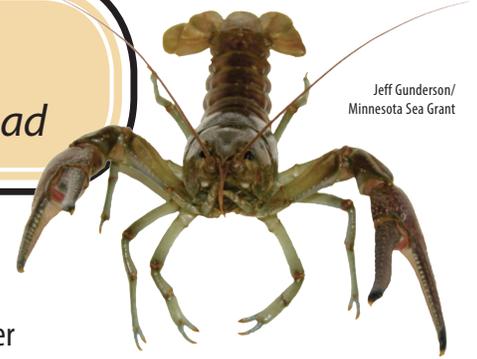


RUSTY CRAYFISH

Help protect Wisconsin streams by preventing their spread



Jeff Gunderson/
Minnesota Sea Grant

WHY ARE WE CONCERNED?

- Rusty crayfish outcompete native crayfish for both food and habitat as they have higher metabolism, thus feed voraciously during both day and night, rather than only at night like most natives.
- They are known to eat and clip vegetation at higher rates than natives, resulting in significant loss of plants and vital habitat within stream ecosystems. With fewer plants, exposed native crayfish are at greater risk of predation by fish, and shoreline erosion can increase in slower-flowing streams and along lakeshores.
- Rusty crayfish can spread invasive plants, such as curly-leaf pondweed and Eurasian watermilfoil that are able to root from very small fragments that result from rusty crayfish feeding.
- The aggressive rusty crayfish eat native crayfish, fish eggs, young fish, tadpoles and macroinvertebrates, altering the fishery in streams and lakes in which they live.

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

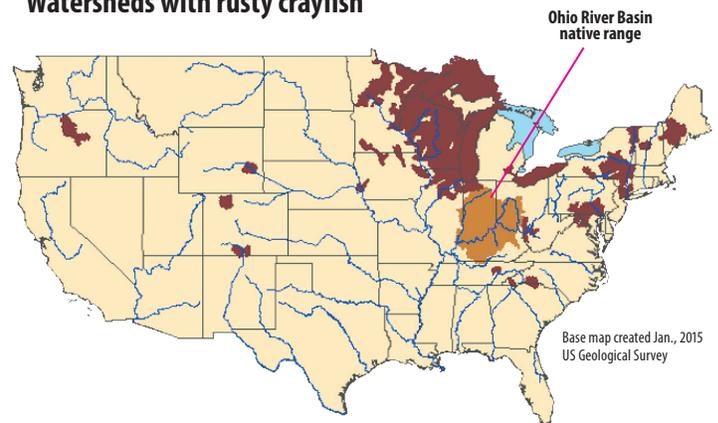
Background on rusty crayfish

Rusty crayfish (*Orconectes rusticus*) are native to the Ohio River Basin. This aquatic invasive species (AIS) was most likely spread throughout the northeastern United States by anglers using them as bait. Females carry eggs under their tail for many months following fertilization. Thus, it is possible that even a dead crayfish introduced to a waterbody may spread the population if any of the hundreds of eggs these crayfish produce remain viable. Newly hatched young can also remain on an adult female's tail for an extended time.

IDENTIFICATION AND HABITAT

A commonly observed and easily visible identifier on these olive-colored crayfish is a “rusty” colored spot on each side of its carapace, approximately where your thumb and forefinger would touch its back if you attempted to pick it up. Be aware that these spots may be lighter in color in younger crayfish, and that rusty crayfish may breed with native crayfish, producing a hybrid without the usual rusty spots. **If you do not see rusty spots on the carapace, do not collect any voucher specimens.**

Watersheds with rusty crayfish



(Not every stream within marked watersheds is known to have rusty crayfish)

Like some natives, their claws often have bright orange tips with a black ring. Adults are up to six inches in length – larger than most of Wisconsin's native crayfish – and generally have larger claws. Thus, rusty crayfish can be found in a waterway's plant beds, under rocks and logs, under vegetative debris, and in areas of gravel, clay or silt. They live in both slow-moving and fast-moving water. They will be most active when the water temperature is greater than 54° F.

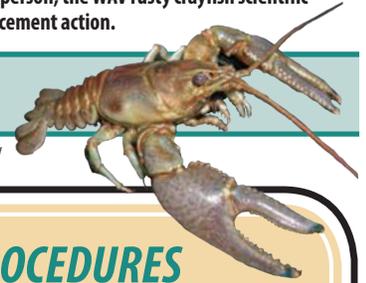
EQUIPMENT NEEDED:

- All equipment described in the Citizen Monitoring Biotic Index methods
- Two Ziploc® storage bags or a large wide-mouth bottle with lid
- Equal to or greater than 80% isopropyl (rubbing) alcohol or ethanol
- Ice in small cooler (optional)
- Pencil and a piece of plain paper
- Aquatic Invasive Species Recording Form*
- Spray bottle with tap water
- Camera (optional)
- Stiff bristle brush

The harvest of crayfish has specific license and equipment requirements. Crayfish incidentally captured during macroinvertebrate collection must be returned to the stream immediately unless you observe it is the invasive rusty crayfish. Up to three rusty crayfish captured during collection may be retained if you possess, on your person, the WAV rusty crayfish scientific collector permit issued by the DNR, and comply with all the terms of that permit. The improper handling of invasive species may result in enforcement action.

Rust-colored spots on the carapace, plus often black rings and orange tips on claws

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MONITORING PROCEDURE:

Use the Department of Natural Resources' website to determine if rusty crayfish have been found at your monitoring site (at dnr.wi.gov/topic/Invasives/fact/RustyCrayfish2012.html). If they have not, please keep watch for them when you are collecting your biotic index sample as follows:

1. Sample as usual for macroinvertebrates with your D-net in a variety of habitats. If you collect a crayfish, check for rusty spots on its back. If you opt to pick it up, it is easiest to hold its claws together in front of its body so it cannot pinch you.
2. If you think you have collected a rusty crayfish and this species has not previously been found at your site, place **up to three specimens** into a Ziploc bag or jar.
3. Make a voucher label. Using pencil, write the stream name, site description (e.g., Rocky Creek at CTH H or SWIMS Station ID), county, date, and your name on a slip of paper.
4. Place the voucher label into your collection bag or jar.
5. Add ethanol or isopropyl alcohol to cover the crayfish and close the jar or bag securely. If using a bag, double bag in the second bag securely. (Alternatively, you can put the bag or jar into a cooler with ice rather than adding alcohol. The crayfish will become less active as it cools.)
6. If you have a camera, take photos of the site and the crayfish (with the label in view).
7. Complete an *Aquatic Invasive Species Reporting Form* (available at: watermonitoring.uwex.edu/wav/monitoring/sheets.html) to identify the location where you found the specimens and photos you took.
8. Follow cleaning procedures outlined in the box to the right.
9. Once at home, put the bag or jar into the freezer until you can deliver it to your local DNR office.
10. Contact your local DNR Aquatic Invasive Species Coordinator or Stream Biologist to hand-deliver the crayfish and the completed *Aquatic Invasive Species Reporting Form*. (It is illegal to mail isopropyl alcohol or ethanol without proper training and labeling.) If you observed a suspicious crayfish that you were unable to catch, please let the DNR know. Regional contacts are listed on the AIS Reporting Form, but you can also find your county contact at: watermonitoring.uwex.edu/ctymap/index.html
11. If you are using the WAV multi-parameter single page form (available at: watermonitoring.uwex.edu/wav/monitoring/sheets.html), circle that you found a rusty crayfish suspect and enter this information into the SWIMS database when you enter your other data. Please note if you looked for rusty crayfish or if you saw a suspect and were not able to collect it.

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.