

# ASIAN CLAMS

Help protect Wisconsin streams by preventing their spread

## WHY ARE WE CONCERNED?

- A single Asian (or Asiatic) clam is able to lay up to 70,000 eggs/year, and these clams have been found at densities of 20,000 clams per square meter. As they can self-fertilize, it only takes one to start a new population.
- They compete with native species for food and space, and they can alter nutrient cycling within the stream as they cover the bottom and have exceptionally high filtration rates.
- Biofouling – clogging pipes, power plants and water treatment systems by the clams – has caused millions of dollars in removal/repair costs in the US. In some states, Asian clams have been found in sand used for cement, weakening structures where the cement is used.



Tina Wolber

**GOAL:** The goal of this statewide survey is to detect if Asian clams are present in other Wisconsin streams besides locations known. This survey will not attempt to measure the scope of an infestation, if found.

## Background on Asian clams

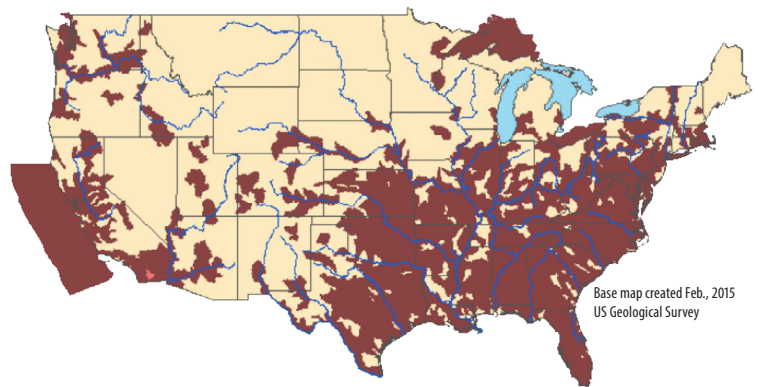
Asian clams (*Corbicula fluminea* O.F. Müller) most likely came to the US as an imported food, for use in aquariums, or in ballast water on seagoing ships. They may continue to be moved if bait buckets or plants from contaminated water bodies or aquaria are dumped into streams and lakes. Their veliger – the young which are only about 1mm long – can be transported in sediment on such things as anchors, waders and heavy equipment. Because Asian clams have such tiny veligers, once they are found in a waterbody their removal is likely impossible, even if all of the adult clams are removed from the stream bottom.

They were first found along the banks of the Columbia River in Washington in 1938 and are now known to populate streams in 38 states. Although they prefer warmer waters, populations have been discovered in a number of rivers and lakes in Wisconsin despite the lack of warm-water refuges at some locations. Their first appearance in the state was in 1977.

### IDENTIFICATION

Asian clams have some unique features that make them very distinct and fairly easy to identify. In the northern US, species often have golden shells that are obvious on a stream bottom or in a net. They are often very small (¼ inch to 1 inch) and generally no more than 1-2 inches long as adults.

### Watersheds with Asian clams



To distinguish them from the native fingernail clams, run your fingernail over the shell; the concentric ridges on Asian clam shell feel like a washboard. In contrast, the native fingernail clams feel quite smooth.

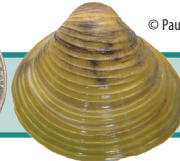
Another way to identify them is by size. Native fingernail clams are no larger than a dime, whereas the Asian clams get up to the size of a quarter. Beware though, that both species could look similar when the Asian clams are smaller in size.

One more identifier for Asian clams is a purple stripe sometimes present on young clams. When present, this stripe is on the inside or outside of the shell, parallel to the edge and starting at the hinge where the two shells are attached. If present, the stripe only extends for a short distance, not all the way to the sides of the shell.

## EQUIPMENT NEEDED:

- All equipment described in the Citizen Monitoring Biotic Index methods
- One small specimen vial or container with cap per monitoring site (opening at least 2" wide)
- Equal to or greater than 80% isopropyl (rubbing) alcohol or ethanol
- Small piece of white paper (that will fit in vial or container)
- Stiff bristle brush
- Spray bottle with tap water
- Aquatic Invasive Species Recording Form

*Often golden color • Ridges you can feel*



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## MONITORING PROCEDURE:

- 1.** Follow your usual biotic index macroinvertebrate monitoring procedure to collect a stream-bottom sample from multiple habitats. (See the Biotic Index Methods at: [watermonitoring.uwex.edu/wav/monitoring/methods.html](http://watermonitoring.uwex.edu/wav/monitoring/methods.html))
- 2.** When sorting the sample streamside, watch for small clams that may be golden yellow in color and have washboard-like ridges on the shell that you can feel (native fingernail clams may appear to have ridges, but they feel smooth to the touch).
- 3.** If you find any clams matching this description, collect up to three in the small vial or container and preserve with isopropyl alcohol or ethanol.
- 4.** Once you have collected the clam(s), make a voucher label. Using pencil, write the stream name, site description (e.g., Rocky Creek at CTH H), county, date and your name on the slip of paper.
- 5.** Insert the paper into the vial. Cap securely.
- 6.** Follow cleaning procedures outlined in the box to the right.
- 7.** Complete an Aquatic Invasive Species Reporting Form (available at: [watermonitoring.uwex.edu/wav/monitoring/sheets.html](http://watermonitoring.uwex.edu/wav/monitoring/sheets.html)) to identify the location where you found the specimens and any photos you may have taken.
- 8.** Contact your local DNR Aquatic Invasive Species Coordinator or Stream Biologist to hand-deliver the vial with specimen(s) and the completed Aquatic Invasive Species Reporting Form. (It is illegal to mail even small quantities of isopropyl alcohol or ethanol without proper training and labeling.) Regional contacts are listed on the AIS Reporting Form, but you can also check for your county contact on the WAV website (at [watermonitoring.uwex.edu/ctymap](http://watermonitoring.uwex.edu/ctymap)).
- 9.** If you are using the WAV multi-parameter single-page form (available at: [watermonitoring.uwex.edu/wav/monitoring/sheets.html](http://watermonitoring.uwex.edu/wav/monitoring/sheets.html)), circle that you found a potential Asian clam suspect(s) and enter this into the SWIMS database when you enter your other data.
- 10.** Also, when you enter your data to the online database, please report if you looked for Asian clams, even if you did not collect and submit any suspects.

### CLEANING PROCEDURES

**Anytime you monitor, even if just at one stream site:**

#### BEFORE LEAVING THE STREAM

**INSPECT** equipment; and

**REMOVE** sediments, plants and animals;

**SCRUB** equipment with a stiff brush (including crevices);

**RINSE** equipment with tap water (spray bottle); and

**DRAIN** all water from equipment.

**If you are moving to another stream site:**

#### BEFORE ENTERING ANOTHER STREAM

**SWITCH** to a completely new set of gear; or

**FREEZE** equipment for 8 hours; or

**STEAM CLEAN** equipment; or

**SOAK** equipment in 120°F water for several minutes.