

Researching Rusty crayfish

Story and Photos by Nicole Grulke

In a few weeks, Bob Thomson's fifth grade class at Ella White Elementary will be knee deep in river-water searching for Rusty crayfish. Rusty Raiders is a student research project monitoring the invasive species Rusty crayfish. Rusty crayfish displace native crayfish, reduce fish food and even reduce some fish populations. Students involved in the project monitor the Rusty crayfish population and are trying to increase awareness among anglers to stop using the crayfish as bait.

"Rusty crayfish have a hard shell, and native crayfish don't. So when fishermen tried to fish with natives, they would pull off the hook, so they used the hard shelled ones and would dump them in the lakes when they were done," fifth-grader Amelia Berles said. "Small mouth bass eat the Rusty crayfish, so we're trying to get people to catch and release them."

The Rusty crayfish are easily identified by their dark rusty colored spots on each side of their body and their hard shell.

Fifth-grader Trevor Marwede said he wants to help the native creatures by getting rid of the invasive species.

"I like learning about this stuff," Marwede said. "It's fun to go outside and look for Rusty crayfish and test the water."

To help decrease the Rusty population, students want to try and increase the size limits for small-mouth bass in order to give the bass a longer chance to eat the invasive crayfish.

"We want to get rid of the invasive species so the natives can live here in larger numbers," fifth-grader Shelby Ryan said. "We want to find out what's going on with the lakes and that will help us with our research."

These students, along with the rest of Thomson's class, will be heading into the water over the school year to take water samples and catch crayfish.

"We test the ammonia levels in the water, pH levels, nitrate levels and dissolved oxygen," Berles said. "We have a grant to build a (remotely operated vehicle) to look for native crayfish. I'm really excited to build an ROV. They're pretty cool."

The Rusty Raiders project is a part of the Thunder Bay River Watershed Project, which is part of the Northeast Michigan Great Lakes Stewardship Initiative. The GLSI works to promote place-based education opportunities for students to experience learning and develop active stewards in the environment and benefit the community.

"I like doing hands-on stuff," Berles said. "In a week or two we get to go on two field trips to do water testing. It's fun."

The class at Ella White isn't the only classroom involved in watershed projects, and wasn't the first class to start investigating the Rusty crayfish. Stu-

dents at Sanborn Elementary started checking the crayfish population a few years ago, and each classroom has been adding to the data collected every year to get a better understanding of the invasives and the population growth.

"We work with invasive species location and what they affect," Thomson said. "Fish populations and the native crayfish population have been affected. The students find both Rusty and native crayfish. They're working to increase awareness and inform the public about the invasives."

"The grant also states that we have to have a project that's for the good of the community. If Rusty crayfish decline, natives improve and fish populations improve, hopefully that would mean more people fishing, which could lead to more tourism. It all works together."

Previous classes worked to put together a flyer to inform people about the Rusty crayfish. Rusty Raiders worked with Sea Grant to develop a Lake Huron's "most unwanted" poster to add to Sea Grant's invasive species poster collection. Students spread the word about invasive species through announcements, local news and visiting community boards.

Another project that has to do with species population is Thomson's classroom lake trout tanks. Students are monitoring the water and temperature to raise lake trout fingerlings to release on an artificial reef in Thunder Bay called "Thompson Reef." The lake trout are released with the hope that they return to the reef to spawn.

This year, the classroom has added an additional tank that will house endangered sturgeon. Sturgeon eat invasive mussels and Rusty crayfish, so even though it's a different project, they all link together under the watershed.

"We're working to promote sturgeon hatching," Thomson said. "By bringing sturgeon into the classroom, they will have a more positive rapport with the public, and hopefully help to increase the population. We'll be taking a trip to Black Lake and the sturgeon hatchery for the students to get a better look at the threatened species."

The recent and previous projects in Thomson's classroom have sparked interest in other teachers to get their classrooms involved with watershed projects, and have led to some collaboration between schools.

"All the projects are focused on the same awareness of the watershed," Thomson said. "We're doing different projects and research under different grants, but it's all a part of the Thunder Bay River Watershed Project and involved with



Students from the first class participating in the Rusty Raiders Project took water samples and caught Rusty and native crayfish out of the Thunder Bay River. The students measured and marked the Rusty crayfish to keep track of ones they had already caught and measured.



Rusty crayfish are identified by the rusty colored spots on either side of their body, hard outer protective shell and aggressive nature making them more resilient against predators. The native crayfish in the photo above on the right are much smaller and lighter colored than the Rustys, and have a soft shell, making them an easier target.

many partners through GLSI."

Other partners involved in GLSI include support from the Thunder Bay National Marine Sanctuary, B-WET, the Thunder Bay River Watershed Project, MSU Extension 4-H, and Huron Pines. Research support also involves the National Oceanic and Atmospheric Association, U.S. Fish and Wildlife Service and Michigan DNR-Alpena Fisheries.

To learn more about the Thunder Bay River Watershed Project, visit www.thunderbayriverwatershedproject.org, which also has a link to the Rusty Raiders Project for more information.

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Northern Lifestyles

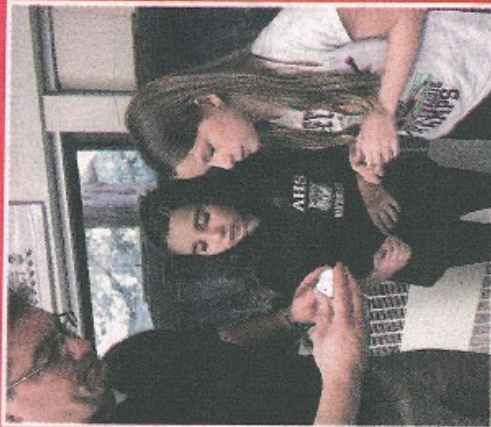
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Some area schools and classrooms involved in Thunder Bay River Watershed Projects/Rusty Raiders projects:

- * Ella White:
- Bob Thomson, 5th
- Gretchen Lundquist, 4th/5th
- * Sanborn:
- Stuart Stuber, 4th
- Ayla Cummings, 3rd
- Karen Cordes, 2nd
- Jennifer Manning, 5th
- Tonya Smigelski, 4th/5th
- * Lincoln:
- Mike Baardaer, 5th
- * Besser:
- Gretchen Rea, 4th
- * Hillman Elementary:
- Maria Meyer, 5th
- * Atlanta Middle School:
- Bruce Bourque, Math, Title 1



Fifth grade teacher Bob Thomson shows students Abby Obery and Hailey Niedzwiecki how to test the water in each fish tank for ammonia and different levels of chemicals and oxygen.

Additional Research Projects students are involved in:

- * Colonization rates of invasive mussels (Zebra and Quagga) on shipwrecks
- * Lake trout rehabilitation on artificial lake trout reefs in Thunder Bay
- * Invasive mussel populations in the Thunder Bay River watershed
- * Site base monitoring of Thunder Bay Rivers biotic and abiotic factors
- * Sturgeon raising and rehabilitation



Makenzi Mousseau, Braden Burns and Patrick McCourt read through the "Great Lakes Most Unwanted" poster created with the help of a Sea Grant to inform the public about the Rusty crayfish and its effects on the Thunder Bay River Watershed and Great Lakes. The poster explains the difference between Rusty and native crayfish species, and ways to help diminish the population of the invasive crayfish, such as practicing catch and release of small mouth bass.