventory mussels in WMO creeks and rivers
  - Assess mussel populations above and below the Watertown Dam
- We have sampled 9 sites
  - 2 sites in Bevens
  - 1 site in Silver Creek
  - 3 sites in Carver Creek
  - 3 sites in the South Fork of the Crow River



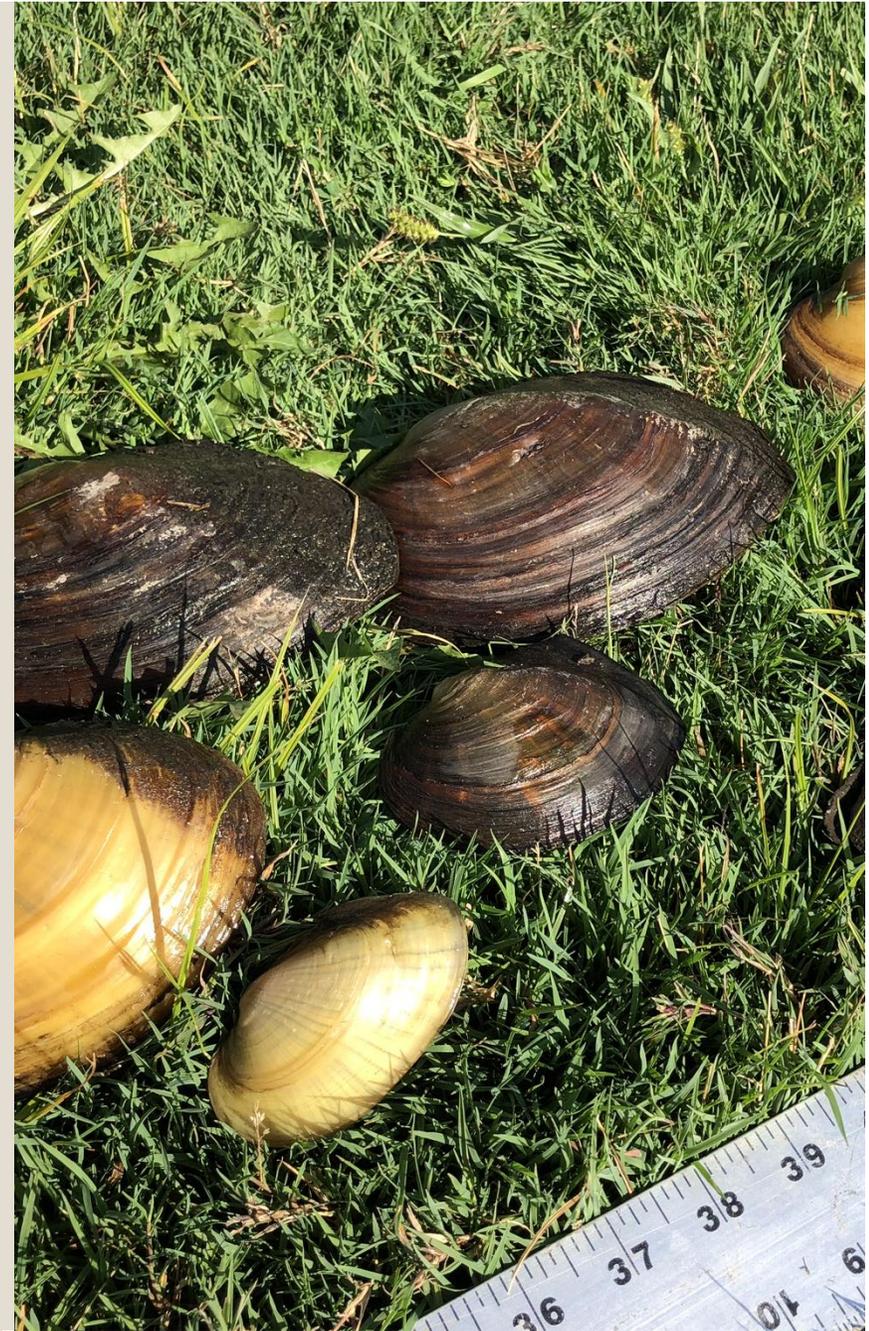


# What We Do When We Find a Mussel

- Sort by species
- Age each mussel and sort them into categories
  - 0-5
    - Indicates reproduction and survival
  - 6+
- Measure the smallest and largest specimen in each species and age category

# Results

- Bevens Creek-No mussels found
  - However, 2 species of shells have been found at the Silver Creek Site
- Carver Creek- 74 live mussels
  - 3 species
- South Fork of the Crow River- 9 live mussels
  - 3 live species
  - 2 additional species of shells



Questions?

