HUBBARD COUNTY AQUATIC INVASIVE SPECIES WATCH

Zebra Mussel (*Dreissena polymorpha*) and Quagga Mussel (*Dreissena rostriformis bugensis*)

U.S. Fish and Wildlife Service

SEARCH LOCATIONS

- In **4 feet or greater** of water on **hard surfaces** (zebra & quagga) and **soft surfaces** (quagga)
- Current-year mussels may also be in shallower water

SEARCH TIME

- **Adult mussels** may be found **year round**
- **Current-year mussels** become visible to the naked eye in **August**

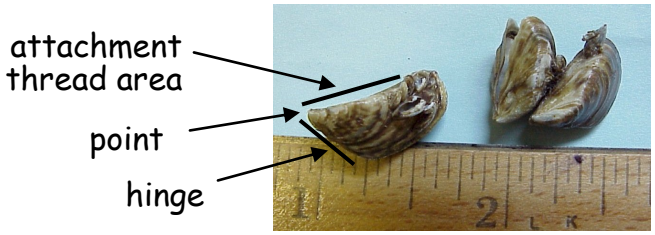
SEARCH IMAGE

- **Small**— up to 1.5 inches long
- **Clam-like**—two shells joined at a hinge

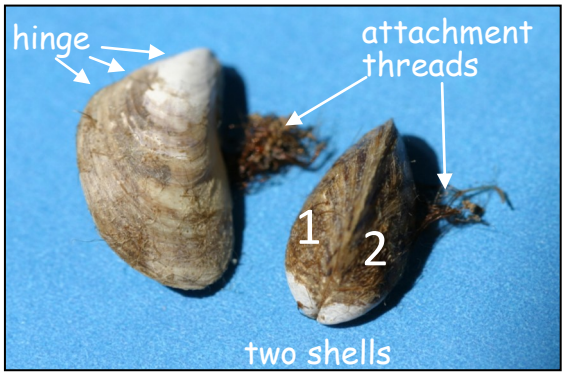
IDENTIFICATION CHECKLIST

✓ 1) **Threads** attach mussel to objects

✓ 2) Thread and hinge areas of shell are straight/flat, tapering to a **distinct point**



Jim Mason



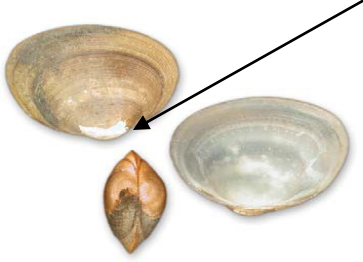
Robert Korth

MN NATIVE LOOK-ALIKES with **small, clam-like** shells

Fingernail clams

~ 1/2 inch

- **No** attachment threads
- Hinge area **rounded**



Andrew Hicks et al.

Peter Walker

Limpet snail

~3/8 inch

www.fwgna.o

- **Single shell**
- **No** attachment threads

INFORMATION ON HUBBARD COUNTY AQUATIC INVASIVE SPECIES WATCH:

Zebra Mussel (*Dreissena polymorpha*) and Quagga Mussel (*Dreissena rostriformis bugensis*)

MINNESOTA STATUS: *Prohibited invasive species*

It is unlawful (a misdemeanor) to possess, import, purchase, transport, or introduce zebra mussels or quagga mussels except under a permit for disposal, control, research, or education.

IF YOU FIND A NEW OCCURANCE OF ZEBRA OR QUAGGA MUSSELS

1) Record its location (GPS coordinates, labeled dot on map or landmark)
2) Record the date
3) Document the plant (electronic images that include items on the "checklist")
4) Provide this information to the local MN DNR Aquatic Invasive Species Specialist. Name and contact information can be found at: **http://www.dnr.state.mn.us/invasives/ais/contacts.html**

METHOD(S) OF REPRODUCTION

- Female zebra mussels can produce 100,000- 500,000 eggs per year.
- These develop into microscopic, free-living larvae (called veligers) that begin to form shells.
- After two-three weeks, the microscopic veligers start to settle and attach to any firm surface using "byssal threads". (MN DNR)

PATHWAYS OF SPREAD

- Mussels attach to boats, nets, docks, swim platforms, boat lifts, and can be moved on any of these objects.
- They also can attach to aquatic plants, making it critical to remove all aquatic vegetation before leaving a lake.
- Microscopic larvae may be carried in water contained in bait buckets, bilges or any other water moved from an infested lake or river.

RESOURCES

Center for Invasive Species and Ecosystem Health: http://www.invasive.org

MN Dept. of Natural Resources: http://www.dnr.state.mn.us/invasives/index_aquatic.html *and* http://files.dnr.state.mn.us/aboutdnr/reports/legislative/2012_invasive_species_annual_report_final.pdf

2/2016